DOE/EIS-0218F
February 1996

Volume 3

# FINAL ENVIRONMENTAL IMPACT STATEMENT

*on a*

## Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

## Public Comments and Department of Energy Responses Part 1 – Overview, Governments, and Native American Groups

United States Department of Energy
Assistant Secretary for Environmental Management
Washington, DC 20585

Volume 3 is organized into three sections:

- Section 1 - Overview
- Section 2 - Written Comments and Responses
- Section 3 - Public Hearings

The Overview sets the tone for the document by summarizing the public comment process, by explaining how the receipt of written comments and the public hearing process were handled, and by summarizing the major issues raised by commentors and DOE's responses to these issues.

Section 2 of Volume 3, "Written Comments and Responses" contains all of the written comments received by DOE on the draft EIS. Upon receipt, these documents were assigned a sequential log number to be used in tracking during the comment response process. For presentation in Volume 3, these documents maintained their original log number, but were separated into the following seven distinct "affiliation" categories:

Section 2.1 - Federal Government
Section 2.2 - State Government
Section 2.3 - Local Government
Section 2.4 - Native American Groups
Section 2.5 - Non-Government Organizations
Section 2.6 - Foreign Entities
Section 2.7 - Individuals

Since these documents retained their original log number, the reader should note that while the documents in each respective section are in ascending order, their numbering therein is not sequential.

In order for a reader to find a specific document, a full "List of Commentors" has been included in each book (or part) of Volume 3, immediately following the "Table of Contents." This "List of Commentors" has been compiled alphabetically using either the commentors last name, the name of the submitting organization, or the name of a Federal, State, Tribal, or local government branch. City and State government bodies are listed under "City of" or "State of." Members of Congress are listed by the Senator's or Representative's name, with the government branch following.

To locate a document(s):

1. Find the "List of Commentors" and the name of the individual submitting the comment (or the name of the organization or agency if the comments were submitted on their behalf), and note the page number assigned to the first page of the comment document (i.e., a document from a Native American Group would be number 2.4-1, etc.).

2. Find the Volume 3 book (or part) that contains the section and page number for which you are looking and turn to the appropriate page to find a scanned copy of the document along with the responses to each of the comments delineated therein.

the written comments, the comments received during each of the 17 public hearings. Oral comments provided at these hearings have been summarized, rather than individually identified by each respective speaker. As such, there is not a list of speakers or identification of the commentors at the public hearings. A list of all registered attendees is provided immediately following the summary of each of the public hearings.

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# Section 1
# Overview

# *1.0 OVERVIEW OF THE PUBLIC COMMENT AND DOE RESPONSE*

On April 21, 1995, DOE published in the *Federal Register* a Notice of Availability of the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (60 FR 19899). In accordance with Council on Environmental Quality and DOE NEPA regulations, the Notice invited interested agencies, organizations, and the general public to provide oral and written comments on the Draft EIS. This Volume 3 of the Final EIS contains DOE's responses to the comments provided during the comment period.

## *1.1 THE PUBLIC COMMENT PROCESS*

The public comment period on the Draft EIS was initially scheduled from April 21, 1995 to June 20, 1995. In response to public requests, the comment period was extended an additional 30 days through July 20, 1995. During this period, DOE held 17 public hearings in the locations most likely to be directly affected by the EIS alternatives, including the 10 candidate ports of entry and 5 candidate spent nuclear fuel management sites. In addition, a public hearing was held in Washington, D.C. The hearing dates and locations are shown in Figure 1. The Draft EIS was made available to the public through mailings, requests to DOE's Environmental Management Information Center, and at DOE Public Reading Rooms and other designated information locations.

## *1.2 WRITTEN COMMENTS*

DOE received approximately 5,040 written comments contained within approximately 1,250 submissions. Written comments were submitted to DOE by mail and facsimile and at many of the public hearings. These written comments were received from individuals, Federal and State agencies, local governments, foreign entities, and non-government organizations such as environmental, public interest and industry groups. All written comments were reviewed and considered in the preparation of the Final EIS and are presented in Section 2 of this Volume 3 of the Final EIS.

## *1.3 PUBLIC HEARINGS*

In an effort to encourage a dialogue between members of the public and government officials at the public hearings, DOE used an informal, interactive format and an independent professional facilitator. The hearings were preceded by an hour-long "open house" at which exhibits, videos, and other information materials were available for review, along with opportunity for one-on-one exchanges with DOE representatives. Comment forms were provided for those wishing to submit written comments at the hearings.

Public hearings began with an explanation of the hearing format by the independent facilitator, followed by a 30-minute overview by a DOE official on the proposed policy and the factors leading to the proposal's development. Following this presentation, attendees were encouraged to ask questions, offer comments, and engage in dialogue. Notetakers summarized the questions and comments and DOE responses at all hearings. A summary of all oral comments and statements from each hearing, along with the DOE responses, is presented in Volume 3, Section 3.

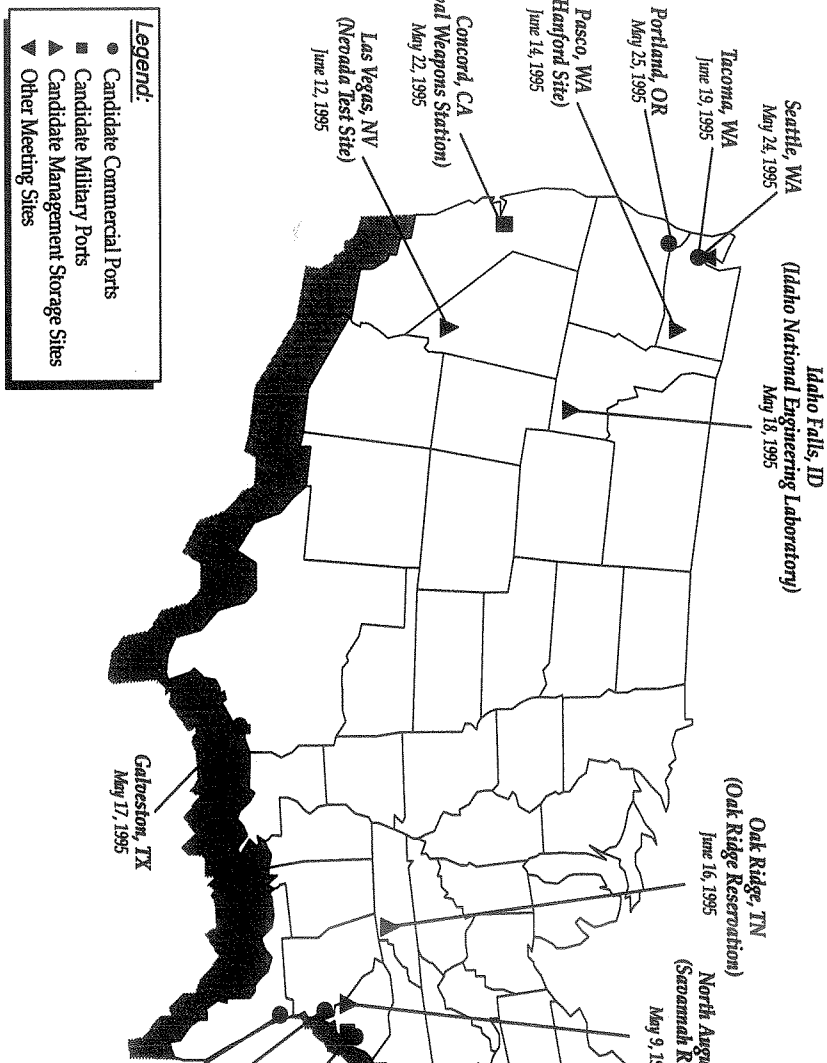


*FIGURE 1. LOCATIONS AND DATES OF PUBLIC HEARINGS*

Approximately 900 people attended the 17 public hearings. An interactive format was used at all hearings except in Tacoma, Washington. At the Tacoma public hearing, attendees expressed a desire for a more traditional approach in which people presented statements of up to five minutes, with little or no dialogue between commentors and DOE. In addition, the Tacoma hearing attendees requested that a verbatim transcript be made of the meeting. A copy of this transcript is included as Attachment 1 to Volume 3, Section 3.

## *1.4 Environmental Protection Agency Rating of EIS*

The U.S. Environmental Protection Agency reviewed and rated the Draft EIS proposed action and each alternative as "lack of objections" (LO), which means that the EPA has not identified any potential environmental impacts requiring modifications to the proposal. A copy of the U.S. Environmental Protection Agency rating is included among the written comments in Section 2.

## *1.5 Major Issues Raised By Commentors*

The public comments addressed a wide range of policy, economic, and technical issues. Of the approximately 6,000 written and oral comments received, few were critical of, or directed against, the analytical methods presented in the Draft EIS. The following is a summary characterizing the most frequently raised issues and the corresponding summary of DOE's responses. (In each case, a summary of DOE's response is provided in bold text following the summary of the public comment.) DOE's full response to each specific comment and issue are provided in Sections 2 and 3 of this Volume 3 of the EIS.

### *1.5.1 Policy Considerations and Management Alternatives*

Numerous comments and questions were received concerning the need for a policy to manage foreign research reactor spent nuclear fuel. Commentors questioned the need to adopt a policy to manage spent nuclear fuel from allied countries or from countries that are considered sufficiently developed to manage their own spent nuclear fuel. Other commentors questioned the objectives of the stated U.S. nuclear weapons nonproliferation policy and the rationale for considering the proposed policy, pointing out that some of the allied nations under the proposed action do not pose a nuclear weapons proliferation risk. **The purpose of the proposed action is to support a U.S. nuclear weapons nonproliferation policy that seeks to reduce, and eventually eliminate, the use of highly-enriched (nuclear weapons-grade) uranium in civil programs worldwide. It is necessary to deal with spent nuclear fuel from the developed countries for several reasons.**

**First, if the United States does not assist the developed countries with management of their spent nuclear fuel, the only mechanism available to them for spent nuclear fuel disposition would be to stay on or reconvert to use of HEU for fuel. Those who can accept the return of reprocessing wastes would disposition their spent nuclear fuel by having it reprocessed, and would recycle the remaining HEU. They would have to seek out sources of new HEU to make up for that burned, and to keep the enrichment level of the recycled uranium high enough to be of use. Since the United States could not ship additional HEU to them, they would likely resort to Russia or China as suppliers. Such actions could destroy all the progress made by the Reduced Enrichment for Research and Test Reactors program in attempting to eliminate the use of HEU in civil programs.**

**Second, many developed countries manufacture research reactors and sell them to developing countries. If, due to inaction by the United States, research reactors in the developed countries refuse to convert to LEU fuel, or switch back to the use of HEU fuel, their customers in the developing countries would likely insist on obtaining reactors that also use HEU fuel.**

**Third, inaction by the United States that leads research reactors in developed countries to shut down due to the absence of a timely means of dispositioning of their fuel is likely to lead, rightly or wrongly, to accusations that the United States is failing to comply with its obligations under the *Treaty on the Non-Proliferation of Nuclear Weapons* to assist nonnuclear weapons States with peaceful applications of nuclear energy.**

Some commentors further contended that the nuclear weapons nonproliferation objectives do not apply to the foreign research reactor spent nuclear fuel that contains LEU, which is not weapons-grade material. **While it is true that LEU is not weapons-grade material, it is included in the policy because acceptance of LEU fuel would provide incentive for foreign research reactor operators to convert from HEU fuel to LEU fuel use. This incentive would be necessary to offset the considerable expense of conversion and the reductions in reactor capabilities and increased operating costs that generally accompany conversion to LEU fuel. Furthermore, by not accepting LEU, the United States would be penalizing the reactors that converted earlier under the Reduced Enrichment for Research and Test Reactors program, because those reactors are now generating only LEU spent nuclear fuel. Since there is currently no alternative available for disposition of LEU spent nuclear fuel, the reactors that supported the Reduced Enrichment for Research and Test Reactors program would be the first to shut down.**

Some commentors believe that the continued production and export of nuclear materials by the United States appears to be in conflict with the stated U.S. nuclear weapons nonproliferation objectives. Several stated their opposition to the continued sale of new fuel for foreign research reactors and a small number suggested that the United States cease production of all nuclear materials and develop alternative energy sources. **As a result of the passage of the Energy Policy Act of 1992, the United States is prohibited from selling HEU to foreign countries, except under special conditions. Since enactment of this prohibition, no new licenses for the export of HEU have been issued by the United States. The United States is continuing to sell LEU since it is not a nuclear weapons material . Furthermore, by making LEU available, the United States is providing further support for reactor operators who agree to convert from use of HEU. With respect to development of alternative energy sources, DOE currently has on-going programs that are seeking to develop and promote use of various alternative energy sources, such as wind, water, and solar.**

Representatives of foreign research reactor operators enumerated several reasons why the United States should accept and manage foreign research reactor spent nuclear fuel. This generally held position was the result of the expiration of the Off-Site Fuels Policy, under which the United States had accepted foreign research reactor spent nuclear fuel. As a result, many foreign research reactors are running out of storage space for their spent nuclear fuel. The operators assert that this may cause some research reactors to shut down, as these countries do not have, and did not plan for, long-term storage facilities. Foreign research reactor operators point out that the Dounreay, United Kingdom, reprocessing facilities can only handle HEU at this time. As a result, foreign research reactor operators would likely revert to reliance on HEU which would be contrary to U.S. nuclear weapons nonproliferation policy.

Many members of the public and State and local governments supported the objectives of the proposed action, but urged further consideration of Management Alternative 2, which is to facilitate overseas management of the spent nuclear fuel with security precautions to ensure that the spent nuclear fuel is not diverted into a nuclear weapons program. Some also supported the No Action Alternative under which the United States would neither accept nor assist with the management of foreign research reactor spent nuclear fuel. Several Non-Government Organizations also expressed support for the proposed policy and cited the need to eliminate the use and stockpiling of HEU. **DOE and the Department of State have considered these comments in selection of the preferred alternative. DOE's and the Department of State's reasons for not selecting the No Action Alternative or Management Alternative 2 are discussed in Section S.2.3 under the heading "Basis for the Preferred Alternative."**

Many commentors expressed concern about the cost to the United States of managing foreign research reactor spent nuclear fuel. Several opposed full subsidization of developed countries which they consider capable of managing their own spent nuclear fuel. Other commentors favored competitive pricing or charging the foreign research reactor operators a full-cost recovery fee for management of their spent nuclear fuel. Representatives of certain foreign research reactor operators expressed their willingness to pay a cost-based price, and stated that they are not asking U.S. taxpayers to subsidize their fuel cycles. A number of commentors asked for additional information in the Final EIS on life cycle costs, risks, and benefits. **DOE and the Department of State have evaluated several financing options in the EIS, ranging from fees from the research reactor operators that would pay all of the costs of the program to full subsidization of the program by DOE. One of these options would be for developed countries (which represent about 87 percent of the spent nuclear fuel total mass and about 78 percent of the spent nuclear fuel elements) to pay a competitive fee for U.S. management of their spent nuclear fuel. As part of this option, DOE would subsidize the costs of managing the spent nuclear fuel from developing countries. The United States does not believe the developing countries can afford to pay the expense for spent nuclear fuel management either in the United States or in the host country.**

### *1.5.2 Ultimate Disposition*

The ultimate disposition of DOE-owned spent nuclear fuel was a widely expressed policy concern. Many commentors, concerned with a lack of long-term storage options, raised the issue of the availability, or lack thereof, of a permanent geologic repository. Many urged that, before the United States accepts any spent nuclear fuel from foreign research reactors, a permanent repository must be established in this country. Some comments promoted reprocessing as a means to stabilize and prepare the spent nuclear fuel for geologic disposal. **The Nuclear Waste Policy Act of 1982, as amended, establishes a framework for the ultimate disposition of spent nuclear fuel in the United States in a geologic repository . Any foreign research reactor spent nuclear fuel accepted into the United States under the alternatives considered in the EIS would be eligible for disposal in a geologic repository. Under authority of the Act, DOE is currently evaluating the feasibility of locating a geologic repository at Yucca Mountain in Nevada. In the meantime, however, DOE and the Department of State are seeking to stem the use of HEU in civil programs. Under the preferred alternative, if any foreign research reactor spent nuclear fuel were accepted into the United States, it would be treated and/or packaged, and the resulting materials placed in "road ready" storage pending availability of a geologic repository, if it were not otherwise disposed of in the meantime.**

### *1.5.3 Transportation and Emergency Response*

Transportation and emergency preparedness were key concerns expressed during the public comment period. The majority of comments dealt with identification of parties responsible for responding to an accident involving transport of the foreign research reactor spent nuclear fuel, local emergency response capability, marine and ground transportation routing, shipment methods, procedures, and safety criteria. **State and local responders would be the first to respond to a transportation accident involving the foreign research reactor spent nuclear fuel shipments, as they would to any overland shipment involving hazardous materials. State, local and some Tribal governments have the basic capabilities and training that would be required in order to take initial measures to respond to a transportation accident by virtue of their preparation for responding to accidents involving hazardous materials, (i. e., assess the scene, administer emergency care, control the area, and call for a hazardous materials special team). DOE would develop emergency plans with the carrier, port officials, State, local, and Tribal officials and provide training courses for first responders to enhance their capabilities to respond appropriately in the unlikely event of an accident involving these spent nuclear fuel shipments. Technical assistance would also be provided to supplement existing State, Tribal, or local resources if any deficiencies are identified. In the event of an accident, if requested by a State, Tribal, or local government, DOE would send a radiological monitoring assistance team from the closest of eight DOE regional offices located across the country.**

**Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include communications and meetings between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders.**

Many commentors were concerned about the safety of transportation casks. **Spent nuclear fuel is transported in "Type B" transportation casks that are designed and built to preclude release of radioactive material. They are subject to stringent design, fabrication, and operating requirements imposed by the Nuclear Regulatory Commission, and Department of Transportation in the United States and by the International Atomic Energy Agency for international shipments, to withstand very severe accidents without releasing their contents. These casks are required to be able to pass stringent tests, including a 30-foot drop onto an unyielding surface (such surfaces are engineered and built for these tests and do not exist in nature), a drop onto a steel post (a puncture test), and a high temperature fire test. As a result of their very robust design and construction, to date, no "Type B" spent nuclear fuel transportation cask has ever been punctured, nor has one ever released its radioactive contents, even as the result of an accident.**

Comments on land transportation dealt mostly with routing concerns and emergency response. Several commentors requested that DOE provide notification to local officials and private citizens of the specific routes that would be used for truck or rail shipments. Many commentors expressed concern regarding the risks associated with the use of specific routes (major interstates through population centers) and during adverse weather and traffic conditions. Some questioned the safety records of radioactive waste trucking firms and inquired about the safety requirements imposed on these firms and the contract arrangements that DOE would make with the shippers. **As part of the development of a Transportation**

**Plan (in which State, Tribal and local officials in addition to DOE, the carrier, shippers agent, the port and other Federal agencies would be involved), highway routes would be identified using criteria developed by the Department of Transportation. These criteria include using the Interstate highway system, selecting the shortest route or time in travel from the U.S. port of entry to the closest Interstate, and using by-passes or beltways to avoid major population centers. States and Tribes may designate alternate routes that are equivalent to the Interstate system in consultation with local officials, and approved by the U.S. Department of Transportation. Rail routing criteria used by the Department include avoiding interchanges and using the best available track. NRC approval of either rail or truck routes selected for use would be required. Official notification of the shipments would be provided to the Governor of each State and Governors or Chairpersons of Indian tribes along the route at least seven days in advance of shipment. In addition, DOE would use a satellite-based tracking system, to notify Tribes and States of the pending shipment and to continuously track shipment progress. In order to maintain security, Governors and Tribal leaders are required by the NRC to only notify State and local officials who would need to know about the shipment, usually emergency management or law enforcement officials. With respect to the safety record of potential trucking firms, DOE has developed and implemented a mandatory Motor Carrier Evaluation Program with twelve evaluation criteria. Under the Motor Carrier Evaluation Program criteria, trucking firms with poor safety records would be excluded from transporting the spent nuclear fuel. The Motor Carrier Evaluation Program would be invoked as one of the requirements in DOE's foreign research reactor spent nuclear fuel acceptance contract. Other requirements would be discussed during the development of the Transportation Plan with the appropriate State, Tribal and local officials.**

Many commentors requested coordination with emergency responders in route so that localities can be prepared in the unlikely case of an accident. Many State, Tribal, and local representatives, as well as private citizens, commented that communities along shipping routes and at port and management site locations may have inadequate capabilities to respond to emergencies involving radioactive release. Many expressed the need for DOE funding for training equipment, monitoring for local emergency responders, transportation plans, and real-time shipment tracking that would be accessible to emergency response personnel. A number of commentors suggested that the Final EIS should evaluate the potential impact on local services due to the financial burden associated with emergency response preparedness. **DOE is committed to working with State, Tribal, and local governments to ensure that they are prepared to carry out their responsibilities in the unlikely event of an accident involving shipment of foreign research reactor spent nuclear fuel. Details of emergency preparedness, security, and coordination of DOE with local emergency response authorities would be contained in the Transportation Plan, which would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State, Tribal and local officials. Any additional training or equipment needed would be provided as part of the planning process. In addition to direct Federal assistance to State, Tribal, and local governments for maintaining emergency response programs, there are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, Tribal, and local agencies who might be involved in responding to a radiological incident.**

Another group of commentors expressed concern regarding risks of terrorist activities. Several noted that terrorist activity is a concern of all countries, including the United States, citing the

Oklahoma City bombing incident as an example. Commentors also stated that transporting nuclear material overseas to the United States would unnecessarily expose shipments to an increased possibility of terrorist threat. **In response to these concerns, Section D.5.9 was added to Appendix D of the EIS to specifically address terrorism and sabotage. This section concludes that while the risk of certain terrorist and sabotage attempts cannot be precluded, proper security measures would greatly reduce the risk. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting, or exceeding, all the relevant security requirements in the Code of Federal Regulations. DOE would ensure through the spent nuclear fuel acceptance contracts with the reactor operators that proper security is provided at a port or in transit, based on NRC requirements. Often State or local law enforcement personnel would be employed by the carrier to satisfy these security requirements, which include having armed escorts on board or near the shipment when it is in highly populated areas or at the port in the U.S. In the case of military ports, a high level of security is inherently in place.**

With regard to marine transport, many commentors stated a preference for using special purpose, chartered or military ships rather than regularly-scheduled commercial liners to ship spent nuclear fuel. **The use of commercial liners, chartered ships, and purpose-built ships was considered for the marine transport of the spent nuclear fuel. The analyses in the EIS indicate that the impacts associated with the use of any of the ships evaluated would be small. The impacts of using military ships were not analyzed in the EIS because DOE believes that the added security provided by such ships would not be required to ensure safe transport. DOE's preferred alternative includes the use of military ports as points of entry to the United States.** Independent inspections by State, local, and/or public interest groups prior to and during shipments were suggested by some commentors. **DOE would encourage inspections by authorized State agencies for both radiological and vehicle inspections prior to shipment and after arrival at the management site. These inspections would be coordinated with the States through the transportation planning process.**

### *1.5.4 Port Selection Criteria and Activities*

Many commentors, predominately those from communities at or near potential ports of entry, questioned DOE's port selection process and the methods for application of the selection criteria, especially with respect to populations in and around candidate ports. Particular concerns were that longshoremen may not be adequately trained to handle radioactive materials or that they could be exposed to high levels of radioactivity. As an alternative, military ports were supported as having the necessary experience in handling nuclear material and being more secure. **Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the fiscal year 1994), requires that "the Secretary of Energy shall, if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel... at a port of entry in the United States which... had the lowest human population in the area surrounding the port of entry...." While this Act was written specifically to apply only to the receipt and storage of spent nuclear fuel at the Savannah River Site, DOE elected to apply this criterion, among others, to the maximum extent practicable, in identifying all suitable ports of entry for potential receipt of foreign research reactor spent nuclear fuel. In application of the population criterion, DOE considered both the population nearest the potential ports of entry analyzed, and the total population along the transportation routes. Analysis of the list of candidate ports against this criterion did not identify any port as a clear choice. Therefore, DOE selected ports that best**

**met all of the criteria discussed in Appendix D to the EIS (e.g., appropriate experience, favorable transit from open ocean, appropriate facilities, access to intermodal transportation, and human population). Both commercial and military ports were evaluated. Based on the results of this analysis, DOE believes that foreign research reactor spent nuclear fuel could be received safely via commercial ports, as it has been in the past. Nevertheless, DOE agrees that the use of military ports would provide additional security over that which would be available in a commercial port. Furthermore, although DOE has committed to provide assistance to State and local authorities to ensure that the longshoremen (or other workers) in a commercial port would have any additional training that might be required to allow them to safely handle the spent nuclear fuel, DOE considers that the personnel at a military ordnance facility would be particularly qualified to handle the spent nuclear fuel by virtue of their training and experience performing their military function. Considerations of all these factors led to designation of the Charleston Naval Weapons Station and Concord Naval Weapons Station as the preferred ports of entry.**

**DOE notes that, although the maximum allowable radiation dose rate is 200 mrem per hour, this limit is applicable at the surface of the transportation cask, which would be inside of the container. The maximum radiation dose rate limit to those that would be near the container, such as longshoremen, is 10 mrem per hour at a distance of 2 meters (6.6 ft) from the surface of the container. The actual total dose that a longshoreman would get handling a cask would be quite small due to the fact that a handler would not be present at the surface of the container for long, and the total time near the cask would be quite short. The additional barrier imposed by the standard shipping container would also prevent the longshoremen from being in the near vicinity of the cask. The analysis in the EIS indicates that both the dose and dose rate for the port workers would be low.**

Concerns over possible storage of spent nuclear fuel at the port of entry were raised by a number of commentors. **DOE's goal would be to minimize holding times at the ports and to provide safe transport of the spent nuclear fuel to its destination as quickly as possible. Under normal circumstances, the foreign research reactor spent nuclear fuel would remain at the port for only a few hours (e.g., 2 to 4 hours) and no more than 24 hours. In the very unlikely event that the spent nuclear fuel could not be moved within 24 hours, special provisions to move the fuel to a secure area at the port would be made. Part of the overall plan and agreements with the Department of Defense would include these special provisions.**

Several commentors pointed to recent increases in marine traffic and industrial congestion in the port areas and questioned whether the selection criteria would be affected by these factors. Some cited the need to consider site-specific factors such as hurricanes, severe winds, seismic activity, extreme weather conditions, and sinkholes. **In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay. In order to further assure safety, the U.S. Coast Guard would establish a moving zone of exclusion, which would keep all vessels away from the ship bringing the spent nuclear fuel into port. Coast Guard escort boats would accompany the ship to port. As for accidents, the potential consequences of a port or land transport accident due to an earthquake are represented and**

**bounded by the potential port and land transportation accidents that are assessed in the EIS. The potential consequences of a port or land transport accident due to an earthquake are represented (and bounded) by the potential port and land transport accidents that are assessed in the EIS. Local hazards, such as earthquakes, volcanoes, and mud slides could be accident initiators; however, they would not increase the consequences of the accident, which were found to be low. Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that analyzed for accidents such as challenges to the transportation cask integrity that could be caused by casks falling from a bridge or down an embankment. These kinds of accidents are within the design standards developed by the NRC and by which cask designs are evaluated. The NRC certifies the designs that contain the appropriate level of safety to protect workers, the public, and the environment from the radioactive material being transported. Analysis of the potential impacts associated with the possible existence of sinkholes along potential rail routes was added to the Final EIS in response to public comment.**

### *1.5.5 Economic Impacts to Candidate Port and Site Communities*

Potential economic impacts on affected port and site communities were the subject of many comments. Of particular concern were the socioeconomic impacts to a community in the event of an accidental release of radiation. Examples of potential impacts cited by commentors include disruptions in normal commerce, loss of business, loss of tourism, devaluation of property, and closure of ports and highway routes. Several port authorities were concerned about the potential for declining business due to the perceived stigma associated with handling nuclear waste materials in their ports, while others viewed handling these shipments positively. The costs of emergency response, cleanup, health care, and potential economic losses associated with accidents or releases were key concerns of several State, Tribal, and local officials. **The risk associated with shipments of foreign research reactor spent nuclear fuel through any of the ports identified would be less than the risk associated with the handling of other hazardous cargoes due to the rigid criteria established for spent nuclear fuel transportation casks. In fact, no adverse impacts have been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States. Historically, shipping foreign research reactor spent nuclear fuel through port has not created a stigma or had an adverse economic impact on business, major industries, tourism, or future business development at ports. DOE does not believe that actions such as permanent road closures would be required for the safe and uneventful transportation of foreign research reactor spent nuclear fuel. Costs of emergency response are covered under insurance that is required of hazardous material carriers. If that level of coverage is exceeded, Price-Anderson and other Federal provisions would cover costs.**

### *1.5.6 Health Effects and Environmental Risks*

Many commentors raised concerns about health effects and environmental risks that could result from accidents during marine transport, handling operations at ports, ground transportation, and interim management. Of particular concern were the effects of possible radioactive releases into the ocean and rivers, and on highways and railroads; the impacts to fish, wildlife, ecosystems, and drinking water; and the possibility of an increased risk to workers and the public of cancer and genetic defects. **Human health and safety were primary considerations during the evaluation**

**of environmental effects for the proposed alternatives. Conservative estimates of radiological and nonradiological impacts indicate that risks to the population and workers would be low. The analysis in the EIS indicates that the risks associated with an accident at sea or a port accident would be low. The impacts of incident-free receipt, handling, and transportation of foreign research reactor spent nuclear fuel would also be extremely low. In over 40 years of spent nuclear fuel transportation, no "Type B" spent nuclear fuel transportation cask has ever been punctured or released any of its radioactive material contents. DOE believes that spent nuclear fuel transportation casks passing through any of the potential ports of entry or any other part of the country would be highly unlikely (i.e., less than a 1 in 10 million chance) to release their contents or adversely affect air or water quality.**

Several commentors questioned the results of the risk analyses in the EIS, suggesting that DOE may have underestimated the risk potential for accidents, radioactive release(s), and exposures to both workers and the public. **DOE believes that the analyses of risk to people during marine transport and for those who live near potential ports of entry, along transportation routes, and near management sites are conservative (i.e., are likely to overstate the actual risks). These estimates were generated using standard computer codes (e.g., RADTRAN) that have been adopted and used by NRC and the Department of Transportation for transportation calculations for over 19 years. These computer codes are available for public review.**

Some commentors expressed concern about potential health impacts resulting from a cask sinking in deep waters. Many challenged the applicability of the severe accident tests applied to the casks (e.g., crash, fire, drop, immersion), stating that the conditions of real-life accidents were of greater magnitude than the conditions in the tests. For example, commentors cited fires that were alleged to have burned longer and hotter than those used to test the transportation cask and pointed out that the water in Puget Sound is deeper than the cask recovery depth cited in the Draft EIS. **The EIS presents an evaluation of the consequences of accident scenarios that would result in the sinking of a spent nuclear fuel transportation cask on the continental shelf (water depth of about 200 meters), and in deep ocean (water depth of more than 200 meters). In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal or inland waters, it would be recovered, even from the deepest portions of the Puget Sound, which reaches depths of 305 meters (1,000 feet). The sequence of testing scenarios (i.e., cask drop onto unyielding surface, cask drop on a steel post [puncture], and cask fire) is required by the Nuclear Regulatory Commission as part of the certification of "Type B" spent nuclear fuel transportation casks. These tests conservatively represent a wide range of accident conditions that could occur during transport. The test results indicate that if such accidents were to occur, the cask most likely would not fail, and would not lead to a loss of containment. The cask drop and puncture tests evaluate the resulting impact on the most vulnerable orientation of the cask, and on an unyielding surface, which would be unlikely to occur while the cask was being transported in an International Standards Organization (ISO) approved container. In reference to shipboard fires, the duration of a fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only 11 led to fires, and of those, only 5 caused extensive damage, with only 1 actually causing buckling of structures.**

**In regard to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to**

**different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship fire's intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of foreign research reactor spent nuclear fuel. The probability of reaching such a temperature is discussed in Attachment D5 to Appendix D of the EIS.**

### *1.5.7 Public Involvement Process*

A number of comments dealt with DOE's policies and procedures for conducting the public hearings, the duration of the public comment period, the degree to which comments would be considered by DOE in the decision making process, and general distrust of DOE. Several commentors stated that there was insufficient notice and advertising for the public hearings. Many commentors stated the need for additional time to comment on the Draft EIS. Commentors at the heavily-attended West Coast port hearings tended to favor the more traditional, formal public hearing format, and strongly opposed the use of notetakers to summarize hearing issues. In the Tacoma area, commentors urged DOE to hold another hearing to tape record their comments for the record, without allowing for dialogue with DOE representatives. Many State and local officials requested that DOE provide better advance notification to communities that are being considered as candidate ports or management sites so that they have more time to review the Draft EIS. Many individuals stated they had not received the Draft EIS in a timely manner, and consequently, had little time to review and comment. Several commentors expressed a desire for increased DOE interaction with local officials and more community participation in DOE's planning and decision making processes.

**Notice of the availability of the Draft EIS for public review and comment was published in the *Federal Register* (60 FR 19899, April 21, 1995). This notice advised concerned parties, including State, Tribal, and local authorities, of the availability of the Draft EIS and the dates and locations of the public hearings on the Draft EIS. In addition, advertisements of the public hearings were placed in local papers prior to their occurrence. The public hearing format provided an opportunity for interaction between DOE and the public, thus serving to facilitate communication.**

**In response to public concerns of insufficient time to review the Draft EIS, DOE extended the deadline for submission of written public comments from June 20 to July 20, 1995. DOE considers that this 90-day period was sufficient for public comment. All oral comments presented at each hearing were summarized and have been addressed along with the written comments in Section 3 of this Volume 3 of the Final EIS. DOE considers that these actions have provided ample opportunity for the public to comment. Issues raised by the public during the comment period were considered in selection of the preferred alternative for this proposed action. All comments, written and oral, are part of the public record.**

# Section 2.1
# Federal Government

## COMMENTOR NO. 35: NAVAL WEAPONS STATION CONCORD

DRAFT

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05C:KCY:da

Department of Energy
Attn: Charles R. Head
Office of Spent Fuel Management (EM-37)
Office of Environmental Management
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Charles Head;

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) Concerning Foreign Research Reactor Spent Nuclear Fuel issued 11 April 1995. We offer the following comments on Appendix D, section D.2.1.6 of the DEIS which deals specifically with the Naval Weapons Station Concord.

We feel more discussion of scheduling would be useful. Department of Defense (DOD) explosives safety regulations prohibit concurrent non-explosive operations within safe zones known as explosive safety quantity distances. As a non-explosive operation, there will be no concurrent operations between DOE's project and DOD's explosive transshipment mission. That needs to be stated clearly in the EIS. We also note that it may not always be possible to avoid conflicting activities through scheduling. Unscheduled activities or activities with little advance notice involving our military mission will require re-scheduling of your vessel or routing to another port. A clear understanding of the relative priority of DOE's project with respect to military necessity should be reflected in the EIS. 35-1 35-2

Our continuing ability to perform our DOD operational mission is paramount. We are concerned about how changes to our operational environment, which will occur with the performance of this DOE project at our facility, will interfere with our DOD business operations and schedules. Socio/economic effects, such as public protests, may increase operations costs or otherwise affect our ability to perform our operational mission. In addition, there are press reports of difficulties with the State of Idaho accepting spent fuel. There must be a contingency plan if the intended fuel management site is suddenly unavailable to accept the offloaded waste. Processes to mitigate or eliminate these types of adverse operational conditions should be addressed in the EIS, and must be incorporated into any future memorandums of understanding. 35-3

There are several other comments which address editing details in section D. 2.1.6. on pages D-60 and D-62.

## RESPONSE TO COMMENT
## COMMENTOR NO. 35: NAVAL WEAPONS STATION CONCORD

### *Response to Comment No. 35-1*

DOE understands that Concord NWS's primary mission is to support the military through handling munitions and that no handling of the foreign research reactor spent nuclear fuel could occur concurrently with handling explosives. These facts have been incorporated into the EIS.

### *Response to Comment No. 35-2*

DOE understands that scheduling conflicts could arise unexpectedly and that they would be resolved in favor of the port's primary mission of supporting the military.

### *Response to Comment No. 35-3*

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the DOE Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 35: NAVAL WEAPONS STATION CONCORD (CONT'D.)

a. Naval Weapons Station Concord is not a general purpose and routinely available shipping "port" in the publicly accepted use of the term.. Whenever this station is being directly referred to, please use WPNSTA Concord as a short term rather than "port". 35-4

b. Change the last sentence of the first paragraph on page D-60 to read: "Naval Weapons Station Concord is aligned under the Pacific Division of the Naval Ordnance Center. The Pacific Division is located at Seal Beach, CA and the Naval Ordnance Center is located at Indian Head, MD." 35-5

c. Concord's floating crane is 112 ton, not 110. 35-6

d. The modernization program is for $57 million for completion in 1999, not $50 M for completion in 1997. 35-7

e. Pier 3 load bearing capacity will not change. The upgrade to the pier adds gantry crane rails outside of the existing pier structures and will not change the working area pier load bearing capacity. 35-8

f. The facility in Hawthorne, Nevada, referred to as the "Naval Ordnance" facility is really the Army's and is called the "Hawthorne Army Ammunition Depot" which reports to the Army's Industrial Operations Command, Rock Island, Illinois. 35-9

g. There are several small inaccuracies in the first sentence in the "Other Pertinent Information" paragraph which should be rewritten to read: "Since it is a military facility and an explosives operating area, the entire pier operations waterfront is surrounded by barbed wire fencing with access through military posted gates." 35-10

h. Also in the first "Other Pertinent Information" paragraph, "The existing State highway through the site" was closed off to general public access in February 1995, and the correct term is "the town of Clyde", not "the hamlet of Clydes". 35-11

i. The Coast Guard facility on site does provide some explosive oversight services, however they do not "provide small craft security around the piers during loading and unloading" for explosive operations. If that would be required by DOE for your operations, that would have to be separately addressed with the Coast Guard. 35-12

Again, I appreciate the opportunity to comment on the DEIS. We are prepared to discuss the details of a Memorandum of Understanding when and if that becomes appropriate. As DOE moves through it's decision process, please forward to us any future documents on this project which mentions or refers to the Naval Weapons Station.

Sincerely,

R. B. LANNING
Captain, U. S. Navy
Commanding Officer

Copy to:
PACDIV
NAVORDCEN

## RESPONSE TO COMMENT
## COMMENTOR NO. 35: NAVAL WEAPONS STATION CONCORD (CONT'D.)

***Response to Comment No. 35-4***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-5***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-6***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-7***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-8***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-9***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-10***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-11***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 35-12***

This correction has been made in Appendix D, Section D.2.1.6 of the EIS

## COMMENTOR NO. 52: U.S. REPRESENTATIVE ELIZABETH FURSE

**Congress of the United States**
**House of Representatives**
**Washington, DC 20515-3701**
**Statement of Representative Elizabeth Furse**
**Public Hearing on the Acceptance of Foreign Spent Nuclear Fuel**
**May 25, 1995**

No one wants a garbage dump in their back yard. Yet the average American spews out 4.5 pounds of garbage a day. We all want that garbage to go "somewhere else" -- out of sight, out of mind.

That's especially true of the deadly nuclear "garbage" that we and other nations continue to produce every day. In our haste to sell nuclear technology abroad and with concern that spent nuclear fuel could be reconfigured to produce weapons grade plutonium, in the 1950's the United States agreed to take back nuclear waste. We have become the global garbage dump.

But let's just hold on a moment. The acceptance and storage of foreign nuclear waste without first developing a well thought out national waste policy and a long-term storage facility is a bit like diving into a swimming pool without first checking that it's filled with water. You might be just fine or you might be dead.

In addition to deciding whether to accept foreign spent fuel, I also have concerns about the conditions under which such waste is brought into our country. The Military Production Network has identified three criteria that I support for the movement and storage of spent nuclear fuel:

1) The area through which the fuel is transported and the area where the fuel is to be stored needs to be sparsely populated.

2) The port where the fuel is off-loaded needs to be close to the fuel storage site.

3) The storage site must be the most appropriate facility for receiving and storing the spent fuel for long term storage.

The Port of Portland and the potential receiving sites of both Hanford and Idaho National Engineering Laboratory fail to qualify on all three counts. *52-1*

Additionally, no spent nuclear fuel from any source, domestic or foreign, should be received through any port without a nuclear waste policy. This policy should address safety training for all workers who have to handle or come in contact with the waste. Communities and local disaster agencies along the shipment route should also receive adequate notification of shipments and assistance with emergency preparedness, including the development of "worst case" disaster plans. Lastly, the receiving facility needs to be designed for long-term storage; we need to be able to move it, treat it (if possible) and store it, contained, at a site secure from terrorist attack. *52-2* *52-3*

Let us look before we leap.

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## RESPONSE TO COMMENT
## COMMENTOR NO. 52: U.S. REPRESENTATIVE ELIZABETH FURSE

### *Response to Comment No. 52-1*

DOE agrees that the three listed attributes are important in the movement and storage of spent nuclear fuel. However, all of the conditions associated with transportation and storage of this material must be considered as a whole when evaluating a proposed action and some trade-offs need to be made at times. One of the criteria for port selection (Criterion 5; Appendix D, Section D.1.9.5 of the EIS) considers population in port and along the route to the management site. Portland is considered a medium-population density port and is therefore acceptable from a population stand point. In addition, Portland's experience in handling containers and the low integrated population on the route to both the Hanford Site and Idaho National Engineering Laboratory were factors in its inclusion as an acceptable port of entry. Both the Hanford Site and Idaho National Engineering Laboratory are in sparsely populated areas. Therefore, DOE considers the commentor's first criterion to be met. Portland easily meets the second criterion, distance to the management sites, being among the closest ports to both the Idaho National Engineering Laboratory and the Hanford Site. As to the appropriateness of the management sites to handle the foreign research reactor spent nuclear fuel, both the Idaho National Engineering Laboratory and the Hanford Site have extensive experience with handling and storing spent nuclear fuel, so DOE considers that both management sites meet the commentor's third criterion.

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

### *Response to Comment No. 52-2*

The nuclear waste policy of the United States is specified in the Nuclear Waste Policy Act of 1982, as amended. DOE agrees that full implementation of this policy will require much future effort. Nevertheless, in the meantime, DOE and the Department of State consider that action must be taken to address the potential for nuclear weapons proliferation stemming from the U.S.-origin HEU in spent nuclear fuel from foreign research reactors.

## COMMENTOR NO. 52: U.S. REPRESENTATIVE ELIZABETH FURSE (CONT'D.)

## RESPONSE TO COMMENT COMMENTOR NO. 52: U.S. REPRESENTATIVE ELIZABETH FURSE (CONT'D.)

***Response to Comment No. 52-3***

According to U. S. regulations, all workers who handle or come in contact with spent nuclear fuel are required to receive appropriate prior training. Details of emergency preparedness and security measures for port activities, as well as ground transportation, would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

DOE considers that the foreign research reactor spent nuclear fuel, if managed in the United States, would be movable, recoverable and secure while in storage during the 40-year period covered by this EIS.

## *Commentor No. 60:*
## *Deutch, John - Deputy Secretary of Defense*

THE DEPUTY SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-1000

8 April 1994

The Honorable Hazel O'Leary
Secretary of Energy
Washington, D.C. 20585

Dear Madam Secretary

I am writing you to provide the Department of Defense's views regarding the proposed take back of the U.S. origin highly enriched uranium (HEU) spent research reactor fuel.

The Department of Defense fully supports your efforts to take back a limited number of spent fuel elements on an urgent basis. We agree with your assessment that return of these spent fuel elements is important to the future success of the Reduced Enrichment for Research and Test Reactors program. The return of research reactor spent fuel is an important part of the Administration's nonproliferation efforts and its goal of minimizing the civil use of highly enriched uranium.

The price charged to research reactor operators is critical to the success of this endeavor. We share the Department of State's view that the price should not be so high as to discourage foreign reactor operators from returning this HEU to the United States. Too high a price would seriously damage the Administration's nonproliferation efforts.

I appreciate the importance of assuming that we are not subsidizing foreign use of HEU. On the other hand, for over fifteen years, the value of the nonproliferation efforts of this program have been widely recognized. I am aware of your recent decision to set || *60-1*

07598

## *Response to Comment*
## *Commentor No. 60:*
## *Deutch, John - Deputy Secretary of Defense*

*Response to Comment No. 60-1*

The Department of Defense's position on competitive fees is noted. Alternative financing arrangements are discussed in Section 2.2.2.3 of the EIS.

## COMMENTOR NO. 60: DEUTCH, JOHN
## DEPUTY SECRETARY OF DEFENSE (CONT'D.)

$3000 per kilogram as the charge for this return. The Department of Defense joins the Department of State to urge strongly the Department of Energy charge no more than $2000 per kilogram. The expenses are small compared to the national security benefits. 60-1 (Cont'd.)

John

cc: Secretary of State
UnderSecretary of Energy
UnderSecretary of Defense for Policy

## RESPONSE TO COMMENT
## COMMENTOR NO. 60: DEUTCH, JOHN
## DEPUTY SECRETARY OF DEFENSE (CONT'D.)

## COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER

GEORGE MILLER
7TH DISTRICT, CALIFORNIA
2205 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0507
(202) 225-2095
DANIEL WEISS
ADMINISTRATIVE ASSISTANT
COMMITTEE ON NATURAL RESOURCES
COMMITTEE ON EDUCATION AND LABOR

Congress of the United States
House of Representatives
Washington, DC 20515-0507

DISTRICT OFF
257 Cone Dr
Pleasant Hill, C
(510) 602-1
MARY LANE
DISTRICT DIR
2220 Blume
Suite 10
Richmond, CA
(510) 262-
LAMZ Campbell
Vallejo, CA
(707) 649-
TTY (202) 225

June 5, 1995

Honorable Hazel R. O'Leary
Secretary
Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Secretary O'Leary:

As you consider the Department of Energy's proposal to ship spent nuclear fuel rods through Concord Naval Weapons Station (CNWS) in Concord, California, please consider the attached comments I have prepared on the Draft Environmental Impact Statement.

Sincerely,

George Miller

George Miller
Member of Congress
7th District, California

Attachment

## RESPONSE TO COMMENT COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER

## COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

GEORGE MILLER
7TH DISTRICT, CALIFORNIA

**Congress of the United States**
**House of Representatives**
**Washington, DC 20515-0507**

UNITED STATES CONGRESSMAN GEORGE MILLER
Comments on the Draft Environmental Impact Statement
"Proposed Nuclear Weapons Nonproliferation Policy
Concerning Foreign Research Reactor Spent Fuel"
June 2, 1995

Over the past four decades, the United States has entered into bilateral agreements with a large number of foreign nations concerning the long-term disposal of radioactive wastes. For most of this period, global geo-political instabilities made the storage of nuclear wastes a delicate issue because of the vulnerability of storage areas to potential saboteurs and those who might divert the waste to the illegal production of nuclear weapons.

Since the mid-1960s, our government has provided technological aid to foreign governments concerning their nuclear programs, agreeing to accept spent fuels for long-term storage in the United States as an incentive to persuade these nations not to develop nuclear programs that could promote proliferation of weapons and weapons-grade materials. As a consequence of the pledges made by our government in pursuit of non-proliferation goals, these nations have not developed domestic capabilities for storing nuclear wastes on site. Indeed, several of these nations have enacted laws specifically preventing long-term nuclear waste storage on their own territory.

At the same time, it must be noted that there has been, and remains, substantial controversy over the siting of long-term nuclear storage right here in the United States. Indeed, the Department of Energy is unable to identify, within this Draft Environmental Impact Statement, the siting and conditions for the permanent storage of spent nuclear fuel once it is returned to the United States under the terms of the non-proliferation program. Thus, in many respects, domestic U.S. storage is as controversial and fraught with uncertainties as overseas storage would be. 131-1

Since this program began, there have been dramatic and unforeseen changes in the geo-political alignment affecting international alliances, security agreements, and the role of the United Nations. The underlying rationale for transporting this highly radioactive material over long distances on its way to the United States, and then to uncertain storage sites inside the United States, warrants a full scale review in light of the alteration of the international scene. Some nations that were thought vulnerable or incapable of retaining some of all of the waste generated within their region may have greater storage capabilities today. Some nations are showing greater interest in developing their own storage facilities which, supplemented by U.N. or other international enforcement teams, might be a rational and less costly method for assuring the stability and security of the materials. In addition, were the storage proposal outlined in the DEIS to proceed, greater efforts should be made to secure the financial participation of other nations in assisting with the cost of the transportation and disposal plan. 131-2 131-3

## RESPONSE TO COMMENT COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

### *Response to Comment No. 131-1*

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS). As stated in Sections 2.1 and 4.2.7 of the EIS, if a geologic repository was not prepared to accept the foreign research reactor spent nuclear fuel or the high level radioactive waste form resulting from the chemical separation or other processing of such spent nuclear fuel, by the end of the 40 year program period, DOE would continue to manage the spent nuclear fuel, or the high level waste forms, until such a geologic repository were available.

The storage of this material at DOE facilities offers advantages in safety and security over storage in most foreign nations, especially developing countries. (Sections 2.3 and 4.4.1 of the EIS.)

### *Response to Comment No. 131-2*

DOE and the Department of State maintain a continuing awareness of the threat of nuclear weapons proliferation and of the individual capabilities of the various countries currently holding foreign research reactor spent nuclear fuel to properly care for it. Despite the demise of the Soviet Union, increasing technical capabilities of third world nations, coupled with international tensions, have led DOE and Department of State to conclude that the threat of nuclear weapons proliferation has not diminished. The option of storing foreign research reactor spent nuclear fuel overseas is described in the EIS under Management Alternative 2, Subalternative 1a (Section 2.3 of the EIS). Environmental impacts that would result from implementation of such an alternative are discussed in Section 4.4.1 of the EIS.

### *Response to Comment No. 131-3*

As discussed in Section 2.2.1.2 and 2.2.2.3 of the EIS, several financing options have been considered, ranging from collection of fees from the research reactor operators that would pay all of the costs of the program to full subsidization of the program by DOE. A compromise between these extremes would be for developed countries to be charged a competitive fee to accept and manage their spent nuclear fuel. While it would be beneficial for U.S. taxpayers to secure assistance from developing countries and financial assistance above the level of a competitive fee from developed countries, it is unclear if this can be achieved. In the case of the developed countries (which represent about 78 percent of the spent nuclear fuel elements and about 87 percent of spent nuclear fuel by total mass), there is significant opposition to charging a competitive fee based on current costs as opposed to the costs that prevailed at the time the most recent spent nuclear fuel retrieval programs ended. The U.S. acceptance of the charges for developing countries is a policy decision amongst the agencies involved in the program.

## COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

Statement of Congressman George Miller
June 2, 1995
Page Two

The draft EIS anticipates bringing 186 casks to the West Coast (as compared to 651 to the East Coast) via ships for transportation to and storage at several temporary waste sites. One of the proposed ports of entry would be the Concord Naval Weapons Station (CNWS) located in Concord, California. Such a proposal to bring highly radioactive materials into a community, if even for a brief time and under highly controlled circumstances, causes Statement of understandable concern. That concern ripens into anxiety when affected communities and elected officials are not informed in advance that their region is being considered as a recipient of the materials, as occurred in this case with respect to the city of Concord, the County of Contra Costa, other jurisdictions and local officials. 131-4

I strongly encourage representatives of the Department of Energy to participate in public meetings with local elected officials and other residents of these affected communities to address their concerns and respond to their questions about the proposal. In addition, I request an extension of the formal comment period beyond June 22, 1995, in order to assure that all local views on this proposal can be expressed. 131-5

Notification of Local Emergency Service Office. My concern is mitigated by the assurance that the spent nuclear materials would remain in CNWS for a very brief time – on the order of 24 hours. Clearly, there is no facility at CNWS that would be appropriate to serve as a storage facility on either a long or short term basis. Local officials, including the emergency response team, be alerted *prior* to any shipment of radioactive materials through CNWS and that county personnel be fully briefed on the proposed movement of the materials so as to maximize coordinated planning with the base in order to assure public safety. Local officials should be assured that any emergency costs associated with the trans-shipment of the casks, including any costs stemming from any accidents, will be fully assumed by the Department of Energy. 131-6

Review of Seismic Safety Concerns. The DEIS notes (at 3-28) that CNWS "is located on the edge of a very high seismic zone," but little discussion of the seismic safety issue is discussed. While the likelihood of an earthquake during an unloading procedure may be minimal, potential damage to transportation connections could result in the materials remaining longer at CNWS than initially planned. 131-7

Impacts on San Francisco Bay. The DEIS is virtually silent on the issue of potential risks to shipping and the ecology of San Francisco Bay. Given the uncertain tides, changing weather, frequent obstructions and heavy traffic, the Department should give far greater consideration to implications of bringing highly radioactive materials into a virtually closed Bay in proximity to millions of people. At a minimum, any ships containing casks must be accompanied from the Golden Gate to CNWS by tugs piloted by those with detailed knowledge of the Bay and the Sacramento River. 131-8

## RESPONSE TO COMMENT COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

### *Response to Comment No. 131-4*

Potentially affected communities and officials were informed in advance that their region is being considered. The specific mechanism used to inform potentially affected communities and elected officials in advance is to announce the availability of and widely distribute the draft EIS, hold a public comment period to give the public time to familiarize themselves with the proposed action and comment on it, and to hold public hearings to further publicize the proposed action and provide opportunity for public comment. For this EIS, seventeen public hearings were held. A ninety day public comment period was provided, well in excess of the 45 days required by the applicable regulation. All of these actions precede the issuance of the final EIS, which is required by regulation to precede any decision on implementation of a proposed action by at least 30 days.

### *Response to Comment No. 131-5*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995.

### *Response to Comment No. 131-6*

As to the request that local officials be alerted, prior to shipment, of radioactive materials going through Concord NWS, U.S. Department of Transportation regulations only require DOE to inform the Governor of each State and any Tribal chair, or their designee, along the transportation route at least seven days in advance of the shipment of hazardous cargoes, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel would be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

The commentor wants assurance from DOE that DOE - not local governments - would assume costs related to the transshipment of casks, including costs arising from accidents. Under the Price-Anderson Act, DOE will indemnify contractors for public liability with respect to spent nuclear fuel if there is a nuclear incident, as defined under law. In pertinent part, a nuclear incident is one that causes, for example, injury or sickness or property damage, resulting from radioactive, toxic, explosive, or other hazardous properties of the material. DOE does provide funding to States and Tribes, as described in Section 2.7.3.1 of the EIS, for transportation related issues. Such funding can enhance a jurisdiction's emergency management and planning capabilities.

## COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

Congressman George Miller
June 2, 1995
Page Three

Likelihood of Political Controversy at CNWS. The DEIS contains no discussion of the history of demonstrations at CNWS and whether the likelihood of anti-nuclear protests raises any security concerns with respect to the ability to meet the unloading and transportation timetable. Both Contra Costa County and local municipalities should be given assurances that the Department of Energy will pay for the costs of all security related to the Statement of program, including the provision of police during demonstrations in conjunction with the unloading and transportation of the casks. 131-9

I expect that the Department of Energy will be fully responsive to these concerns, and those raised by local governments and residents, about the wisdom of using CNWS as an unloading facility for these materials. In addition, the changed political climate in the world today and the enhanced security facilities available world-wide suggests that alternatives to trans-oceanic shipment of nuclear wastes should be explored as an alternative to bringing the material to the United States which also lacks a finalized long term storage program for high level waste. 131-10

## RESPONSE TO COMMENT COMMENTOR NO. 131: U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

### *Response to Comment No. 131-7*

Under normal circumstances, it would remain at a port for only a few hours. In the event of a major disruption of ground transportation systems due to adverse weather, seismic activity, or other situation, DOE's goal is to minimize holding times at the ports and to provide safe transport of the spent nuclear fuel to its destination as quickly as possible. In the unlikely event that a major seismic event isolates Concord NWS and prevents the foreign research reactor spent nuclear fuel from leaving the port, the cask would be placed in a secure location, isolated from personnel. The radiation exposure to personnel from the cask would be low since the radiation exposure rate beyond 100 meters is essentially zero.

### *Response to Comment No. 131-8*

The EIS analyses determined that there would be no significant adverse impacts to the ecology of any of the ports that might be used to receive the material (Section 4.2.4.2.8 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident (Section 2.6.2 of the EIS). Spent nuclear fuel transportation casks passing through Concord NWS, or any other port, cannot leak because the metallic fuel is transported dry, thus it would not affect either the air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. No significant health, safety, or environmental risk were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS).

The physical constraints of the passage from San Francisco Bay to Concord NWS were considered as part of the port selection process. The passage does meet the requirements of Criterion 2 (Favorable Transit From Open Ocean) for the port selection (Appendix D, Section D.1.9.2 of the EIS).

The analysis in the EIS indicates that the use of any of the ports indicated by the port selection process, including Concord NWS, would not pose any significant risk to either the port personnel or the population in the area of the port, and that the risk associated with an accident is low (Section 4.2.2.3) and the risk associated with incident-free handling of the foreign research reactor spent nuclear fuel casks is also low (Section 4.2.2.2).

Every ship going to Concord NWS is guided to Concord by a certified professional pilot with knowledge of the Bay and Sacramento River who is onboard the incoming ship. The use of certified local pilots is the normal manner of entry into Concord as well as every other major port in the United States, and is superior to the suggested use of escort tugs.

RESPONSE TO COMMENT
COMMENTOR NO. 131:
U.S. REPRESENTATIVE GEORGE MILLER (CONT'D.)

***Response to Comment No. 131-9***

The impact of the receipt of foreign research reactor spent nuclear fuel on local police departments would be small. While at Concord NWS, the base would provide the security for the foreign research reactor spent nuclear fuel. When it was en-route to the management site, some escort would be required, however this would be the responsibility of the shipper who would make the necessary arrangements and pay any costs.

Dealing with demonstrations is the responsibility of the local and State governments, as well as the military, if such demonstrations occur on military bases. However, if the demonstrations were the result of the receipt of foreign research reactor spent nuclear fuel, DOE would support local, State, or military organizations in dealing with demonstrations.

See also the 2nd paragraph of the response to Comment 131-6, above.

***Response to Comment No. 131-10***

The commentor's preference for overseas management of the foreign research reactor spent nuclear fuel is noted. This alternative is analyzed in the EIS as Management Alternative 2 (Section 2.3). However, management of this material at DOE facilities offers advantages in safety and security over storage in most foreign nations, especially developing countries. (Sections 2.3 and 4.4.1 of the EIS.)

For the subject of ultimate disposition, see the response to Comment 131-1 above.

## *Commentor No. 162: U.S. Senator Patty Murray*

PATTY MURRAY
WASHINGTON

COMMITTEES:
APPROPRIATIONS
BANKING, HOUSING, AND URBAN AFFAIRS
BUDGET

**United States Senate**
WASHINGTON, DC 20510-4704

June 8, 1995

Hazel O'Leary
Secretary
U.S. Department of Energy
1000 Independence Ave., SW
Washington, D.C. 20585

Dear Secretary O'Leary,

We are writing to express our concerns over the alternatives proposed in the Department of Energy's (DOE) Draft Environmental Impact Statement (DEIS) on the management of spent nuclear fuel (SNF) from foreign research reactors. We are concerned about the proposed option of importing the foreign SNF through commercial ports such as Tacoma, WA.

While the desire to encourage other nations' research reactors to switch to low-enriched uranium (LEU) from highly-enriched uranium (HEU) is an integral component of the United State's overall nuclear nonproliferation policy, importing foreign SNF through commercial ports may not be necessary. The DOE DEIS lists two military ports among the ten possible ports of entry for the SNF. We feel that DOE should limit further consideration of importing SNF to these or other appropriate military ports because of the considerable concern among citizens and city officials about importing SNF through commercial ports. *162-1*

First, there is significant apprehension about the threats to public health importing this SNF through commercial ports would create. Although DOE has stated that the threats to public health are not significant given the state of the material and the overly cautious design of the storage casks, we are not convinced that no public health threat exists. There is public concern that longshoremen, sailors, and average citizens could potentially become exposed to significant radiation levels. Whether this risk is real or only perceived is irrelevant. Importing foreign SNF through commercial ports would at best threaten public confidence and citizen's sense of security and at worst pose a significant threat to public health. *162-2*

Second, the DEIS states: "Primary responsibility for emergency response to a foreign research reactor SNF incident would reside with local authorities.". Although the port and city of Tacoma have emergency response plans for hazardous materials, neither the Police and Fire Departments nor the Port workers are properly equipped or trained to contend with a significant radiation emergency. Properly equipping and training these people would add a significant and unnecessary cost to the overall proposal. In addition, it is not clear that Police Officers, Fire Fighters, and port workers would be willing to undergo such training, knowing that it opens them up to potential future radiation exposure. In fact, port workers in Tacoma may declare their unwillingness to handle the material during even *162-3*

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## *Response to Comment Commentor No. 162: U.S. Senator Patty Murray*

### *Response to Comment No. 162-1*

Based on the low risk as shown by the analysis of impacts associated with accidents and incident-free operations involving foreign research reactor spent nuclear fuel, DOE considers that commercial ports and facilities represent an acceptable option for the transportation of foreign research reactor spent nuclear fuel. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

DOE also considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without the additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all of the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

### *Response to Comment No. 162-2*

The commentor's opposition to the use of commercial ports is noted. DOE considers the real risk to be important. DOE has estimated the real risk, found it to be low, and presented it to the public in a straightforward manner in this EIS.

Although public perceptions of risk cannot be addressed in an EIS, DOE would implement some additional measures to increase public confidence upon port selection (Section 2.7.5 and Appendix H of the EIS).

### *Response to Comment No. 162-3*

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities,

## COMMENTOR NO. 162: U.S. SENATOR PATTY MURRAY (CONT'D.)

routine transport procedures, let alone emergencies. 162-3 (Cont'd.)

Third, importing foreign SNF through commercial ports runs contrary to the overall policy objective of reducing the world-wide availability of HEU and other nuclear waste. If lengthy, unnecessary and relatively low-security transportation of SNF occurs through commercial ports, the increased opportunities for theft, hijacks, and sabotage could result in greater accessibility to the SNF than desired. As current events have unfortunately revealed, the United States is not immune to terrorism, either foreign or domestic. Even if this material could not be used in the making of nuclear weapons, and some of it could, the very fact that it is radioactive makes it dangerous. Transporting this material through commercial ports would create an unnecessary threat to national security. 162-4

These concerns present a compelling case for DOE to preclude further consideration of commercial ports like Tacoma, WA for the importation of foreign SNF. While removing HEU and other nuclear waste from the global marketplace is an essential aspect of nuclear nonproliferation, importing this material through military ports may prove more reasonable given the increased protection that could be provided to public health and safety and national security. 162-5

We are also concerned about the proposal to store the foreign SNF at the Hanford Nuclear Reservation. This idea is unacceptable given the current state of affairs at that facility. The current environmental problems associated with the storage of nuclear waste at the Hanford site have resulted in clean up costs near $50 billion. In addition, current budget pressures will make it difficult for DOE to meet its legally enforceable clean up schedule. Additional waste management responsibilities could further hamper the Department's efforts at the site. 162-6

In summary we would appreciate DOE limiting further consideration of this proposal to military ports and adequate storage facilities.

Thank you for your consideration. We look forward to your response.

Sincerely,

Patty Murray
United States Senator

Norm Dicks
U.S. Congressman

Jim McDermott
U.S. Congressman

## RESPONSE TO COMMENT COMMENTOR NO. 162: U.S. SENATOR PATTY MURRAY (CONT'D.)

prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues would include capabilities and training of first emergency responders. The commentor's assessment that the Tacoma port workers and emergency preparedness personnel would not be willing to participate in any training activities, or routinely handle the cargo, is noted.

### *Response to Comment No. 162-4*

DOE considers that spent nuclear fuel from foreign research reactors could safely be received at commercial ports, as it has in the past, without the additional security that might exist at military ports. Security measures employed at any port would be required to meet or exceed security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not comply with existing security regulations, it would be the responsibility of the shipper to provide the additional security required for compliance. These regulations are adequate to protect spent nuclear fuel from foreign research reactors in the candidate ports. Security and emergency preparedness associated with transportation of spent nuclear fuel from foreign research reactors are discussed in Appendix H, of the EIS.

As discussed in Appendix D, Section D.5.9 of the EIS, while some terrorists activities cannot be precluded, theft of spent nuclear fuel during transit is inherently difficult and unlikely. Appendix D, Section D.5.9 of the EIS discusses the consequences associated with sabotage and terrorist attacks.

### *Response to Comment No. 162-5*

See the response to comment 162-1.

### *Response to Comment No. 162-6*

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE would be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel managed by DOE would be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

## COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN

DIANNE FEINSTEIN
CALIFORNIA

COMMITTEE ON FOREIGN RELATIONS
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate
WASHINGTON, DC 20510-0504

June 5, 1995

Department of Energy
Office of Congressional Affairs
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Friend:

INQUIRY FROM: John Losh (Reference #: rcl-31158)

RE: Nuclear Waste Disposal

I am forwarding the attached constituent inquiry for your review and consideration. I believe that my constituent would benefit from your direct response to the specific issues raised in the enclosed letter.

I would appreciate it if you would return your response, in duplicate, as quickly as possible so that I can share the information with my constituent.

Since my office receives a large volume of mail, refer your return correspondence to the attention of Robert Lum in my Washington office. Please also include the constituent's name and reference number in your response. If you have any further questions, Robert can be reached at (202) 224-3841.

Sincerely,

Dianne Feinstein

Dianne Feinstein
United States Senator

DF:rcl
Enclosure

## RESPONSE TO COMMENT COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN (CONT'D.)

## COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN (CONT'D.)

P.O Box 6677
Clearlake Ca
95422
April 25-95

Senator Feinstein.
Dear Senator, The U.S. Dept. of Energy is planning to bring in nuclear waste from foreign countries to pollute our land & endanger our people. One site is Concord Calif - others Idaho, Nevada & Washington State - We do not want one particle of waste deposited in this Country. We have enough of our own. This plan will encourage the radicals against government & attract members as well.

165-1

## RESPONSE TO COMMENT COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN (CONT'D.)

***Response to Comment No. 165-1***

The commentor's opposition to the management of spent nuclear fuel from foreign research reactors in the United States is noted. Sections 2.3, 2.5, and 4.4 of the EIS describe other alternatives under consideration.

## COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN (CONT'D.)

I implore you to use everything in your power to put a stop to this outrage. When are we going to stop wet nursing foreign countries sacrificing our young men & spending millions of our tax dollars that are needed here to care for our own people.

Yours truly
Florence J Losh
John J Losh

## RESPONSE TO COMMENT COMMENTOR NO. 165: U.S. SENATOR DIANNE FEINSTEIN (CONT'D.)

## COMMENTOR NO. 200: CENTER FOR DISEASE CONTROL, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta, GA 30341-3724
June 9, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Head:

We have completed our review of the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (DOE/EIS-1218D dated March 1995). Technical assistance for this review was provided by the Radiation Studies Branch (RSB), Division of Environmental Hazards and Health Effects, National Center for Environmental Health, Centers for Disease Control and Prevention. We are responding on behalf of the U.S. Public Health Service.

There are two deficiencies which we recommend be corrected, because of the public health implications.

(1) The Statement never defines crew members on freighters hauling uranium as occupationally or non-occupationally exposed. Therefore, the appropriate limit on their exposure is uncertain. *200-1*

(2) The Statement acknowledges two situations where someone could exceed 100 mrem in a year, but proposes no positive steps to prevent this or monitor exposures:

If a truck hauling fuel containers whose contact reading is near the legal limit were stuck in a traffic jam or repeatedly used the same gas station, a member of the general public who loitered within one meter for too long could exceed the limit. This should be easy to prevent. The Department of Energy monitors the movements of the trucks and works closely with State Police and local governments. Use radio communications to keep trucks out of traffic jams, and tell them not to use the same gas station every time (or at least not the same attendant). *200-2*

A crew member on a ship hauling the fuel could exceed 100 mrem if they carried two loads in the same year. If crew members are not occupationally exposed, *200-3*

## RESPONSE TO COMMENT
## COMMENTOR NO. 200: CENTER FOR DISEASE CONTROL, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH

***Response to Comment No. 200-1***

A discussion has been inserted in Section 4.2.1.2 of the EIS to indicate that marine workers would be considered non-occupationally exposed workers.

***Response to Comment No. 200-2***

The text of Section 4.2.3.5 of the EIS has been revised to address the commentor's concern.

***Response to Comment No. 200-3***

As discussed in Section 4.2.1.5 of the EIS, DOE assumes that the same crew member may be involved in up to nine shipments per year. The mitigation measures that DOE would implement to ensure that no crew member could receive a dose above what is allowed for a member of the general public are also discussed in Section 4.2.1.5 of the EIS.

## COMMENTOR NO. 200: CENTER FOR DISEASE CONTROL, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH (CONT'D.)

assuming sailors probably will not make two trips is not satisfactory. Crew members should wear dosimeters and have their exposures recorded. Shipping companies should survey the holds after all containers are loaded, and control stay times during transit. *200-3 (Cont'd.)*

While the DEIS appears to be satisfactory except for the two problems noted above, we offer the following general comments for your consideration.

The Statement uses technical words inconsistently. The Statement should define each term, cite a reference, and adhere to that definition as much as possible. ICRP 60 defines collective dose as the average dose to a specific organ, multiplied by the number of exposed persons. Population dose is not defined at all in ICRP 60, and EDE is no longer used for dose measurements. (See ICRP 60, Appendix A.) The statement about absorbed dose on page 4-4, second paragraph, is technically incorrect. *200-4*

Section E.6.7 says truck and train crew members are not assumed to be occupational radiation workers. Table E-56 on page E-125 compares "collective occupational dose" to "collective general population dose" specifically for truck and train crews. *200-5*

We suggest a careful reading of the text to ensure accuracy and clarity in the Final document.. The following examples from page 4-4 illustrate some of the problems:

The first paragraph uses the words "foreign research reactor spent nuclear fuel" six times in six sentences.

The first sentence in the third paragraph contains faulty parallelism. We suggest a change to something like, "An individual may be exposed to radiation from outside the body, or from inside the body because radioactive materials may enter the body by ingestion or inhalation."

The next to last paragraph on page 4-4 defines Latent Cancer Fatalities (LCF) and concludes, "Non-fatal cancers are . . . in some respects less serious." (In what respects would a non-fatal cancer be *more* serious than a fatal one?)

Section F.6 refers to the ICRP as the "Irradiated Commission on Radiological Protection" instead of "International Commission on Radiological Protection" in several places. *200-6*

The Statement frequently compares involuntary risk (exposure to radiation from spent fuel) to voluntary risk (bicycles, cigarettes, airlines, etc). The comparison may be valid and useful for perspective, but comparisons of this nature generally have a negative effect on the public. Would it be possible to compare the risks from spent fuel to other involuntary risks, such as living near a landfill or a coal burning electric plant? *200-7*

## RESPONSE TO COMMENT
## COMMENTOR NO. 200: CENTER FOR DISEASE CONTROL, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH (CONT'D.)

### *Response to Comment No. 200-4*

The risk factors in ICRP-60 have been accepted by the NRC and DOE, and are used in this EIS. However, the NRC and DOE have not adopted the terminology used in ICRP-60, nor used it herein. Nevertheless, the text in Section 4.1.3 has been modified to address the commentor's concern.

### *Response to Comment No. 200-5*

Marine transport workers, port workers, and ground transport workers are not trained to be radiation workers, so they are not subject to the limit of 5,000 mrem/yr. These workers are subject to the same limit as are members of the general public: 100 mrem/yr. But these workers are distinct from the general public since they would be directly involved in implementing portions of the proposed action, so the terminology in Appendix E, Table E-56 of the EIS was selected to show that distinction.

### *Response to Comment No. 200-6*

The text in Sections 4.1.2 and 4.1.3 of the EIS have been revised in response to this comment.

### *Response to Comment No. 200-7*

DOE appreciates the commentor's stating that the examples in Section 4.10.3 are voluntary, while the risks due to the proposed action would be involuntary. Nevertheless, the information is valid and the public can use it to put the risks from the proposed action into perspective. DOE considers this information appropriate to share with the public. Those members of the public who do not wish to compare voluntary risks to involuntary risks do not have to do so.

## *Commentor No. 200: Center for Disease Control, National Center for Environmental Health (Cont'd.)*

Thank you for the opportunity to review this draft document. Please ensure that we are included on your list to receive a copy of the Final EIS, and future EIS's which may indicate potential public health impact and are developed under the National Environmental Policy Act (NEPA). If you have questions concerning these comments, you may contact Mr. C.M. Wood, Radiation Studies Branch, at (404) 488-7642, or me at (404) 488-7074.

Sincerely yours,

Kenneth W. Holt

Kenneth W. Holt, M.S.E.H.
Special Programs Group (F-29)
National Center for Environmental Health

## *Response to Comment*
## *Commentor No. 200: Center for Disease Control, National Center for Environmental Health (Cont'd.)*

## COMMENTOR NO. 264: ENVIRONMENTAL PROTECTION AGENCY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 19 1995

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Mr. Charles Head
Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20858

Dear Mr. Head:

In accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) and Section 309 of the Clean Air Act, the Environmental Protection Agency (EPA) has reviewed the Department of Energy Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

264-1

DOE proposes a policy to manage foreign research reactor spent nuclear fuel that was enriched in the U.S. The draft EIS analyses the environmental effects of three management alternatives and a No Action alternative. EPA has reviewed the proposed action and the alternatives and rated each alternative lack of objections (LO). An explanation of EPA's ratings is provided in the attached enclosure.

Thank you for the opportunity to comment. If you have any questions, please contact Susan Offerdal at (202) 260-5059.

Sincerely,

Richard E. Sanderson
Director
Office of Federal Activities

Enclosure

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## RESPONSE TO COMMENT
## COMMENTOR NO. 264: ENVIRONMENTAL PROTECTION AGENCY

### *Response to Comment No. 264-1*

The United States Environmental Protection Agency's review and lack of objection to each alternative analyzed in the EIS are noted.

## COMMENTOR NO. 307: U.S. REPRESENTATIVE RANDY TATE

**DEPARTMENT OF ENERGY**
**ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR**
**THE PROPOSED NUCLEAR WEAPONS NONPROLIFERATION**
**POLICY CONCERNING FOREIGN RESEARCH REACTOR**
**NUCLEAR SPENT FUEL**

**TESTIMONY OF CONGRESSMAN RANDY TATE**
**AT THE PUBLIC HEARING ON JUNE 19, 1995**

Thank you for allowing me the opportunity to testify this evening.

I would like to begin by thanking the Department of Energy (DOE) for holding this public hearing tonight. As you know, DOE originally had scheduled only one hearing on this issue -- in SeaTac. I was concerned with the possible adverse impact of transporting this extremely hazardous material through the Tacoma area and felt it should be discussed by Tacoma residents in Tacoma. That is why we are here tonight.

Let me also state the DOE has willingly complied with my other requests: (1) Make available the Draft Environmental Impact Statement For The Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Nuclear Spent Fuel (DEIS) in two Tacoma public libraries; (2) Send DOE nuclear spent fuel experts to the Tacoma Port-DOE Fact-Finding and Public Comment Meeting held on May 22, 1995; (3) Transcribe tonight's public comments; and (4) Extend the time for public comments to be filed with the DOE to June 30. Every one of these events is significant because they are all based on one fundamental principle of government -- The people of our community deserve and will now be allowed to have ample opportunity to voice their concerns.

Nuclear nonproliferation is a big concern to all of us. What we are discussing tonight is the disposal of enriched uranium from research reactors in about 40 nations around the globe.

## RESPONSE TO COMMENT
## COMMENTOR NO. 307: U.S. REPRESENTATIVE RANDY TATE

## COMMENTOR NO. 307: U.S. REPRESENTATIVE RANDY TATE (CONT'D.)

The U.S. does not need terroristic regimes and unfriendly nations having access to raw materials that can be used to produce nuclear weapons.

As we all know, the Port of Tacoma is one of the ten ports of entry under consideration for receiving these hazardous waste shipments. Shipping spent nuclear fuel through the Port of Tacoma, the sixth largest container port in the country, and the Tacoma community, is not a prudent approach. Hundreds of thousands of our families could be hurt in the event that a tragedy occurs. 307-1

Our community is not prepared to handle some of the circumstances that could potentially occur. What would happen if the shipping cask or the nuclear waste was breached? What are the possible effects on humans and the environment? What agencies are responsible for putting out a fire? An explosion? Or an act of terrorism? What are the plans if a catastrophe takes place?

There are also other issues that need to be addressed such as: Was a full and fair cost-benefit analysis performed? What does the risk assessment study say? Are our allies being asked to share the burden of storing or disposing of this nuclear spent fuel? 307-2

The second critical issue in this debate is the final destination of any nuclear hazardous waste delivered through the Tacoma Port. Hanford is still struggling with the financial burdens of their clean-up. The Idaho National Engineering Laboratory has also expressed concerns with receiving shipments of radioactive waste. 307-3

I look forward to working with the City of Tacoma, the Port of Tacoma, the surrounding community and with other Members of our Congressional delegation on this very important issue. Again, thank you for giving me this opportunity to share my views tonight.

## RESPONSE TO COMMENT COMMENTOR NO. 307: U.S. REPRESENTATIVE RANDY TATE (CONT'D.)

### *Response to Comment No. 307-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any other ports analyzed in the EIS, is low.

Foreign research reactor spent nuclear fuel has been safely transported in the United States for over 40 years (Section 4.2.3 of the EIS). None of the shipments, including shipments involved in accidents, has ever resulted in a release of the radioactive contents of a spent nuclear fuel transportation cask (Section 4.2.3 of the EIS). In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the cask and distributed into the environment. However, the analysis in Section 4.2.2.2 and Appendix D, Section D.5 of the EIS determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident. Close in to the accident, near the cask would likely require some cleanup, but the overall impact on the water and air quality in the port would be very small.

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 307-2*

A cost-benefit analysis in the traditional sense was not performed. No request was made to attempt to quantify the benefits of avoiding nuclear weapons proliferation or the conversion of weapons-grade material by terrorists. Rather, it has been assumed by essentially all the governments involved in the program that removing HEU from civilian commerce and converting all foreign research reactors to LEU was worth the cost.

The risk assessment study says that the risks to shipping, handling, managing, and disposing of spent nuclear fuel, either as spent nuclear fuel or as high-level waste, are extremely low.

## *Commentor No. 307:*
## *U.S. Representative Randy Tate (Cont'd.)*

## *Response to Comment*
## *Commentor No. 307:*
## *U.S. Representative Randy Tate (Cont'd.)*

As discussed in Section 2.2.1.2 and 2.2.2.3 of the EIS, several financing options have been considered, ranging from collection of fees from the research reactor operators that would pay all of the costs of the program to full subsidization of the program by DOE. One of these options would be for developed countries (which represent about 87 percent of the spent nuclear fuel total mass and about 78 percent of the spent nuclear fuel elements) to pay a competitive fee for U.S. management of their spent nuclear fuel. This fee would be based on, among other things, a comparison with the charges these countries would incur for reprocessing at Dounreay. The United States would absorb the full costs of the program for developing countries and absorb the amount above a competitive fee for developed countries.

***Response to Comment No. 307-3***

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to Hanford Site.

## COMMENTOR NO. 312: U.S. REPRESENTATIVE NORM DICKS

NORM DICKS
6TH DISTRICT, WASHINGTON
COMMITTEES:
SELECT COMMITTEE ON INTELLIGENCE
APPROPRIATIONS
SUBCOMMITTEES:
DEFENSE
INTERIOR
MILITARY CONSTRUCTION

2407 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-4706
PHONE: (202) 225-5916

**Congress of the United States**
**House of Representatives**

DISTRICT OFFICES:
SUITE 2244
1717 PACIFIC AVE.
TACOMA, WA 98402-3234
PHONE: (206) 593-6536

SUITE 301
500 PACIFIC AVENUE
BREMERTON, WA 98337
PHONE: (206) 479-4011

June 19, 1995

U.S. Department of Energy
Environmental Impact Panel Members
Tacoma Public Meeting
June 19, 1995

Re: Proposed shipments of spent fuel through the Port of Tacoma

As the United States Congressman representing portions of the Tacoma-Pierce County area, I have received numerous communications from constituents and from public officials from this area strongly protesting the use of the Port of Tacoma as one of the points of entry for spent fuel shipments from foreign reactors. Let me take this oppportunity to join them in their opposition and to urge the Department of Energy to look elsewhere for a more appropriate candidate site.

My objections to the use of the Port of Tacoma as a port of entry are related to the nature of the Port and to the selection process, which I believe was overly biased in favor of bringing these materials into the United States. *312-1*

To begin with, the Port of Tacoma is the fastest growing container port on the West Coast and, as such, is a primary economic force in Pierce County and the entire Pacific Northwest region. In addition, it is a major transshipment port for military cargo during a mobilization, acting synergistically with Fort Lewis and McChord AFB. Over the past several years, I have been supportive of actions which enhance the Port's commercial intermodal capability and competitiveness as well as the military capability that remains in reserve. Likewise, I have attempted to discourage the Port from pursuing opportunities unrelated to those missions. In this regard, I believe that the spent fuel mission would detract from this direction, and that it would require the unnecessary expenditure of scarce resources for the enhanced safety and security requirements of the fuel shipments.

Moreover, I am not convinced that the Department of Energy's EIS process resulted in a thorough-enough evaluation of alternatives that are readily available outside the United States. After review of the draft EIS document, I believe that closer examination of Alternative No. 2 should have been conducted, which appears to offer the clear advantage of encouraging a longer-term solution to the issues of storage and re-processing. With at least 8 nations other than the United States interested in a similar objective and willing to *312-2*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 312: U.S. REPRESENTATIVE NORM DICKS

### *Response to Comment No. 312-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

Tacoma was one of 161 ports (153 commercial and eight military ports) considered. These ports were evaluated against selection criteria, resulting in 10 ports that met all of the criteria. Appendix D, Sections D.1.8 and D.1.9 of the EIS present a detailed discussion of the process and results.

The benefit to the citizens of the United States from the proposed action, including those in potential ports of entry, along transportation routes, or near potential management sites, is less risk that weapons grade uranium from civil programs could be diverted into the production of nuclear weapons that might be used against us or our allies. On the other hand, the analyses recorded in Section 4 of the EIS demonstrate that the risks associated with the proposed action are low.

### *Response to Comment No. 312-2*

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 312:
## U.S. REPRESENTATIVE NORM DICKS (CONT'D.)

- Page 2 -

participate in this program, I believe greater priority should have been given to this international option in the EIS process. I will be discussing this and other related matters with Assistant Secretary Grumbly in the near future, but I wanted to express my strong opposition at this time to proceeding with the evaluation of the Port of Tacoma option based upon what I consider to be faulty assumptions in the EIS process. 312-2 (Cont'd.)

With best wishes,

Sincerely,

Norm Dicks

NORM DICKS
Member of Congress

## RESPONSE TO COMMENT
## COMMENTOR NO. 312:
## U.S. REPRESENTATIVE NORM DICKS (CONT'D.)

## COMMENTOR NO. 949: EM-SSAB-INEL

**Recommendation on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

**June 20, 1995**

The Environmental Management Site Specific Advisory Board for the Idaho National Engineering Laboratory (EM SSAB-INEL) recommends Management Alternative 1 as the preferred alternative for the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. 949-1

One minority perspective to the recommendation of Alternative 1 is articulated below, and one minority perspective is articulated within the alternative. Both are written in italics.

Alternative 1 proposed that the United States should accept and manage foreign research reactor (FRR) spent nuclear fuel (SNF) containing uranium of U.S. origin. The Board recommends this alternative with the following caveats:

- Any appropriate spent fuel containing highly enriched uranium (HEU) and low enriched uranium (LEU) would be accepted only for a period of ten years. 949-2
- Developing nations would be subsidized, but the United States would charge a competitive rate to other nations for FRR SNF management activities. 949-3
- The aluminum-based and TRIGA (Training, Research, Isotope, General Atomics) FRR SNF would be managed at the Savannah River Site and the Idaho National Engineering Laboratory. 949-4

  *Minority perspective provided by one Board member: In taking aluminum-based and TRIGA SNF from other countries the Board should encourage involved/appropriate federal agencies to negotiate with countries regarding acceptable storage of FRR SNF, or absorbing SNF into their existing reprocessing streams.* 949-5
- The United States would take title to the SNF at specified ports of entry. 949-6
- Regularly scheduled commercial ships should be used to provide marine transport of the FRR SNF. 949-7
- Once in the United States' possession, ground transport should take place by rail or highway, not by barge. 949-8
- Dry storage technologies should be used as often as possible, especially in any new construction. 949-9
- Near term chemical separation, blending HEU down to LEU, should take place in the United States, but only at facilities currently performing activities of this nature. No new reprocessing activities should be initiated, and only the FRR SNF should undergo blending down to LEU. No domestic fuel should be reprocessed. 949-10

The EM SSAB-INEL also urges continued focus on a permanent geologic repository. The Board has also submitted to DOE a recommendation on the SNF and INEL Draft EIS. The comments in that recommendation regarding the management and transportation of SNF remain applicable. We urge the DOE to refer to that recommendation as well. 949-11

*Minority perspective provided by one Board member:*

*"I support a modified Foreign Research Reactor Spent Nuclear Fuel Environmental Impact Statement No Action Alternative which includes onsite storage of SNF at the facility of origin, and absolutely no reprocessing. The proliferation threat discussion is like listening* 949-12 949-13

## RESPONSE TO COMMENT
## COMMENTOR NO. 949: EM-SSAB-INEL

### *Response to Comment No. 949-1*

The commentor's support for accepting and managing foreign research reactor spent nuclear fuel in the United States, is noted. Acceptance of foreign research reactor spent nuclear fuel in the U.S. is considered under Management Alteratives 1 or 3, described in Section 2.2 and 2.4 of the EIS, respectively.

### *Response to Comment No. 949-2*

The commentor's suggestion that the acceptance period for the foreign research reactor spent nuclear fuel under Management Alternative 1 be only 10 years is noted. Management Alternative 1, as described in Section 2.2 of the EIS, allows for a period of 13 years for the acceptance of the foreign research reactor spent nuclear fuel, the last 3 years would allow for the cooling of the spent nuclear fuel discharged towards the end of the 10-year policy period.

### *Response to Comment No. 949-3*

The commentor's support for the financing arrangement considered under the basic implementation of Management Alternative 1 (Section 2.2.1.2 of the EIS) is noted.

### *Response to Comment No. 949-4*

The commentor's suggestion that aluminum-based and TRIGA fuel should be managed at the Savannah River Site and the Idaho National Engineering Laboratory is noted. The suggestion is in line with the Record of Decision for the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement, which was issued by DOE on May 30, 1995.

### *Response to Comment No. 949-5*

The commentor's preference for a hybrid alternative is noted. One example hybrid alternative is considered as Management Alternative 3, which is discussed in Sections 2.4 and 4.5 of the EIS.

### *Response to Comment No. 949-6*

The commentor's suggestion that the United States should take title to the foreign research reactor spent nuclear fuel at the port of entry is noted. This alternative location is considered under implementation alternative 4, which is discussed in Section 2.2.2.4 of the EIS.

## COMMENTOR NO. 949: EM-SSAB-INEL (CONT'D.)

*to a couple of old farmers arguing over whether to shut the barn door after the horses have run out. Solutions to radioactive waste management will never be developed unless the generators bear full responsibility for health, safety, and costs of permanent disposal in the country of origin. Moreover, without this responsibility, there will be no incentive to stop generating more radioactive waste.* 949-13 (Cont'd.)

*DOE failed to present a credible Programmatic Spent Nuclear Fuel Management Environmental Impact Statement for current SNF inventories. The fundamental flaws in the EIS are recognized by US District Court, which quickly issued an injunction against additional shipments to INEL upon request by the State of Idaho. These two management plans are inextricably related and both contain the same fundamental flaws, not the least of which is DOE's denial that significant quantities of SNF is dumped in shallow land burial at the Radioactive Waste Management Complex.* 949-14

## RESPONSE TO COMMENT
## COMMENTOR NO. 949: EM-SSAB-INEL (CONT'D.)

### *Response to Comment No. 949-7*

The commentor's recommendation of the use of commercial ships is noted. Section 4.2.1.3 of the EIS discusses the impacts of marine transportation modes, and demonstrates that the risks are low.

### *Response to Comment No. 949-8*

The commentor's preference for rail or highway transport instead of barge transport is noted. Barge transport is discussed in Section 4.2.3.6 of the EIS.

### *Response to Comment No. 949-9*

The commentor's suggestion that dry storage should be the preferred storage technology for new construction is noted. Dry storage is the storage technology proposed under the basic implementation of Management Alternative 1 as described in Section 2.2 of the EIS.

### *Response to Comment No. 949-10*

The commentor's preference for domestic chemical separation at facilities currently performing such activities is noted. At this time, however, there are no facilities in the United States that are actively chemically separating spent nuclear fuel.

In the near future, the chemical separation facilities at the Savannah River Site might resume operations for the foreign research reactor spent nuclear fuel or for another purpose. These options are discussed in Section 2.2.2.6 of the EIS.

DOE announced a Record of Decision on May 30, 1995 for the Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs EIS. Chemical separation at Idaho National Engineering Laboratory was not included in this Record of Decision, so additional site-specific NEPA documentation would be required to restart the chemical separation facilities at this management site.

### *Response to Comment No. 949-11*

The commentor's support for a permanent geologic repository is noted. The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel in a geologic repository are discussed qualitatively in Section 4.2.7 of the EIS. A detailed, quantitative discussion of these impacts would have to be the subject of future NEPA documentation. The Board's comments on the DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs draft EIS were responded to in Volume 3 of the final version of that EIS.

## COMMENTOR NO. 949: EM-SSAB-INEL (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 949: EM-SSAB-INEL (CONT'D.)

***Response to Comment No. 949-12***

The commentor's preference for a modified No Action Alternative with research reactor site storage and no reprocessing is noted. This preference is similar to Management Alternative 2, Subalternative 1a (Section 2.3 of the EIS) with an important difference. The difference is that under Subalternative 1a, the United States would assist foreign research reactors in storing their spent nuclear fuel at any location outside the United States in a manner consistent with our nuclear weapons nonproliferation objectives. If the United States adopts a No Action Alternative, our credibility with foreign research reactor operators would likely be effected, such that the United States would not have an influence on disposition of foreign research reactor spent nuclear fuel or the resulting international commerce in weapons-grade materials (Section 4.6 of the EIS).

***Response to Comment No. 949-13***

Prior to 1989, it was United States policy to accept foreign research reactor spent nuclear fuel for disposition in the United States (Section 1.1 of the EIS). Many foreign research reactor operators have no immediate means of disposing of their spent nuclear fuel (Section 1.2 of the EIS). Thus, the intent of the proposed policy is to remove as much U.S. - origin HEU as possible from civil programs worldwide and give foreign research reactor operators time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS). Ultimate disposition is a high-priority consideration which is discussed qualitatively in Section 4.2.7 of the EIS.

***Response to Comment No. 949-14***

The commentor's concerns regarding the Department of Energy Programmatic Spent Nuclear Fuel and Idaho National Engineering Laboratory Environmental Restoration and Waste Management EIS (SNF & INEL EIS) is noted. Public comments received on that EIS, including those provided by the commentor, were addressed in Volume 3 of the Final SNF & INEL EIS. The issue of spent nuclear fuel being buried at the Radioactive Waste Management Complex (RWMC) at the Idaho National Engineering Laboratory has not been denied; nor was it addressed in the SNF & INEL EIS, which was already printed at the time the issue was raised. DOE has acknowledged that an estimated 130 kilograms of irradiated fuel materials is buried at the RWMC.

It should be noted that DOE must reach settlement in any court actions concerning spent nuclear fuel before the Record of Decision involving shipment of more spent nuclear fuel to the Idaho National Engineering Laboratory can be implemented. It should also be noted that the US District Court did not issue a new injunction when the Final SNF & INEL EIS was issued. The District Court which required preparation of the SNF & INEL EIS also required that all challenges to the EIS must be resolved prior to the June 1993 injunction being filed. A Consent Order was issued by the District Court on October 17, 1995 which vacated (except for paragraph 4 regarding CPP-603 fuel movements) the prior order of December 22,1993.

## COMMENTOR NO. 1118: U.S. REPRESENTATIVE RANDY TATE

RANDY TATE
9TH DISTRICT, WASHINGTON

DEPUTY MAJORITY WHIP

COMMITTEES:
GOVERNMENT REFORM AND OVERSIGHT
TRANSPORTATION AND INFRASTRUCTURE
AVIATION SUBCOMMITTEE
SURFACE TRANSPORTATION SUBCOMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
1118 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-6506
FAX (202) 225-3484

DISTRICT OFFICES:
SUITE 48219
33305 FIRST WAY SOUTH
FEDERAL WAY, WA 98003
(206) 653-1459
FAX (206) 661-1793

10926 CANYON ROAD EAST #C1
PUYALLUP, WA 98373
(206) 828-1222
FAX (206) 539-2678

July 14, 1995

VIA FACSIMILE

Secretary Hazel O'Leary
Department of Energy
1000 Independence Avenue SW, Room 7B138
Washington, DC 20585

Dear Secretary O'Leary,

I am writing concerning the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Nuclear Spent Fuel (DEIS).

As you may know, the Port of Tacoma resides in my district and is one of the potential ports of entry. I am very concerned with the potential human and environmental risks of bringing this highly radioactive nuclear waste through the Port of Tacoma.

I am seriously concerned that the Department of Energy (DOE) has not given thorough consideration to the viable option of having the nuclear byproduct delivered to foreign nations for reprocessing or storage overseas. It is my understanding that several European nations, as well as Japan, have the facilities and are interested in obtaining the fuel rods. Would U.S. international policy be best served by reprocessing or storing overseas? Are there any legitimate national security concerns if our foreign allies accept delivery? What scientific capability and expertise do our allies have that applies to this situation? What cost savings are associated with reprocessing or storing this material overseas? These are just a few of the relevant questions that apply to the option of facilitating management overseas of this nuclear waste that need to be answered. 1118-1 1118-2 1118-3 1118-4

Please provide me with answers to the above-mentioned questions and an explanation of the Energy Department's analysis that has already been performed on the options of facilitating management overseas of this foreign nuclear waste.

The Energy Department has not comprehensively studied whether it is truly in the interest of the United States to become the dumping ground for foreign nations' nuclear waste. Storage of our own hazardous material is already a very costly and politically sensitive issue. To take in foreign waste will serve only to exacerbate these problems. If there is more than one economically and environmentally viable alternative that serves our national security interests, it must be fully explored. The residents of the Ninth District of Washington and our state should be able to expect as much of our federal government

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## RESPONSE TO COMMENT COMMENTOR NO. 1118: U.S. REPRESENTATIVE RANDY TATE

### *Response to Comment No. 1118-1*

Overseas management of spent nuclear fuel from foreign research reactors is one of the management alternatives evaluated in this EIS (Management Alternative 2). Section 2.3 of the EIS describes the advantages and disadvantages of overseas storage and reprocessing, while Section 4.4 of the EIS provides an evaluation of the policy considerations and environmental impacts resulting from overseas management.

### *Response to Comment No. 1118-2*

This concept is also discussed in the EIS, in Sections 1.1, 2.3, 4.4.1 and 4.4.2. Since the answers to the questions are different for storage and reprocessing, they have been addressed separately below.

Overseas Storage: For overseas storage of the spent nuclear fuel, as discussed in Sections 1.1, 2.3 and 4.4.1 of the EIS, the answer is that United States policy would not be well served because there are direct national security concerns. The storage of foreign research reactor spent nuclear fuel overseas would not comply with United States nuclear weapons nonproliferation policy, as specified in Presidential Decision Directive 13, in that such an action would encourage the stockpiling of weapons usable materials overseas. As explained in Section 4.4.1, even if the United States helped foreign nations build the best storage facilities possible, all that would be required to allow the material to be diverted into a nuclear weapons program would be a change in government, or a change in government policy. Although this is unlikely to happen in the developed countries, it could and has happened in less developed countries to whom we have provided research reactor fuel in the past.

Some individuals have suggested that a solution to potential instabilities in the governments of developing nations is for the United States to ship the spent nuclear fuel from the developing countries to one or more of the developed countries. Unfortunately, none of the developed countries has offered to accept the spent nuclear fuel. In all likelihood, the citizens of the developed countries would object to importation of spent nuclear fuel into their countries for storage, just as some citizens of the United States have done. This is especially true considering the fact that the enriched uranium was produced by the United States and for years the United States had a published policy of accepting the spent nuclear fuel for disposal. The United Kingdom, specifically, has stated that it will not accept spent nuclear fuel for storage unless such storage is pursuant to a contract to reprocess the spent nuclear fuel, with the reprocessing wastes leaving the United Kingdom. In fact, several reactor authorities in developed countries have stated that they would revert to the use of HEU fuel if we do not assist them with their spent nuclear fuel management problem. Other reactors in developed countries would have to shut down due to local legal restrictions against further storage of spent nuclear fuel in their countries. This

## *Commentor No. 1118: U.S. Representative Randy Tate (Cont'd.)*

I thank you in advance for your attention to this matter. If you have any questions, please do not hesitate to call. I look forward to your prompt response.

Sincerely,

Randy

Randy Tate
Member of Congress

cc: Louise Bray, Port of Tacoma
Judith Lorbeir, City of Tacoma
Gerold Poller, Heart of America Northwest
Thomas Grumbly, Department of Energy
Charles Head, Department of Energy

## *Response to Comment Commentor No. 1118: U.S. Representative Randy Tate (Cont'd.)*

would make the United States vulnerable, fairly or unfairly, to accusations that we are not living up to our obligations under the Treaty on the Non-Proliferation of Nuclear Weapons to assist nonnuclear weapons states with peaceful applications of nuclear energy and could lead to a resurgence in the use of HEU in civil programs.

Overseas Reprocessing: For overseas reprocessing, as discussed in Sections 1.1, 2.3, and 4.4.2 of the EIS, the answer is that United States policy goals could possibly be achieved, for at least a portion of the foreign research reactor spent nuclear fuel, under the right conditions. As discussed in Section 1.1, Dounreay does not currently have the capability to reprocess the new high density LEU fuel that the United States developed to replace the original HEU fuel. In addition, in the past, Dounreay has allowed their customers to specify the form in which uranium separated during reprocessing would be returned. Most of the uranium from spent nuclear fuel containing HEU was returned as HEU. So far, the operators of Dounreay are insisting that they will continue this practice in the future. As a result, reprocessing at Dounreay, as it has been conducted in the past, could only be used as a means of spent nuclear fuel management by reactors that are using HEU for fuel. This would serve to perpetuate the use of HEU in civil programs, in direct opposition to United States nuclear weapons nonproliferation policy goals. However, if some means can be developed for revising the practices for reprocessing at Dounreay, in a manner that will achieve United States nuclear weapons nonproliferation policy objectives (such as are discussed in Section 2.3 of the EIS), then this approach might be acceptable. DOE and the Department of State are actively working with counterparts in the United Kingdom in an attempt to make this a feasible option.

### *Response to Comment No. 1118-3*

In general, any developed nation either has the technical capability to store the foreign research reactor spent nuclear fuel, if that is what they choose to do with it, or could obtain any required technical expertise from commercial engineering firms. The United Kingdom and France, in particular, have scientific capability and expertise in spent nuclear fuel management at least equal to that of the United States. Their capability in spent nuclear fuel reprocessing as a commercial activity exceeds that of the United States. However, as discussed above, there are significant issues that make it in the best interest of the United States to avoid overseas storage of foreign research reactor spent nuclear fuel. Similarly, overseas reprocessing would only be in the best interest of the United States if the past reprocessing practices were changed (Sections 1.1, 2.3, 4.4.1, and 4.4.2 of the EIS).

### *Response to Comment No. 1118-4*

A comparison of the costs of reprocessing overseas to chemical separation in the United States would depend on several assumptions about the operational status of the Savannah River Site. If the Savannah River Site is chemically separating other materials during the

## *Commentor No. 1118:*
## *U.S. Representative Randy Tate (Cont'd.)*

## *Response to Comment*
## *Commentor No. 1118:*
## *U.S. Representative Randy Tate (Cont'd.)*

period 1998 through 2002 (as is possible under the Interim Management of Nuclear Materials EIS), then chemical separation in the United States is less costly than reprocessing overseas or any other technical approach. If several years of independent chemical separation are added, then costs for the U.S. option could equal or exceed the overseas option depending upon the way fixed and variable costs are allocated to the foreign research reactor spent nuclear fuel program. For chemical separation through about 2005, costs are similar to those overseas.

The costs of storing the material in countries with major commercial nuclear power installations, e.g., France, United Kingdom, would be equal to or less than that of the United States (including all shipping and disposal costs). The costs of storing the material in countries without major commercial nuclear power installations or with no effective plans for commercial power reactor spent nuclear fuel disposal would be higher than those in the United States. For countries with limited industrial capability and relatively low national security, costs would be speculative and risks would be high. Overall, excluding the half-dozen or so commercial nuclear powers, distributed storage and disposal at a level of safety and security commensurate with that of the United States would be more expensive than aggregated storage in a single country.

# Section 2.2
# State Government

## COMMENTOR NO. 1: SOUTH CAROLINA STATE PORTS AUTHORITY

**south carolina state ports authority**

Post Office Box 817, Charleston, South Carolina 29402 Telephone 803/723-8651

May 8, 1995

W. Don Welch
EXECUTIVE DIRECTOR

Mr. Charles Head
U.S. Department of Energy
Office of Environmental Management (EM-37).
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Head:

Reference: The Handling of Spent Nuclear Fuel

As I believe your office is aware, the South Carolina State Ports Authority does not support the use of the SPA facilities at Charleston or any facility at other commercial ports for the movement of spent nuclear fuel. The return of spent nuclear fuel to the United States is in the national interest and to meet that government goal, the SPA continues to recommend the use of Federal military installations for the receipt, handling, and sequential shipment of such cargo. 1-1

The State Ports system is recognized internationally as a very efficient port and the spent nuclear fuel could in the SPA's opinion be safely handled at Charleston, however the SPA's firm opposition to the movement of this cargo is based on:

- significant local citizen, political, and environmental opposition;
- the likelihood of severely restrictive safety requirements being placed on the fuel-handling operation, which would significantly interfere with normal commercial operations;
- the inability of the commercial sector to protect itself against business losses due to closed channels, operational shut-downs, evacuations, or whatever procedures may be ordered by the U.S. Coast Guard. 1-2

The SPA will not voluntarily open its facilities at Charleston to the receipt of spent nuclear fuel as defined in the U.S. Department of Energy program. In fact, unless ordered to do so by the federal government, the SPA will restrict any steamship line from landing any such cargo at SPA property in Charleston harbor. 1-3

## RESPONSE TO COMMENT
## COMMENTOR NO. 1: SOUTH CAROLINA STATE PORTS AUTHORITY

### *Response to Comment No. 1-1*

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without the additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all of the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted.

The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify the details of the transportation process, including security provisions in port and during transit.

### *Response to Comment No. 1-2*

The South Carolina State Ports Authority's opinion that spent nuclear fuel could be safely handled at the Port of Charleston, SC is noted. The analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Charleston, or to any of the ports analyzed in the EIS, is low.

DOE considers that the use of any of the ports indicated by the port selection process, including Charleston, would not impact normal commercial operations. This is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be not adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 1-3*

DOE considers that the analysis presented in Sections 4.2.2 and 4.5 of the EIS indicates that foreign research reactor spent nuclear fuel would pose little risk to the port or to anyone in or around the port. Therefore, DOE regrets the position taken by the State Ports Authority and considers that it is unnecessarily restrictive.

## *Commentor No. 1: South Carolina State Ports Authority (Cont'd.)*

Mr. Charles Head
Page two
May 8, 1995

There are many military installations available for this cargo and the SPA respectfully suggests that they be utilized. *1-1 (Cont'd.)*

Sincerely,

W. Don Welch

W. Don Welch

WDW/lr

## *Response to Comment Commentor No. 1: South Carolina State Ports Authority (Cont'd.)*

## COMMENTOR NO. 69: JACKSONVILLE PORT AUTHORITY

AIRPORTS
- Jacksonville International
- Craig
- Herlong

JAXPORT

JACKSONVILLE PORT AUTHORITY
Post Office Box 3005
2831 Talleyrand Avenue
Jacksonville, Florida 32206-0005

SEAPORTS
- Blount Island Terminal
- Talleyrand Terminal

May 19, 1995

Mr. Charles Head
Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: Jacksonville Port Authority Comments on Foreign Research Reactor Spent Nuclear Fuel Draft EIS DOE/EIS-0218D

Dear Mr. Head:

The City of Jacksonville and the Jacksonville Port Authority have reviewed the Draft Environmental Impact Statement (EIS) for acceptance of foreign research reactor spent fuel. We have also attended both the environmental workshop forum held in Washington on February 10, 1994 and the public meeting called in Jacksonville on March 29, 1994.

While we understand the relationship of retrieving U. S. origin highly enriched uranium to the U. S. policy on nonproliferation, we must insist that several factors be first considered. These facts will take Jacksonville out of consideration for a port of entry:

1. The Nuclear Fuel Acceptance Program is a national security and national defense issue; and, therefore, all transportation movements of spent nuclear fuel to the Southeastern U. S. during this program should move through the Military Ocean Terminal at Sunny Point, North Carolina. *69-1*

2. Since the Savannah River Site near Aiken, South Carolina or the Oak Ridge, Tennessee Site are the potential Southeastern U. S. destinations of this cargo, there are at least three (3) maritime ports capable of handling container type cargo that would be considerably closer to these destinations, thereby reducing the overland exposure to any incidents.. *69-2*

3. The draft of your Environmental Assessment issued in November, 1993, did not list Jacksonville, Florida as a port for consideration. We were not involved in the original decision process to add Jacksonville to the list for consideration. *69-3*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 69: JACKSONVILLE PORT AUTHORITY

### *Response to Comment No. 69-1*

The commentor's preference for the use of MOTSU is noted. The selection process used to evaluate candidate ports is described in Appendix D of the EIS. As indicated by the analysis in Sections 4.2.2 and 4.5 of the EIS, risk associated with acceptance of spent nuclear fuel from foreign research reactors at military or commercial ports would be low.

### *Response to Comment No. 69-2*

The distance from the port to the management site is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations include port population, route population, port experience with handling containers, and access to the ocean. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

### *Response to Comment No. 69-3*

The Environmental Assessment was developed to support emergency relief for certain foreign research reactors that had special need to resolve spent nuclear fuel disposition issues in the near term, therefore the port selection process was restricted. The EIS on the other hand, is considering a longer-term policy so it must consider a wider range of options, including an expanded process of selecting ports of entry. The selection process used for ports for the Environmental Assessment was independent to that used for the EIS. Although Jacksonville was not considered under the EA, when some 161 commercial and military ports were included for consideration for the policy of accepting foreign research reactor spent nuclear fuel for the longer term, Jacksonville, as a major East Coast port, was included. All ports were subjected to the same selection criterion, which are described in Appendix D, Section D.1.9 of the EIS.

## COMMENTOR NO. 69: JACKSONVILLE PORT AUTHORITY (CONT'D.)

Mr. Charles Head
Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
May 19, 1995
Page 2

4. The port of Jacksonville has never handled this type of highly radioactive hazardous material in the forty (40) years this type of cargo has been entering the United States. We see no reason to start at this critical point. It would seem prudent that those ports which have the experience and knowledge of handling spent nuclear fuel over the forty (40) year history should be the only ones considered for this port of entry situation. 69-4

We therefore respectfully request that the Port of Jacksonville be withdrawn from the list of ports being considered in your deliberations

Thank you for your understanding in this matter.

Sincerely,

C. Mendoza

C. Cliff Mendoza
Managing Director

CCM/BMP/kje

## RESPONSE TO COMMENT
## COMMENTOR NO. 69: JACKSONVILLE PORT AUTHORITY (CONT'D.)

### *Response to Comment No. 69-4*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Jacksonville is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Jacksonville, or to any of the ports analyzed in the EIS, is low.

As the port selection process section (Appendix D, Section D.1 of the EIS) explains in detail, Jacksonville and the other nine ports all meet the criterion to safely handle the foreign research reactor spent nuclear fuel. The experience criterion used in the port selection process (Criterion 1; Appendix D, Section D.1.9.1 of the EIS) evaluates the port's experience in handling containerized cargo, not in dealing with radioactive material. Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the casks used to transport it would be low, so no special handling is required; experience with handling containers is sufficient. The Port of Jacksonville has significant experience handling containers, so it met the experience selection criteria.

## COMMENTOR NO. 114: OREGON DEPARTMENT OF ENERGY

### STATEMENT OF THE OREGON DEPARTMENT OF ENERGY

on Acceptance of Foreign Reactor Spent Nuclear Fuel

May 25, 1995

I am Michael Grainey. I am the Assistant Director for the Oregon Department of Energy. The State of Oregon has had a longstanding interest in assuring that the shipment of radioactive materials through Oregon occurs safely.

We consider both Hanford and the Idaho National Engineering Laboratories as unacceptable for storage of any shipments of foreign spent fuel. Therefore, it makes no sense to bring the shipments through the Port of Portland. Other U.S. Department of Energy sites should be selected, depending on whether USDOE will simply store the fuel or reprocess it. In our opinion, neither the Hanford site nor the Idaho site should be used for storage or reprocessing this fuel. *114-1*

The U.S. Department of Energy has included Hanford and the Idaho site as possible locations for storing some or all of the foreign research reactor spent fuel. This storage period is expected to last at least 40 years. Given the massive problems that exist already at Hanford, the State of Oregon opposes any proposal to bring large amounts of spent fuel to Hanford for long-term storage.

The Hanford Site has suffered an enormous toll of environmental contamination from nearly fifty years of plutonium production. Oregon has consistently urged the U.S. Department of Energy to devote all its efforts at Hanford to the monumental task of environmental restoration of the site. Bringing in more spent fuel to Hanford would only serve to complicate clean-up issues and further delay restoration of the site.

Recently, a new Hanford cleanup agreement was negotiated between the State of Washington, the U.S. Department of Energy and the Environmental Protection Agency. That document does not take into account the receipt of additional spent fuel for long-term storage.

The U.S. Department of Energy's own draft Environmental Impact Statement on foreign spent fuel considers Hanford an unacceptable site. That statement provides the following: -- and I quote -- "The age, condition, available capacity of these facilities, and the Tri-Party Agreement milestones generally prevent the use of the existing facilities for storage of foreign reactor spent fuel. .... The Hanford Site has concluded that there are no existing facilities available and ready for accepting foreign research reactor spent nuclear fuel." (Page F-53). *114-2*

Indeed, there are major environmental problems associated with the current storage of spent nuclear fuel at Hanford. Eleven hundred and fifty metric tons of spent fuel is now stored in a leaking basin at the K-E reactor. This has resulted in tritium contamination

## RESPONSE TO COMMENT
## COMMENTOR NO. 114: OREGON DEPARTMENT OF ENERGY

### *Response to Comment No. 114-1*

The Oregon Department of Energy's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Portland is noted. Based on the criteria used for identifying the ports evaluated (Section 2.6.3.1 of the EIS), the port identification is not affected by the choice of a management site.

### *Response to Comment No. 114-2*

In accordance with the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement Record of Decision released on May 30, 1995, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site. A Consent Order, embodying the litigation settlement between the State of Idaho, the Navy, and DOE was issued on October 17, 1995.

## COMMENTOR NO. 114: OREGON DEPARTMENT OF ENERGY (CONT'D.)

- 2 -

of the groundwater and of the Columbia River. This problem won't be resolved until after the turn of the century. To bring more spent fuel in -- when there is still much to be done to safely store the fuel at Hanford now -- would be folly. *114-2 (Cont'd.)*

While we are not as familiar with the problems at the Idaho site, we have major concerns about use of that site as well. Because of serious concerns by the State of Idaho about the storage and handling of spent fuel at the Idaho site, the U.S. Department of Energy has been under a court order that severely restricts the number of shipments allowed there. Idaho was successful in its court action because of USDOE's woeful record on waste handling and storage; that record raises serious questions about the suitability of INEL to accept more spent fuel for long-term storage.

Moreover, even if the federal court order at the Idaho site is eventually removed, we have concerns about the use of the Idaho site. Spent fuel sent to Idaho would likely be "reprocessed" in aged facilities. These facilities should be decommissioned, not restarted. Reprocessing creates more waste which would complicate the task of managing wastes at the Idaho site and cleaning it up. If the fuel is to be reprocessed, and we have concerns about reprocessing any fuel, other USDOE sites are better suited than Idaho. *114-3*

In opposing shipment of foreign spent fuel through the Port of Portland, let me make clear that we believe that spent nuclear fuel can be transported safely and public confidence can be maintained as long as the federal government works cooperatively with state, Tribal, and local agencies. Emergency responders must receive adequate funding, training and equipment. Dock workers must be trained in the safe and proper handling of the spent fuel casks. State officials must receive advance notice of shipments. Independent inspections must occur at all critical points in the shipment. And, the routing and timing of shipments must avoid adverse weather and road conditions. *114-4*

There have been dozens of shipments of spent fuel through the Port of Portland over the past 20 years. Our experience with Port Management and the Longshoremen has been exceptional. We have no concerns about whether the Port is professional enough to safely handle these shipments. The issue is, why ship through Portland at all? No shipments should go to Hanford or to Idaho and therefore no shipments should come through Portland. *114-1 (Cont'd.)*

f:\dir-off\mwg\hanford\1995\forfacts

## RESPONSE TO COMMENT
## COMMENTOR NO. 114: OREGON DEPARTMENT OF ENERGY (CONT'D.)

### *Response to Comment No. 114-3*

The commentor's opposition to chemical separation at the Idaho National Engineering Laboratory is noted. The Record of Decision for its Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs EIS was issued on May 30, 1995. Chemical separation at Idaho National Engineering Laboratory was not included in this Record of Decision, so additional site-specific NEPA documentation would be required to restart the chemical separation facilities at this site.

### *Response to Comment No. 114-4*

DOE will continue to work with State and local officials to ensure that emergency response capabilities are adequate and that the communications channels between the DOE and State and local governments remain open.

As discussed in Section 2.7 of the EIS, the primary responsibility for emergency response to an incident would reside with State, Tribal, and local authorities. DOE would provide coordination and technical assistance, and training to the State, Tribal, and local emergency response personnel. In addition, DOE has Radiological Assistance Program teams that operate from eight strategically located DOE offices around the country. Upon State, Tribal, or local request, these teams can provide technical expertise and assistance to monitor and assess radiological hazards. The teams are activated on an as-needed basis and generally can be ready to deploy from their home station within four hours of notification.

Appendix H has been added to the final EIS in response to public comments, to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that describes the overall management of and requirements for transportation. Details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port, transit to the management site(s), and plans in the case of severe weather or adverse road conditions,

would be contained in individual transportation plans for each shipment. DOE is required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of the shipment of hazardous cargos, including radioactive materials.

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the transportation casks would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in standard shipping containers; experience with handling containers is sufficient. Therefore, no special training of dock workers would be required.

The foreign research reactor spent nuclear fuel containers would be inspected numerous times during transport. First, the transportation cask and the container that carries the cask would be inspected for integrity at the foreign research reactor site. Next, the container would be inspected prior to loading it on the ship in the foreign port. During the time that the container would be onboard the ship, it would be inspected daily to ensure the container's integrity and to verify that the container was properly secured to the ship (Appendix C, Section C.4.1 of the EIS). Then the container would be inspected in the U.S. port of entry prior to off loading for overland transport (Appendix D, Section D.4.4 of the EIS) to the management site(s). This inspection schedule exceeds the regulatory requirements and has been proven sufficiently thorough over 30 years of previous shipments.

## *Commentor No. 159: State of Florida Department of Community Affairs*

STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2100

LAWTON CHILES
Governor

LINDA LOOMIS SHELLEY
Secretary

June 2, 1995

Mr. Charles Head
U.S. Department of Energy
Office of Environmental Management (EM-37)
1000 Independence Avenue Southwest
Washington, DC 20585-0001

RE: Nuclear Waste Disposal Siting - Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel - Draft Environmental Impact Statement - Florida
SAI: FL9504170247C

Dear Mr. Head:

The Florida State Clearinghouse is awaiting additional comments from our reviewing agencies. Therefore, we are requesting an additional fifteen (15) days for completion of the consistency review in accordance with 15 CFR 930.41(b). *159-1*

We will make every effort to conclude the review and forward the consistency determination to you on or before June 16, 1995.

Very truly yours,

Linda Loomis Shelley
Secretary

LLS/mgg

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

## *Response to Comment Commentor No. 159: State of Florida Department of Community Affairs*

### *Response to Comment No. 159-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 240: WASHINGTON STATE REPRESENTATIVE TOM CAMPBELL

STATE REPRESENTATIVE
2nd DISTRICT
TOM CAMPBELL

State of
Washington
House of
Representatives

FINANCIAL INSTITUTIONS
AND INSURANCE

HEALTH CARE

LAW AND JUSTICE

June 14, 1995

Charles Head
Office of Spent Nuclear Fuel Management
U.S. Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

It has been brought to my attention that The United States Department of Energy is proposing to ship Nuclear Spent fuel through the Port of Tacoma, Washington.

As a State Representative of the 2nd District in Pierce County, I would strongly object to this material being transported through our port. The exposure of this potentially hazardous material to our people could cause substantial harm should any accidents occur with the handling process. I am simply not comfortable with the possible risks and believe that further consideration should be done to select a smaller port in a lesser populated area. In addition, the people in our county have not been fully informed. 240-1

I have been invited to attend a public hearing on Spent Nuclear Fuel on June 19, 1995. I intend to be available to the constituents in Pierce County and will be happy to represent them with concerns about this issue. Please keep me informed of further intentions by the U.S. Department of Energy to use the Port of Tacoma as one of their 10 ports for shipment of nuclear fuel.

Sincerely,

TOM CAMPBELL
STATE REPRESENTATIVE
2nd District

cc: Patrick O'Malley
President, Port Commission
Port of Tacoma

LEGISLATIVE OFFICE: 302 JOHN L. O'BRIEN BUILDING, PO BOX 40600, OLYMPIA, WA 98504-0600 • (360) 786-7824
HOTLINE DURING SESSION: 1-800-562-6000 • TDD: 1-800-635-0003
RESIDENCE: PO BOX 445, SPANAWAY, WA 98387 • (206) 847-1818
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## RESPONSE TO COMMENT
## COMMENTOR NO. 240: WASHINGTON STATE REPRESENTATIVE TOM CAMPBELL

### *Response to Comment No. 240-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low. All population within a fifty mile radius of Tacoma was considered when analyzing the impact of both incident-free transport and the range of hypothetical port accidents. The risks were found to be low. The analysis of impacts associated with an accident involving foreign research reactor spent nuclear fuel determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 of the EIS).

The use of a remote port might slightly reduce the already low consequences of an accident, however there are other considerations that also must be made when making port selection. Appendix D, Section D.1.9 of the EIS presents a complete discussion of the port selection process.

In regard to informing the public, the draft EIS was mailed to more than 1,500 people and an official DOE announcement of the meeting location and purpose was advertised in local newspapers. Public service announcements were also provided to local radio stations and to cable-access television. The meeting announcement was included in the Federal Register concerning the EIS. In addition, 1-800 numbers were provided for preregistration and for requesting copies of the draft EIS.

## COMMENTOR NO. 248: WASHINGTON STATE SENATOR DEAN SUTHERLAND

**Written Comments on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

If you would like to give us written comments, please feel free to use this page and drop it off at the registration table when you leave. Alternatively, you may mail your comments to the Department of Energy at the address listed below. Also, please provide us with your name, address, and telephone number for any follow-up information or any questions concerning the intent of your comments. This will also allow us to properly indicate the source of the comments in the comment response document. Thank you.

Name: Dean Sutherland Phone: 360-690-7262
Title and Organization: Washington State Senator
Address: 23503 NE 108th St
City: Vancouver State WA Zip 98682

*** COMMENTS ***

I have worked on nuclear safety related issues for years. What is being considered by USDOE is simply wrong. I trust public input has value in this process and isn't just proforma. The transport of these -- the world's worst waste --- requires sincere public review, scientific study, and a very thoughtful decision. I am available for full discussions and involvement if you desire 248-1

Respectfully submitted
Dean Sutherland
State Senator

I chair the Energy Cmte.

To Mail in Comments, Address Correspondence to:

Mr. Charles R. Head
Office of Spent Fuel Management, EM-37
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

Washington State Senate
Senator Dean Sutherland
17th Legislative District

Olympia Office: 422 John A. Cherberg Bldg. P.O. Box 40467 Olympia, WA 98504-0482 (360) 786-7652 Legislative Hotline: 1-800-562-6000 FAX: (360) 786-1999

District Office: 23503 108th Street Vancouver, WA 98682-9717 (360) 690-7262 FAX: (360) 896-6412 Internet: senate-17@leg.wa.gov

## RESPONSE TO COMMENT COMMENTOR NO. 248: WASHINGTON STATE SENATOR DEAN SUTHERLAND

### *Response to Comment No. 248-1*

The commentor's opposition to the transport of spent nuclear fuel from foreign research reactors is noted. Health and safety effects of management in the United States (Management Alternative 1 or 3) are discussed in Sections 4.2 and 4.5 of the EIS. Public comments and participation are important factors in the development of this EIS prepared under both the NEPA and DOE environmental Regulations and are considered in selecting the preferred alternative (Section 2.1 of the EIS).

## *Commentor No. 265: California Energy Commission (Cont'd.)*

Charles Head
June 19, 1995
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After reviewing DOE's environmental assessment and impact statement on foreign research reactor spent nuclear fuel, we conclude the following:

1. DOE's proposed foreign reactor spent nuclear fuel shipments to waste management sites in the East, e.g., the Savannah River Site in South Carolina (SRS), should be made via the East Coast, not the West Coast. Spent fuel should be shipped directly to an off-loading point located near the point of destination (DOE Waste Management Site). Analyses by DOE have shown that spent fuel shipments to SRS via the West Coast pose a greater risk to public safety than shipping via the East Coast. To help ensure the safe and uneventful shipment of spent nuclear fuel to waste management sites, shipping cost considerations should not be allowed to override efforts to minimize public risks.

2. DOE's criteria for selecting ports of entry for foreign research reactor spent fuel shipments would appear to disqualify from consideration both the Port of Oakland and the Naval Weapons Station in Concord, California. High population densities, extremely heavy traffic congestion, high seismic risk and co-location with weapons shipments would appear to disqualify these ports.

3. If feasible, DOE should take title to the foreign research reactor spent fuel shipments prior to shipment departure to provide greater assurance that the casks, shippers, carriers, routes and appropriate procedures for accident avoidance and emergency response procedures (key variables for determining shipment safety) are used.

4. DOE should work with corridor states affected by these shipments to develop rail and truck transport plans and procedures prior to the proposed foreign reactor spent fuel shipments. A transportation program, similar to that used for cesium shipments and that planned for transuranic waste shipments to the Waste Isolation Pilot Plant in New Mexico, should be developed by DOE and corridor states. Shipments should be inspected using the most recent inspection standards, e.g., Commercial Vehicle Safety Alliance (CVSA) enhanced inspection standards developed for spent fuel shipments and transuranic waste shipments.

5. Only cask designs that meet current federal transport safety requirements for transporting spent fuel should be used, i.e., the cask designs should be able to meet current spent fuel cask licensing requirements.

6. DOE should work with states to select rail and truck routes that minimize public risk and potential public impacts in the event of a transport accident.

## *Response to Comment Commentor No. 265: California Energy Commission (Cont'd.)*

## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

Mr. Charles Head
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These recommendations and conclusions are discussed in greater detail in the enclosed comments. We appreciate the opportunity to review these documents and hope to work with the Department of Energy in developing transport plans for these shipments.

Sincerely,

CHARLES R. IMBRECHT
Chairman

Enclosures: 2

## RESPONSE TO COMMENT
## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

## *Commentor No. 265: California Energy Commission (Cont'd.)*

Enclosure 1

**Comments by the**
**STATE OF CALIFORNIA**
**on the**

**U.S. DEPARTMENT OF ENERGY AND U.S. DEPARTMENT OF DEFENSE**
**DRAFT ENVIRONMENTAL IMPACT STATEMENT**
**ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY**
**CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL**

### INTRODUCTION

The Draft Environmental Impact Statement (DEIS) is the result of a long legal struggle between states and DOE regarding DOE's policy to manage spent nuclear fuel from foreign research reactors. Over the past decade, the State of California has expressed concerns to the Department of Energy (DOE) regarding DOE's plans to transport spent nuclear fuel as part of the foreign research reactor spent nuclear fuel policy. These concerns were communicated in letters to DOE, legal challenges, as well as our comments on environmental assessments regarding this policy. In particular, the State objected to DOE's plans to use California ports for receiving foreign research reactor spent fuel destined for the Savannah River Site in South Carolina. In 1986, Governor Deukmejian wrote DOE to express concern regarding DOE's plans to use the Port of Long Beach to receive spent nuclear fuel from Taiwan for transport to the Savannah River Site in South Carolina.

California's Attorney General joined the Port of Oakland and the State of Washington in a legal challenge regarding DOE's failure to prepare an environmental assessment of the potential impacts from these shipments. Following DOE's preparation of an Environmental Assessment, DOE concluded that shipping this fuel via the East Coast, rather than the West Coast, decreased overall transport risk. As a result, the Taiwanese spent fuel was shipped in 1988 via Portsmouth, Virginia.

In 1991, DOE released a Finding of No Significant Impact (NOI) and Environmental Assessment on the proposed policy. The State of California provided comments on these documents as well as comments, provided in 1993, on DOE's Notice of Intent (NOI) to prepare an EIS.

Key issues raised by California in these proceedings have included:

(1) Concern over DOE's selection of the Port of Long Beach and the Port of Oakland for off-loading spent fuel from overseas; Governor Deukmejian stated that "a more direct route would further enhance the safety and security of these shipments."



## *Response to Comment Commentor No. 265: California Energy Commission (Cont'd.)*

## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

(2) The need for a full public disclosure, as required by law, of the potential environmental impacts and risks from these planned shipments.

(3) The need for a comparative evaluation of the risks associated with alternative marine ports of entry and overland routes, including any special hazards that may be unique to these harbors or routes. Land routes from ports being considered for use in California traverse some of the most densely populated urban regions of the U.S.

In addition, portions of these routes have extremely high traffic congestion, which may increase public exposure and greatly hamper emergency response activities should they be necessary in the event of an accident. Time-of-day restrictions on shipments through these areas may be required to minimize public risk. The Port of Oakland is one of the Pacific Coast's chief industrial areas and the principal distribution center for northern California and much of the U.S.

(4) The need for an evaluation of alternatives that would permit this waste to be shipped directly to an off-loading point located more closely to where the fuel would be managed (DOE Waste Management Site).

(5) The need for an explanation of how it will be determined that adequate safety procedures are in place and transport requirements are met during shipment. In earlier documents, DOE assumed no responsibility for the shipments until they arrive at the Savannah River Site in South Carolina. Countries seeking the least cost means of returning the fuel to the U.S. could sacrifice safety in order to lower shipping costs. Decisions regarding the selection of ports, routes, and packaging for these shipments were to be left to the shipper hired by the foreign country returning the fuel.

(6) The need to directly involve corridor states and tribes in the planning and preparation for these shipments.

SPECIFIC COMMENTS ON THE DEIS

DOE's proposed policy involves the return of spent nuclear fuel from about 104 research reactors located in 41 foreign countries over a 13-year period. A typical cask of foreign research reactor fuel would contain about 900,000 curies. The DEIS estimates that about 186 cask shipments would be received at western ports of entry and about 651 cask shipments received at eastern points of entry (535 from ports and 116 from Canada). About 70 percent of the foreign research reactor fuel contains highly enriched uranium that could be diverted into the production of nuclear weapons, if it were removed from the spent fuel.



## RESPONSE TO COMMENT
## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

## COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

1. Routing of Shipments

Spent fuel shipments intended for the Savannah River Site (SRS) in South Carolina should be shipped via the East Coast, not the West Coast. Analyses for the DEIS show that, for both truck and rail shipments, shipments to SRS via the Naval Weapons Station (NWS) in Concord, California affect the highest population densities when compared to the other ports under consideration in the DEIS. Although DOE has stated that economic factors support shipping some of the spent fuel via the West Coast to SRS, rather than via the Panama Canal to the SRS, least cost considerations should not override public safety. 265-1

Contrary to presumptions of the DEIS, rail routing should not be left solely to the discretion of the railroads. Routes shown in California traverse some of the most densely populated and heavily congested areas of the U.S. These routes would begin in, and continue for hundreds of miles in, Seismic Zones 3 and 4, the highest seismic risk zones. DOE should work with states and rail companies to select truck and rail routes that minimize public risk.

2. Need for State/Federal Cooperative Planning for These Shipments

DOE should work with corridor states affected by these spent fuel shipments in developing transport plans and procedures (including accident prevention and emergency response procedures) prior to shipment. Such plans could be based on the successful nuclear waste transport safety programs, thereby shortening the time needed for developing these plans. For example, a transportation safety program, similar to that used for cesium shipments and that planned for shipments to the Waste Isolation Pilot Plant, could be developed through cooperation between the federal government and shipment corridor states. 265-2

In addition, the federal government needs to develop a program to provide shipment corridor states with the necessary technical assistance and training to prepare for the large number of spent nuclear fuel shipments. DOE and other federal agencies such as the U.S. Department of Transportation and the Federal Rail Administration, should assist, cooperate with, and fund, as appropriate, activities of corridor states to ensure the safe transport of spent fuel and assure the emergency preparedness for potential transport incidents. The State of California will work with DOE in developing this transport plan. 265-3

3. Selection of Ports of Entry

In 1994, DOE designated the Port of Oakland in California as a port of entry for "Urgent-Relief" foreign research reactor spent fuel. In addition, the DEIS designated the Naval Weapons Station at Concord, California as one of three western ports for shipments of foreign research reactor fuel to the U.S. However, DOE's own criteria for selecting these ports of entry would appear to disqualify the Naval Weapons Station and the Port of Oakland. Characteristics important to radiological risk from a transport accident, such as total shipment distance between shipment origin and destination and the population distribution along routes, would make NWS and the Port of Oakland less suitable ports of entry for these shipments. 265-4

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## RESPONSE TO COMMENT COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

### *Response to Comment No. 265-1*

DOE agrees with the commentor that cost considerations should not override public safety. The analysis in the EIS demonstrates that the risk associated with using Concord NWS, or either of the other two West Coast ports, to receive foreign research reactor spent nuclear fuel bound for the Savannah River Site, is low. If foreign research reactor spent nuclear fuel is accepted into the United States, the decision as to which port to use for each shipment would include consideration of the population along the land route to the designated management site(s).

While rail route selection is not covered by specific U.S. Department of Transportation or NRC regulations, the routes must be approved in advance by the NRC (10 CFR Part 73.37 (b)(7)). DOE is required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of a shipment of hazardous cargo (10 CFR Part 73.37 (f)), including radioactive materials. If foreign research reactor spent nuclear fuel is accepted into the United States, and if Concord NWS is utilized, DOE will work with the State of California to help minimize public risk.

### *Response to Comment No. 265-2*

The commentor's suggestion that DOE work with corridor states affected by spent nuclear fuel shipments to develop transport plans and procedures is noted. A Transportation Plan would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comment..

### *Response to Comment No. 265-3*

The commentor's suggestion that the federal government needs to develop a program to provide shipment corridor states with necessary assistance and training to prepare for a large number of spent nuclear fuel shipments is noted. As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State,

## COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

DOE's criteria require that terminals used for foreign research reactor spent fuel shipments should be physically separated from densely populated city centers (by several kilometers) to help ensure that the general public would be unlikely to be exposed to significant radiation doses from accidents within the port (cask drops, fires, or truck or rail accidents) and that the transport of spent nuclear fuel through large, densely populated, congested areas around the port would not be required. Shipments from Concord travel through some of the highest density populations of the alternative ports under consideration by DOE. 265-4 (Cont'd.)

Another of DOE's criteria for port selection is the "absence of conflicting port activities". The NWS handles munitions, and, presumably nuclear weapons have been stored there (p. D-60). In addition, NWS is located on the edge of a very high seismic zone (with potential ground accelerations as high as 0.45 g, p. D-62.) Therefore, the NWS and the Port of Oakland do not appear to meet DOE's own criteria in evaluating alternate ports of entry.

4. Adequacy of Inspections and Enforcement

The safety of these shipments depends upon the integrity of the packaging, experience and qualifications of the carrier and shippers, and whether the package and transport vehicles meet applicable transport safety regulations. Assurance must be provided through independent safety inspections to verify compliance with federal and international transport safety requirements. The responsibility for enforcing these regulations should be clearly identified and funding provided, as needed, to compensate States for additional costs incurred as the result of these inspections. Shipments should be inspected using the most recent standards, e.g., the Commercial Vehicle Safety Alliance (CVSA) enhanced inspection standards developed for spent fuel and transuranic waste shipments, developed by DOE and corridor states. 265-5

DOE's environmental assessments point to the excellent safety record for Type B package shipments. However, this safety record may not reflect transport safety practices in all 41 of the foreign countries from which the spent fuel will originate. Each of these countries would be expected to have varying degrees of ability and inclination to meet transport safety requirements. Therefore, independent shipment safety inspections should be performed prior to shipment departure, including inspection of fuel loading procedures as well as cask maintenance and quality assurance programs.

5. Adequacy of Emergency Response Preparedness

DOE should work with states along the proposed shipment corridors for these shipments to establish and implement an appropriate emergency response training program for potential transport accidents. Currently, only limited training is available to first responders for spent fuel accidents. 265-6

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## RESPONSE TO COMMENT COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 265-4*

The Port of Oakland was never considered nor designated as a port of entry for urgent-relief spent nuclear fuel. Concord NWS was one of ten ports that was determined in this EIS to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted into the United States. Population of the port, surrounding areas to a radius of ten miles, and the population along the transportation routes are considered in the port selection criteria. The population around Concord and on the routes to the management sites was low enough to qualify Concord NWS as an acceptable port. The population criteria for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS.

DOE understands that Concord NWS's primary mission is to support the military through handling munitions and that no handling of the foreign research reactor spent nuclear fuel could occur concurrently with handling explosives. These facts have been incorporated into the EIS.

The risk of releasing radioactive material from a foreign research reactor spent nuclear fuel transportation cask as the result of a seismic event is low. Transportation casks are designed and built to withstand significant punishment without releasing their contents (Section 2.6.2 of the EIS). Therefore, a seismic event, even if it caused structures at Concord NWS to fail, is not expected to compromise the transportation cask.

### *Response to Comment No. 265-5*

Prior to use of a specific spent nuclear fuel transportation cask, the shipper would have to comply with the specifications, limitations, and maintenance requirements of the cask as required by the cask's certificate of compliance. In addition, a DOE representative would be present at the foreign research reactor site prior to the loading of the spent nuclear fuel in the cask. Further, a Transportation Plan detailing inspection procedures for the loading of the spent nuclear fuel at the foreign research reactor site would be provided by DOE prior to policy implementation. General provisions of the Transportation Plan are provided in Appendix H of the EIS.

### *Response to Comment No. 265-6*

The commentor's suggestion on minimizing the risk for ground transportation of foreign research reactor spent nuclear fuel is noted. The coordination would be specified in the

## COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

The difficulties of responding to a large-scale hazardous materials rail incident were recognized during the large hazardous materials spill which occurred in Siskiyou County, California in July 1991. The EIS should explain how the adequacy of rail carrier emergency response plans for spent fuel accidents or sabotage/terrorist incidents will be evaluated. In addition, DOE needs to describe how state and federal resources will be coordinated for responding to rail accidents and how onsite technical assistance will be provided to remote areas where no local hazardous response teams exist. 265-6 (Cont'd.)

6. Location for DOE's Taking Title to Foreign Reactor Spent Nuclear Fuel

Three scenarios are considered in the DEIS for when DOE would take title to the foreign reactor spent fuel: (1) before shipment begins; (2) at the Ports of Entry (at the limit of U.S. territorial waters or continental U.S. borders); or (3) at DOE Management Sites. DOE has proposed taking title to the fuel at the limit of U.S. territorial waters, or continental U.S. borders for shipments from Canada.

The location of taking title to the fuel is relevant to the safety of these shipments. Under scenarios 2 and 3, DOE presumably would be leaving such decisions to the foreign country and its contractors returning the spent fuel. Many foreign countries may use least cost, rather than safety considerations, in selecting the shipper, package, carrier, and routes to return the fuel. Since the safety of these shipments depends largely upon the integrity of the packaging, DOE or U.S. Department of Transportation inspections should be made as the spent fuel is being prepared for shipment to verify that the casks and their contents meet U.S. transport safety requirements. 265-7

Taking title to the fuel at the limit of U.S. territorial waters or continental U.S. does not appear to provide sufficient U.S. oversight to ensure that the spent fuel was properly packaged and prepared for shipment. Stringent safety inspections should occur at the point of origin of the shipment. Without this common-sense safeguard, it may be possible that one or more shipments could arrive at a U.S. port of entry in a conditions unsafe or unsuitable for transport by truck or rail to a DOE waste management site. Therefore, we recommend that DOE, if feasible, take title to the shipment before the shipment begins to ensure that the shipment and its contents meet international and national transport safety requirements.

In addition, to clarify any uncertainty regarding liability coverage in the event of a major transport accident, DOE should publish in the Federal Register, for public review and comment, DOE's determination that accidents involving foreign reactor spent nuclear fuel shipments would be covered under the Price-Anderson Act. 265-8



## RESPONSE TO COMMENT COMMENTOR NO. 265: CALIFORNIA ENERGY COMMISSION (CONT'D.)

Transportation Plan which would be prepared for any spent nuclear fuel shipment that would be carried out. The general provisions of the Transportation Plan are included in Appendix H of the EIS.

Appendix D, Section D.5.9 has been added in the EIS to address terrorism and sabotage. This section concludes that, while certain terrorist and sabotage attempts cannot be precluded, theft would be. DOE considers that the foreign research reactor spent nuclear fuel is accepted into the United States. The security measures employed would be required to meet or exceed all the security requirements in the Code of Federal Regulations (10 CFR Part 73). DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel.

### *Response to Comment No. 265-7*

The commentor's support for taking title to the foreign research reactor spent nuclear fuel at the point of origin of the shipments instead of the territorial waters or continental U.S borders (Section 2.2.1.4 of the EIS) is noted. Regardless of which location were selected for taking title, DOE would, through contractual agreements, ensure that the appropriate inspections take place at the point of origin to verify that the casks and their contents meet U.S transport safety requirements.

### *Response to Comment No. 265-8*

The Price-Anderson Act's indemnification requirements pertaining to DOE contract activities must be complied with whenever DOE enters into a contract with a person who will carry out activities under that contract that involve the risk of public liability. The specific language of the indemnification agreement that would be included in the contract is contained in 48 CFR Part 952.250-70. In order for indemnification to take place, there must first be a nuclear incident as defined by the regulations. DOE will not publish in the Federal Register a determination that Price-Anderson indemnification provisions would cover accidents involving spent nuclear fuel because the law itself (Price-Anderson Act) makes it clear exactly when, and under what circumstances, the indemnification provisions apply and DOE must comply with the law under such circumstances.

## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

7. Shipping Casks

The DEIS states that Type B packaging will be used for shipping foreign research reactor spent nuclear fuel and naval reactor spent fuel. In the past, DOE has used Type B packaging that meets 1967 Nuclear Regulatory Commission requirements for shipping transuranic wastes. These older package designs could not be licensed under current transport package licensing requirements, although they can still be used for shipping transuranic waste. (Current licensing requirements for transporting plutonium are more stringent.) 265-9

The DEIS also states that the casks proposed for ground transport are not currently certified for shipping foreign research reactor spent fuel. How will the casks used by foreign countries be certified? Will they have full-scale testing? The casks used for the proposed spent fuel shipments should be required to meet current federal transport requirements for transporting spent fuel.

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## RESPONSE TO COMMENT
## COMMENTOR NO. 265:
## CALIFORNIA ENERGY COMMISSION (CONT'D.)

### *Response to Comment No. 265-9*

Spent nuclear fuel is required to be transported in "Type B" transportation casks that are certified for transporting radioactive materials. These transportation casks are subject to stringent design, fabrication, and operating requirements imposed by the competent authority for the country of origin (the NRC, in the United States) to withstand very severe accidents without releasing their contents. Regardless of where a transportation cask is designed, fabricated, or certified for use, if used internationally it must meet certain minimum performance requirements and regulations established by the international Atomic Energy Agency. The selection of a specific model of "Type B" transportation cask to be used depends on the particular spent nuclear fuel to be shipped.

## COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY

Oregon

DEPARTMENT OF ENERGY

June 16, 1995

U.S. Department of Energy
Office of Environmental Management (EM-37)
Attn: Mr. Charles Head
1000 Independence Avenue, S.W.
Washington D.C. 20585-0001

Dear Mr. Head:

Thank you for this opportunity to offer the state of Oregon's comments on the draft Environmental Impact Statement (EIS) on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. Our comments focus on the following four areas: potential U.S. storage sites, reprocessing, transport issues, and emergency preparedness.

The issue of whether or not to ship foreign spent fuel back to the United States is beyond our scope for comment. We do not have enough information to determine whether adequate security can be established at each of the foreign sites to safeguard the spent fuel. Nor do we have detailed information on the treaty agreements that were made with these countries.

**POTENTIAL U.S. STORAGE SITES**

We support the U.S. Department of Energy's (USDOE) position (as outlined in the Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Waste Management Programs Final EIS and the subsequent Record of Decision) not to use the Hanford Site as a storage site for foreign spent fuel. As we stated during hearings in Portland in December 1993 and May 1995, we oppose storage of foreign research spent nuclear fuel at the Hanford Site. Hanford does not have facilities available for storage. Further, we are concerned that bringing additional waste into the site would seriously detract from the vital clean up work currently underway. 266-1

The draft EIS lists several options in which foreign fuel is stored temporarily (for about 10 years) at one or more USDOE facilities, then moved to another USDOE facility. We oppose this approach. Although we believe spent nuclear fuel can be transported safely, we also believe it is not good public policy to move high level nuclear waste from one interim storage facility to another. There is some risk, although small, 266-2

John A. Kitzhaber
Governor

625 Marion Street NE
Salem, OR 97310
(503) 378-4040
FAX (503) 373-7806
Toll-Free 1-800-221-8035

## RESPONSE TO COMMENT
## COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY

### *Response to Comment No. 266-1*

The commentor's support for the statement in the Record of Decision for the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement that no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site, is noted.

### *Response to Comment No. 266-2*

As discussed in Section 2.6.5 of the EIS, the management of foreign research reactor spent nuclear fuel at an interim site would have become a necessity if the decision to manage the rest of DOE's spent nuclear fuel involved the exclusive use of a site lacking existing facilities to accept the fuel at the start of the policy. These sites were the Hanford Site, the Oak Ridge Reservation, and the Nevada Test Site. Since the Record of Decision discussed in response to comment 266-1 above did not select these sites for future management of spent nuclear fuel, the commentor's concern is no longer an issue, as both the Savannah River Site and the Idaho National Engineering Laboratory have existing facilities capable of accepting the fuel on the effective starting date of the policy.

## COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

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involved with the transport of spent nuclear fuel. Shuttling it from one site to another unnecessarily increases the risk. 266-2 (Cont'd.)

If shipments do come to the United States, USDOE proposes storage at the Savannah River Site and the Idaho National Engineering Laboratory (INEL). Both sites do have available storage capacity and experience in handling foreign spent fuel. However, we believe INEL has serious problems which preclude its use as a site to store additional foreign research reactor spent nuclear fuel. Because of serious concerns by the state of Idaho about the storage and handling of spent fuel at the Idaho Site, USDOE is under a court order that severely restricts transporting additional waste to INEL. Idaho was successful in its court action because USDOE's past record of waste handling and storage at INEL is less than exemplary. 266-3

REPROCESSING

We oppose the reprocessing of foreign research reactor spent fuel. Reprocessing does little to reduce the volume of high level waste. It creates new waste streams. It adds to the amount of weapons grade material that is available. We oppose reprocessing whether the spent fuel remains in Europe or is returned to the United States. 266-4

TRANSPORT ISSUES

USDOE should reassess, based on its own selection criteria, the continued study of the Port of Portland as a receiving point for foreign research reactor spent fuel. One screening criteria used by USDOE to select potential ports of entry was favorable transit from the open ocean to the selected terminal. The draft EIS states that "DOE concluded that ports meeting the intent of this criterion would have relatively short trips to port from large deep bodies of water that were either oceans, seas, or notable extensions thereof....and which present no special navigational hazards to ships." Yet, the Port of Portland is more than twice as far from large deep bodies of water than any of the other ports still under consideration. Further, the draft EIS states "There are a number of cautions concerning entering and navigating the Columbia and Willamette Rivers. The U.S. Coast Guard warns that entry into the Columbia River can be dangerous because of sudden and unpredictable changes in the currents often accompanied by breakers." The draft EIS goes on to list free floating logs and submerged 266-5

## RESPONSE TO COMMENT COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

### *Response to Comment No. 266-3*

In accordance with the Department of Energy's Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement Record of Decision released on May 30, 1995, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. A Consent Order, embodying the litigation settlement between the State of Idaho, the Navy, and DOE was issued on October 17,1995.

### *Response to Comment No. 266-4*

The commentor's opposition to chemical separation is noted. The advantages and disadvantages of chemical separation are discussed in Section 2.2.2.6 of the EIS.

### *Response to Comment No. 266-5*

The passage from the Pacific Ocean up the Columbia River to Portland meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for the port selection (Appendix D, Section D.1.9 of the EIS). Favorable transit from open ocean is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations include port population, along the route to the management site, port experience with handling containers, and port facilities. Appendix D, Section D.1.9 of the EIS, presents details of the port selection process.

## COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

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deadheads or sinkers as sources of danger. The draft EIS also cites Coast Guard statistics of 112 ship collisions and 145 (hard) groundings between 1990 and 1993. Given these warnings, it appears that USDOE disregarded its own criteria to keep Portland among the ports under consideration. *266-5 (Cont'd.)*

We believe that USDOE should seriously consider exclusive use of military ports for shipments. Military ports are far more suitable to meet the security needs of these shipments. The use of military ports would also eliminate the very real possibility that longshoremen would refuse to unload foreign spent fuel. *266-6*

Since USDOE proposes to store spent fuel at Savannah River and INEL based on fuel type, some shipments bound for Savannah River would likely be delivered to West Coast ports and some fuel destined for INEL would likely be delivered to East Coast ports. This would necessitate cross-country shipments by rail or truck. We believe the final EIS should evaluate shipping these materials through the Panama Canal in lieu of cross-country shipments. *266-7*

USDOE asked for comments on when the federal government should take title to the fuel. We believe this should occur before shipment, if shipments are to occur. This is the only way to ensure that all components of the transport system comply with U.S. transport safety regulations. *266-8*

EMERGENCY PREPAREDNESS

The shipment of foreign research reactor spent fuel to and through the United States raises significant issues about the adequacy of emergency response preparedness. The draft EIS rightfully states that the primary responsibility for emergency response resides with local authorities. The draft EIS also says an emergency management and response infrastructure already exists to support these shipments. To a limited extent, that is true. However, that does not remove USDOE from its responsibility to work with states and Indian tribes along shipping routes to ensure an adequate level of preparedness exists. *266-9*

Spent nuclear fuel can be transported safely and public confidence can be maintained as long as the federal government works cooperatively with state, Tribal and local agencies. Emergency responders must receive adequate funding, training and equipment. Dock workers must be trained in the safe and proper handling of spent fuel casks. State officials must

## RESPONSE TO COMMENT COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

### *Response to Comment No. 266-6*

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. The commentor's preference for the exclusive use of military ports to ship foreign research reactor spent nuclear fuel is noted. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

The possibility of a longshoremen's refusal to off-load this material was not considered in the ports selection process (Appendix D, Section D.1.9 of the EIS) because such a policy, even if valid, would be impossible to predict.

### *Response to Comment No. 266-7*

In the evaluation of sea routes (Appendix C, Section C.3.2 of the EIS) and the incident-free impacts of the ocean transit of the foreign research reactor spent nuclear fuel (Appendix C, Section C.4.1 of the EIS) the assumption was made that some of the shipments would pass through the Panama Canal. There are no regulations against sending spent nuclear fuel through the Panama Canal.

### *Response to Comment No. 266-8*

The commentor's support for taking title to the foreign research reactor spent nuclear fuel at the point of origin of the shipments instead of the territorial waters or continental U.S borders (Section 2.2.1.4 of the EIS) is noted. Regardless of which location were selected for taking title, DOE would, through contractual agreements, ensure that the appropriate inspections take place at the point of origin to verify that the casks and their contents meet U.S transport safety requirements.

### *Response to Comment No. 266-9*

DOE considers that if foreign research reactor spent nuclear fuel is managed in the United States, there is adequate regulatory and emergency preparedness infrastructure to ensure its safe acceptance and transportation to the designated management site. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency

## COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

State of Oregon Comments on a
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receive advance notice of shipments. The routing and timing of shipments must avoid adverse weather and road conditions. And, USDOE must carefully select the truck, rail and steamship carriers and operators to handle these shipments. Human error and equipment failures are the main causes of accidents. Should shipments occur, USDOE should select only firms and individuals with demonstrated safety records to haul these materials.

266-9 (Cont'd.)

The draft EIS lists some of the cooperative work USDOE has done with Western corridor states to prepare for cesium capsule shipments and transuranic waste shipments to the WIPP facility. That work is a good start. USDOE needs to build on those efforts and provide sufficient funding to prepare for shipment of foreign research reactor spent fuel, if it is to occur.

**SUMMARY OF OREGON COMMENTS**

In summary, it is our position that:

- Hanford not be used now or in the future as a storage site for foreign research reactor spent fuel;
- The Idaho National Engineering Laboratory has serious problems which preclude its use as a site to store additional foreign research reactor spent nuclear fuel;
- Foreign research reactor spent fuel should not be shipped to any USDOE site for interim storage with the intent of eventually moving it to another USDOE site for longer-term storage;
- The foreign research reactor spent fuel should not be reprocessed either in the United State or elsewhere;
- USDOE should re-assess, based on its own selection criteria, the continued study of the Port of Portland as a receiving point for foreign research reactor spent fuel;
- USDOE should seriously consider using only military ports for shipments of foreign research reactor spent fuel;
- USDOE should compare the risks of shipping foreign research reactor spent fuel through the Panama Canal instead of making cross-country shipments;
- If shipments are to be made to the United States, USDOE should take title to the fuel before shipment; and,

## RESPONSE TO COMMENT COMMENTOR NO. 266: OREGON DEPARTMENT OF ENERGY (CONT'D.)

response plans under which DOE provides technical advice and assistance to the State, Tribal and local agencies involved with a radiological incident. DOE is also required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route seven days in advance of the shipment of hazardous cargoes, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which has been added to the final EIS in response to public comments. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders.

## COMMENTOR NO. 266:
## OREGON DEPARTMENT OF ENERGY (CONT'D.)

State of Oregon Comments on a
Proposed Nuclear Weapons Nonproliferation
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Page 5

- If shipments are to be made to the United States, USDOE must work cooperatively with state, Tribal and local officials along shipping routes to ensure an adequate level of emergency preparedness exists.

Sincerely,

John Savage
Acting Director

cc: Kerry Barnett, Director, Oregon Department of Consumer and Business Services
Paula Burgess, Natural Resources Advisor to Governor John Kitzhaber
Steve Marks, Senior Policy Advisor to Governor John Kitzhaber
Oregon Congressional Delegation Staff

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## RESPONSE TO COMMENT
## COMMENTOR NO. 266:
## OREGON DEPARTMENT OF ENERGY (CONT'D.)

## *Commentor No. 310: Washington State Representative Ruth Fisher*

STATE REPRESENTATIVE
27th DISTRICT
RUTH FISHER

State of
Washington
House of
Representatives

TRANSPORTATION
RANKING MINORITY

GOVERNMENT OPERATIONS

AGRICULTURE & ECOLOGY

LEGISLATIVE TRANSPORTATION
CHAIR

MY NAME IS RUTH FISHER. I REPRESENT THE 27TH DISTRICT IN THE STATE LEGISLATURE. THE PORT OF TACOMA IS LOCATED WITHIN THE 27TH.

I WAS THE CHAIR OF THE HOUSE TRANSPORTATION COMMITTEE AND BECAME THE RANKING MEMBER AFTER THE LAST GENERAL ELECTION.

I WISH TO SPEAK TO THE ISSUE OF TRANSPORTATION TONIGHT. ADDING TRUCK TRAFFIC TO THE I-5 CORRIDOR NORTH IS PUTTING AN ADDITIONAL LOAD ON THE FOURTH MOST CONGESTED HIGHWAY SYSTEM IN THE UNITED STATES. ---NOT WESTERN WASHINGTON, NOT THE STATE OF WASHINGTON, NOT EVEN THE WEST COAST -- THE FOURTH MOST CONGESTED CORRIDOR IN THE UNITED STATES! 310-1

IF WE ARE ADDRESSING RAIL TRAFFIC, YOU WILL BE ADDING TO ANOTHER CROWDED CORRIDOR. THE STATE OF WASHINGTON HAS INVESTED A GOOD CHUNK OF MONEY IN THE TRACKS GOING NORTH AND SOUTH. WE HAVE BEEN DESIGNATED THE PRIORITY CORRIDOR BY THE UNITED STATE DEPARTMENT OF TRANSPORTATION. WE ARE STRUGGLING WITH COMMUTER RAIL INTERCITY RAIL AND FREIGHT RAIL ON THE BURLINGTON NORTHERN TRACKS. 310-2

WE ARE ALSO STRUGGLING WITH A POLITICAL CLIMATE IN THIS STATE THAT HAS SAID "NO MONEY FOR TRANSPORTATION IMPROVEMENT."

IT'S GOING TO GET A LOT WORSE BEFORE IT GETS BETTER.

IF YOU ARE CONSIDERING AIR TRAFFIC, WE ARE IN THE MIDDLE OF A CONTROVERSY CONCERNING THE THIRD RUNWAY AT THE SEATAC AIRPORT. THAT MAY NOT BE RESOLVED FOR 10 TO 20 YEARS. 310-3

LEGISLATIVE OFFICE: 314 JOHN L. O'BRIEN BUILDING, PO BOX 40653, OLYMPIA, WA 98504-0653 • (360) 786-7830
RESIDENCE: 1922 NORTH PROSPECT, #9, TACOMA, WA 98406 • (206) 752-7926

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## *Response to Comment*
## *Commentor No. 310: Washington State Representative Ruth Fisher*

### *Response to Comment No. 310-1*

The commentor's concern related to adding truck traffic to the I-5 corridor is noted. Even if Management Alternative 1 were adopted and the Port of Tacoma were to be used exclusively (an unlikely assumption), then only an additional 721 ISO containers would be unloaded at Tacoma over a period of 13 years, an average of one container per week. This would represent a very small increase to the existing and future truck or rail traffic burden. This subject is discussed in detail in Section 2.6.4 of the EIS.

### *Response to Comment No. 310-2*

The commentor's concern related to rail traffic congestion is noted. See the response to comment 310-1 above.

### *Response to Comment No. 310-3*

As discussed in Section 2.10 of the EIS, transportation of foreign research reactor spent nuclear fuel by air was considered as an alternative and was dismissed.

## *Commentor No. 310: Washington State Representative Ruth Fisher (Cont'd.)*

YOU CANNOT ADD TO THE TRANSPORTATION SYSTEM WITHOUT SEVERE CONSEQUENCES.

I'M NOT TALKING ABOUT THE DANGER OF COLLISION. I'M TALKING ABOUT THE ADDITIONAL TRAFFIC ON AN OVERLOADED SYSTEM. WE IN THIS STATE MUST CONTINUE PLANNING FOR THE GROWTH WHICH WILL OCCUR IN THE NEXT DECADE. THE TRANSPORTATION SYSTEM IS NOT ADEQUATE NOW.

AS A PUBLIC OFFICIAL WHO IS CONCERNED, I OBJECT.

AS A RESIDENT WHO MUST USE THE SYSTEM, I OBJECT.

AS A LONGTIME REPRESENTATIVE FOCUSED ON TRANSPORTATION PROBLEMS AND SOLUTIONS, I OBJECT.

## *Response to Comment Commentor No. 310: Washington State Representative Ruth Fisher (Cont'd.)*

## COMMENTOR NO. 325: WASHINGTON STATE SENATOR MARILYN RASMUSSEN

**Washington State Senate**

**Olympia Office:**
408 Legislative Building
P.O. Box 40482
Olympia WA 98504-0482

**Senator Marilyn Rasmussen**
2nd Legislative District

**Telephone:**
(360) 786-7602
Toll Free: 1-800-562-6000

June 19, 1995

CHARLES HEAD, PROGRAM MANAGER
OFFICE OF SPENT NUCLEAR FUEL MGT (EM-37)
US DEPT OF ENERGY
1000 INDEPENDENCE AVE SW
WASHINGTON D C 20585

Dear Mr. Head:

I strongly oppose any shipment of high-level nuclear waste through the Port of Tacoma and urge you to eliminate the port from your list of possible entry sites. 325-1

High-level nuclear waste is extremely radioactive; and a spill, cask rupture, or shipboard fire would have disastrous consequences for our entire region. This deadly fuel would have to be transported through our waters, unloaded by port longshoremen, and then trucked through city streets and highways to its ultimate destination. With more than 721 shipments scheduled to move through the port over 13 years, the public safety and environmental risks are unacceptable. 325-2

Additionally, the draft environmental impact statement prepared by the federal government is incomplete and inaccurate. It is based on outdated information about the port and its terminals and fails to adequately address critical security and cleanup concerns. 325-3

I respectfully urge you to reject the Port of Tacoma site.

Warmest regards,

Marilyn

MARILYN RASMUSSEN
State Senator
Second Legislative District

MR:dlb

Committees: Agriculture & Agricultural Trade & Development, Chair • Education • Transportation • Select Committee on Water Policy

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## RESPONSE TO COMMENT
## COMMENTOR NO. 325: WASHINGTON STATE SENATOR MARILYN RASMUSSEN

### *Response to Comment No. 325-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 325-2*

Human health and safety were primary considerations during the evaluation of environmental effects for the alternatives. Conservative estimates of radiological and nonradiological impacts show that risks to the population and workers are low (Section 4.2 of the EIS). Section 4.10 of the EIS summarizes risks associated with U.S. acceptance of the foreign research reactor spent nuclear fuel and compares these risks with those due to natural background radiation and other common risks. The probability of an accident at sea is discussed in Appendix C, Section C.5.5 of the EIS, while the port accident probabilities are found in Appendix D, Section D.5.3.1.3 of the EIS. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.2.3). With respect to accidents involving a fire, the EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), during which an airborne release of radioactive material results. Appendix D, Section D.5.4 of the EIS presents the results of the analysis. Analyses in the EIS indicate that even in the event of a severe ship fire involving a spent nuclear fuel transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 40 years of spent nuclear fuel ground transport experience, no radiative materials have ever been released from a spent nuclear fuel transportation cask as a result of an accident.

### *Response to Comment No. 325-3*

In regard to the analysis in the EIS being based on outdated and inaccurate information, errors have been found in the draft EIS, including some of the information on the Port of Tacoma and the associated map. Updated information on the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. All of these errors have been corrected in the final EIS, and the conclusion that the risks associated with accepting foreign research reactor spent nuclear fuel into the United States through Tacoma, or any of the other candidate ports, are low and would result in low impacts is still valid. The population data used in the analyses, which was verified as being correct, were based on the 1990 census.

DOE considers that the foreign research reactor spent nuclear fuel could safely be received without additional security beyond that required by the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these

## *Commentor No. 325: Washington State Senator Marilyn Rasmussen (Cont'd.)*

## *Response to Comment*
## *Commentor No. 325: Washington State Senator Marilyn Rasmussen (Cont'd.)*

requirements, it would be the responsibility of the shipper to provide the required additional security. DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel in any port.

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the cask and distributed into the environment. However, the analysis in Section 4.2.2.3 and Appendix D, Section D.5 of the EIS determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident. Close in to the accident, near the cask would likely require some cleanup, but the overall impact on the water and air quality in the port would be very small.

## COMMENTOR NO. 385: WASHINGTON STATE SENATOR LORRAINE WOJAHN

Tell the Department of Energy what you think about nuclear waste coming through Tacoma.

Strongly oppose shipments and believe the citizens of the region will be subjected to extreme risks. Further believe the draft environmental statement prepared by the federal government is incomplete and inaccurate and based on outmoded information about the port and its terminals. Further, it fails to adequately address critical security and cleanup concerns 385-1

Name and Address: Lorraine Wojahn, State Senator
2515 South Cedar
Tacoma WA 98405

## RESPONSE TO COMMENT
## COMMENTOR NO. 385: WASHINGTON STATE SENATOR LORRAINE WOJAHN

***Response to Comment No. 385-1***

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

In regard to the EIS being based on outdated and inaccurate information, errors have been found in the draft EIS, including some of the information on the Port of Tacoma and the associated map. Updated information on the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. All of these errors have been corrected in the final EIS, and the conclusion that the risks associated with accepting foreign research reactor spent nuclear fuel into the United States through Tacoma, or any of the other candidate ports, are low and would result in low impacts is still valid. The population data used in the analyses, which was verified as being correct, were based on the 1990 census.

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

No cleanup is expected to be needed. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 30 years of spent nuclear fuel shipments, no radioactive contents have ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the cask and distributed into the environment. However, the analysis also shows that the resultant contamination is so small that no cleanup would be required, other than possibly in the immediate vicinity of the accident.

## COMMENTOR NO. 463: STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION
BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
TDD (510) 286-4454

June 14, 1995

04–General
SCH # 95054003

United States Department of Energy
Office of Environmental Management (EM–37)
Attn: Mr. Charles Head
1000 Independence Avenue, S. W.
Washington, D. C. 20585–0001

Re: **Draft Environmental Impact Statement: PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL.**

Dear Mr. Head:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for this project. We have examined the above referenced document and forward the following comments:

The casks used to transport the spent nuclear fuel are too heavy to be hauled on the public roads within the weight limits of the California Vehicle Code. To accommodate such shipments, Caltrans Transportation Permit policy provides for the issuance of overweight permits.

In those instances where the conditions of the transportation permit require the hauler to deviate from the designated hazardous material route for the radioactive material, the hauler must first obtain permission from the California Highway Patrol. 483-1

We appreciate the opportunity to work with you on this project. Should you have any questions regarding these comments, please call Timothy Sable of my staff at (510) 286-5555.

Sincerely,

JOE BROWNE
District Director

By: Phillip Badal

PHILLIP BADAL
District Branch Chief
IGR/CEQA

## RESPONSE TO COMMENT COMMENTOR NO. 463: STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

### *Response to Comment No. 463-1*

If any foreign research reactor spent nuclear fuel is accepted into the United States, DOE and its shipping contractor would review and comply with all State and Federal laws and regulations involving ground transport.

DOE estimates that the transportation of foreign research reactor spent nuclear fuel would have about the same impact on the structural integrity of local roadways and bridges as does the commercial transportation of gravel and cement. As shown in Table B-14 in Appendix B of the EIS, marine transport casks for foreign research reactor spent nuclear fuel weigh between 10.9 and 25.5 metric tons. Including the truck, the total weight would be approximately 24 to 38 metric tons. For comparison, commercial ten-wheel sand and gravel trucks usually weigh almost 30 metric tons when fully loaded. Newer sand and gravel trucks which have an additional axle can weigh as much as 34 metric tons.

## COMMENTOR NO. 483: DAVID M. BEASLEY, GOVERNOR, STATE OF SOUTH CAROLINA

**State of South Carolina**

**Office of the Governor**

DAVID M. BEASLEY
GOVERNOR

POST OFFICE BOX 11369
COLUMBIA 29211

June 20, 1995

The Honorable Hazel R. O'Leary
Secretary of Energy
United States Department of Energy
Washington, D.C. 20585

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Secretary O'Leary:

I appreciate the opportunity to comment on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

I urge you to limit the amount of fuel covered by this EIS to that which truly poses a proliferation threat. Since publication of the Notice of Intent, the scope of the EIS has increased sharply. The Draft EIS now includes 41 countries rather than 28, and the amount of fuel has increased by more than fifty percent, from 15,000 elements to 22,700 elements. The inclusion of other foreign research reactors "who have notified DOE and the Department of State that they are interested in participating in the proposed spent nuclear fuel management program" (Draft EIS Volume I at 2-7) indicates a willingness on the part of DOE to offer convenient spent fuel disposition to foreign reactors without regard to whether acceptance by the United States actually furthers nonproliferation goals. 483-1

DOE must give careful consideration, not just lip service, to alternatives to bringing this fuel into the United States. Research reactors in the United States continue to use highly enriched uranium; surely many of our allies can safeguard this material as well. Where possible, DOE should provide technical assistance to reactor operators to assure that highly enriched uranium is not diverted for weapons use. Where spent fuel cannot be stored safely at the reactor site or in the reactor's host country, chemical separation in Europe should be considered. Processing in the United Kingdom is in complete compliance with the Treaty on Nonproliferation of Nuclear Weapons and is consistent with United States nonproliferation goals. The fuel may be blended down to low enriched uranium, thus recycling it into commercially useful material instead of just throwing it away.

## RESPONSE TO COMMENT
## COMMENTOR NO. 483: DAVID M. BEASLEY, GOVERNOR, STATE OF SOUTH CAROLINA

### *Response to Comment No. 483-1*

The intent of the proposed action is to support U.S. nuclear weapons nonproliferation policy seeking to reduce, and eventually eliminate, the use of highly enriched (weapons-grade) uranium in civil programs worldwide (Section 1.2 of the EIS). The inclusion of developed countries and/or U. S. allies in the proposed action is designed to support the United States under the RERTR program. If these stable, developed allies are not included in this program, many of these research reactors will have to shut down or are likely to switch back, or continue to use, HEU fuel. The increase in the amount of spent nuclear fuel from foreign research reactors eligible for the program is discussed in Section 2.2.1.3 of the EIS. The policy considerations and environmental impacts are discussed in Section 4.4 of the EIS.

This EIS provides an evaluation of environmental effects that would result from implementation of three basic policy alternatives and the No Action Alternative (Sections 2.2 through 2.5 of the EIS). Results given in Section 4 of the EIS indicate that implementation of any of the alternatives would have no significant effects on human health or the environment.

The commentor's preference for overseas management of spent nuclear fuel from foreign research reactors is noted. Overseas management of spent nuclear fuel from foreign research reactors, including overseas reprocessing and storage, is described in Section 2.3 of the EIS.

## COMMENTOR NO. 483: DAVID M. BEASLEY, GOVERNOR, STATE OF SOUTH CAROLINA (CONT'D.)

Honorable Hazel R. O'Leary
Page Two
June 20, 1995

Additionally, I strongly object to the determination in the Draft EIS that chemical separation is not a preferred alternative for management of this fuel. Chemical separation at the Savannah River Site takes advantage of existing technical expertise at SRS, and offers the opportunity to dilute the highly enriched uranium to low enrichment. In addition, stabilization by processing and vitrification results in a stable waste form that protects against releases to the environment.

Simply storing this waste with no long-term disposal in sight is irresponsible. If "[u]ltimate disposition of DOE's spent nuclear fuel, including foreign research reactor spent nuclear fuel, is a high priority" (Draft EIS Volume I at 2-5), the fuel should be prepared for disposal in the repository. Assuming that aluminum clad fuel will meet waste acceptance criteria for the repository simply assumes away the problem. 483-2

Finally, processing is a cost-competitive option for management of this fuel, particularly given the susceptibility of aluminum clad fuel to corrosion and the technical uncertainties of dry storage. It is likely that the canyons at SRS will be operated for some period of time to process other materials at risk; the foreign research reactor fuel can be combined with these processing campaigns.

The people of South Carolina support the nuclear nonproliferation goals of the United States. I recognize, however, that research reactor operators who would prefer not to make difficult or costly decisions are pressuring the Department of Energy and the State Department to accept this fuel. I urge you to ensure that the proposed policy is carefully tailored to meet the objectives of the United States and that the management alternative chosen is in the United States' best interest. 483-3

Sincerely,

David M. Beasley

David M. Beasley

cc: Charles R. Head

## RESPONSE TO COMMENT
## COMMENTOR NO. 483: DAVID M. BEASLEY, GOVERNOR, STATE OF SOUTH CAROLINA (CONT'D.)

***Response to Comment No. 483-2***

The commentor's support for domestic chemical separation and vitrification are noted. This is Management Alternative 1, Implementation Alternative 6, which is discussed in Sections 2.2.2.6 and 4.3.6 of the EIS. It is also part of Management Alternative 3, which is discussed in Section 2.4 and 4.5 of the EIS.

***Response to Comment No. 483-3***

DOE and the Department of State agree that any policy that might be implemented should be tailored to meet the objectives of the United States and be in the best interest of the United States.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE

North Carolina Department of Crime Control and Public Safety
Division of Emergency Management

James B. Hunt, Jr., Governor — Thurman B. Hampton, Secretary

June 9, 1995

**MEMORANDUM**

RECEIVED
JUN 12 1995
N.C. STATE CLEARINGHOUSE

TO: Chris Baggett, North Carolina Clearinghouse

FROM: Billy R. Cameron BRC

SUBJECT: DOE Spent Fuel Shipments

The North Carolina Division of Emergency Management disagrees with the proposed importation of foreign research reactor spent nuclear fuel through either the Port of Wilmington, North Carolina or Military Ocean Terminal, Sunny Point, North Carolina. However, this being said, if these shipments do move through North Carolina, this agency's concerns rest with being able to assure Governor Hunt, the General Assembly, County Officials and members of the general public that, if the two prospective North Carolina sites are selected, the shipments will be made as safely as possible. I also must be able to assure these same people that, should problems arise with the movement of this material through North Carolina, the emergency response agencies of the State and counties are adequately prepared to deal with any situation which might occur. In order to deal with the more likely, less severe accident or incident scenarios we must look at the worst case potentials when developing response plans, supporting procedures and training programs. In looking at worst case scenarios, issues surface which need to be addressed: 485-1

- Will information regarding the shipments be handled within the guidance of the Nuclear Regulatory Commission's Safeguard of Information regulations?

  - During the time immediately prior to the movement of the "Urgent Relief Shipments" the state and county agencies took strong information safeguard precautions. Department of Energy (DOE) officials began releasing shipment related information to the media. While we support the public's right to know what their government is doing, we feel the release of this information on the 485-2

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## RESPONSE TO COMMENT
## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE

### *Response to Comment No. 485-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Ports of Wilmington, NC and Military Ocean Terminal, Sunny Point, NC, is noted. However, analysis in Section 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to these ports, or to any of the ports analyzed in the EIS, is low.

DOE is required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of the shipment of hazardous cargoes, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

DOE would continue to work with State and local officials to ensure that emergency response capabilities are adequate and that the communications channels between DOE and State and local governments remain open.

### *Response to Comment No. 485-2*

As discussed in Section 2.6.4.2 of the EIS, the NRC regulations concerning route notification are set forth in 10 CFR Part 73 . The regulation requires DOE to protect the schedules and itineraries of specific shipments, so DOE would not release this information to the news media.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

June 9, 1995
Page 2

movement of "weapons grade" spent nuclear fuel has the potential of severely compromising the security of the shipments. This information in the hands of terrorists or extremist groups creates a potential threat and necessitates implementation of security measures.

- If DOE intends to release information on the movement of this material we must insist that a State law enforcement agency provide necessary security and be reimbursed for this service. The North Carolina Highway Patrol has personnel highly trained in law enforcement, security and radiological response. The Highway Patrol is adequately equipped to provide both ground and aerial surveillance as well as radiological monitoring and armed security. 485-2 (Cont'd.)

•DOE in Volume 1 Section 2.7.5 of the Draft Environmental Impact Statement, (EIS) states that "Primary responsibility for emergency response to a foreign research reactor spent nuclear fuel incident would reside with local authorities.... Each corridor State or Tribe would be responsible for augmenting their existing emergency management and response plans and procedures with any foreign research reactor spent fuel specific information they felt were necessary. They would also provide personnel and equipment to take charge of a foreign reactor spent fuel emergency in the unlikely event one should occur." DOE infers, in Volume I Section 2.7.1 of the Draft EIS that, because of existing federal funding programs, State and local governments should be able to manage all-hazards on a day-to-day basis. We agree that States and local governments receiving federal emergency preparedness funds should have emergency management and response programs to manage all-hazards on a day-to-day basis when such hazards have existed and come within the context of the State and local governments "Hazard and Risk Analysis". We submit that, because the movement of this type hazardous cargo is a new hazard and potential risk to many local areas, these local governments should not be presumed to have adequate programs to deal with "weapons grade" spent nuclear fuel accidents or incidents. 485-3

•DOE should be required to develop and implement, in coordination with the Division of Emergency Management, an on-going program to provide technical and financial support to the Division of Emergency Management and to all emergency response agencies within a ten mile radius of the selected port and with ten miles either side of selected transportation routes within North Carolina. This technical and financial support would enable these agencies to develop emergency management plans, training programs and equipment resources to deal with this new hazard and potential risk being introduced by DOE.

If you need further information on this matter please contact Buddy Jackson of my staff at 733-2931.

## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

### *Response to Comment No. 485-3*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is discussed in Section 2.7.1 of the EIS. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

State of North Carolina
Department of Environment,
Health and Natural Resources
Legislative & Intergovernmental Affairs

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Henry M. Lancaster II, Director

DEHNR

MEMORANDUM

TO: Chrys Baggett

FROM: Bill Flournoy 137.

SUBJECT: Draft EIS, Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (SCH# 95-0772)

DATE: June 1, 1995

The N.C. Department of Environment, Health, and Natural Resources has reviewed the draft EIS for a proposed Nuclear Weapons Nonproliferation Policy concerning foreign research reactor spent nuclear fuel. These and the attached comments from divisions of this department constitute our formal response.

The draft EIS was found to be particularly deficient in its discussion of the low probability but high impact consequences of an accident with release of radiation. For example, the loss of a cask in deep water during transport or shallow water while in port was mentioned, but the release of radiation into those environments was not assessed. The ease of clean-up and the potential effects on the food chain and related marine environment should have been topics of assessment. 485-4

Further, as the list of potential ports-of-entry were screened down there was an opportunity to include more discrete analysis of each port's unique environmental and socioeconomic characteristics. The draft EIS did not take optimum advantage of this opportunity and significant considerations were left unaddressed. Again, an opportunity loss analysis could have been performed on the low probability but high impact consequences of an accident with release of radiation. Such analysis might further distinguish the relative suitability between the final list of potential ports. For example, what Threatened and Endangered Species might be exposed to a release of radiation; what special environments, such as primary or secondary nurseries, shellfish waters, or Outstanding Resource Waters, and what public trust/recreation resources might be contaminated? Likewise, each of these topics has a socioeconomic value to the culture, character, and economy of the area that can be measured to assess both the importance of these sectors to the stability of each area, and the relationship between potential ports-of-entry. 485-5

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## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

### *Response to Comment No. 485-4*

The radiological impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in deep ocean waters were estimated in the EIS (Appendix C, Section C.5). In that analysis it was assumed that the transportation cask seals would rupture if the cask were to sink in the deep ocean. If the cask is not recovered, the spent nuclear fuel eventually corrodes and all of the radioactive material eventually reaches the ocean environment. However, the results of this analysis show that both the consequences and the risk of this accident are low (Appendix C, Sections C.5.4 and C.5.5 of the EIS). Very little fishing or other harvesting of the deep ocean occurs due to difficulty of such an operation and to the relatively low populations of life in the deep ocean, so the food chain would be minimally impacted by an accident that resulted in the loss of a cask in the deep ocean.

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). The EIS (Section 4.2.1.3) has been revised to include DOE's intentions in regard to lost casks in U.S. coastal waters and elsewhere. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

### *Response to Comment No. 485-5*

The EIS does not consider the impacts on the discrete environmental or socioeconomic characteristics of each of the potential ports of entry because both the incident-free and the accident impacts were found to be negligible (Sections 4.2.2.2 and 4.2.2.3 of the EIS).

The severe port accidents discussed in Section 4.2.2.3 of the EIS, are all low-probability accidents involving the release of radioactive material, however the radiation dose consequences are not severe enough to be considered high-consequence accidents. In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the spent nuclear fuel transportation cask and distributed into the environment. However, the analysis of impacts also shows that the resultant contamination would be so small that no cleanup would be required in any of the ports or surrounding areas. The analysis also determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident. Section 4.2.2.3 and Appendix D, Section D.5 of the EIS detail the accident analysis and results.

Threatened and endangered species were considered on an individual port basis as part of the port selection process (Appendix D, Section D.1.9.6, Desirable Port Attributes). The desirable port attributes were used as discriminators for those ports that passed the five criteria used for port selection. Fernandina Beach, FL was removed from the selected candidate ports, in part, because of the presence of manatees.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

The operational issue of whether shipments should be made through a single port or several qualified ports was not discussed in this draft EIS or referenced from prior environmental documents. Given the purpose of the Nonproliferation Policy, sensitivity of the material in transit, and need for discretion there is a lot to be said for a multi port strategy. This is an issue that deserves consideration as a critical element of the overall policy and program. 485-5 (Cont'd.)

The draft EIS correctly focused on the issue of radiation, possible human exposure levels resulting from shipments, and related health effects. On the other hand, it was conspicuously weak in the breadth of documentation given to the affected environment which was viewed from the cold perspective of policy considerations, rather than as a living, functioning, and vulnerable ecosystem. In the process of showing that the proposed policy would have virtually inconsequential levels of impact regardless of which port(s) were utilized, the draft EIS lost the ability to distinguish between alternative ports. This ability can be regained through attention to the unique environmental and socioeconomic differences among the ports under consideration, as well as the opportunity loss implications of a low probability but high impact consequences of an accident with release of radiation. Such sensitivity analysis among ports will provide valuable information to decisionmakers about which port(s) are best suited for the proposed program. 485-6

BF:jr

Attachment

## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

DOE considers that there would be no significant adverse impacts on the natural resources or on the air and water quality at any of the ports that might be used to accept the material under the proposed policy of managing foreign research reactor spent nuclear fuel. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

The port selection process and results presented in Appendix D, Sections D.1.8 and D.1.9, of the EIS only indicate ports that would be acceptable for the receipt and handling of foreign research reactor spent nuclear fuel; it does not determine which ports would ultimately be used. While all ports, if they are selected by the selection criteria, would be equally acceptable, the commentor's preference for a multi port strategy will be considered among other factors in determining the port or ports to be used.

### *Response to Comment No. 485-6*

As discussed in Section 4.1.2 of the EIS, the detailed analysis of the potential environmental impacts presented in the Appendices of the EIS did not reveal any factor that would differentiate among alternatives. These factors include socioeconomic and ecology considerations for the ports considered. The emphasis on worker and public exposure to radiation is because of the public interest in that area.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Radiation Protection

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Dayne H. Brown, Director

DEHNR

MEMORANDUM

DATE: May 30, 1995

TO: Melba McGee
Environmental Review Coordinator

FROM: Johnny James

SUBJECT: Comments on the Draft Environmental Impact Statement (DOE/EIS-0218D March 1995) on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

My review of the Environmental Impact Statement (EIS) on the Foreign Research Reactor Spent Nuclear Fuel was primarily focused on the entry of shipments (ports) and/or transportation of the fuel through North Carolina on the routes to Savannah River Site (SRS) or other Department of Energy facilities. Most of the fuel would probably be shipped to the SRS. If you have any questions or need additional information please contact me.

Following is a list of the comments and questions I have on the Draft EIS:

1. Will a primary and a backup port be selected on the East coast for all the spent fuel shipments? Or, will several ports be selected to spread shipments to all ports? Will a port be selected that will result in the lowest cost per shipment? Will a port be selected on risk factors only? 485-7

2. If Military Ocean Terminal at Sunny Point (MOTSU) is selected as a port will commercial vessels be accepted for mixed cargo use? Are there any Department of Defense regulations at MOTSU that would preclude the use of normal commercial cargo vessels from docking without special clearance or arrangements? 485-8

3. If MOTSU is selected as a port would the number of shipments have an impact on the normal operation as a military port for both normal times and in national security situations (troop and supply buildup for potential military operations)?

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## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

### *Response to Comment No. 485-7*

The port selection process and results presented in Appendix D, Sections D.1.8 and D.1.9 of the EIS only indicate ports that are acceptable for the receipt and handling of foreign research reactor spent nuclear fuel; it does not determine which ports would ultimately be used. The decision as to which port(s) would be used in the case that foreign research reactor spent nuclear fuel is accepted into the United States, will be made in the Record of Decision. Many risk factors must be considered in determining the port to be used, including the population in the port and along the route to the management site and other public safety considerations. Only after consideration of applicable risks and public safety concerns may the cost per shipment of foreign research reactor spent nuclear fuel be used as a factor in the final port selection.

### *Response to Comment No. 485-8*

If MOTSU were selected as a port of entry for foreign research reactor spent nuclear fuel, either mixed use or dedicated ships could be used. No mixed use commercial vessels could be brought into a military base.

In addition, as stated in Appendix D, Section D.2.1.5 of the EIS, DOE is not aware of regulatory restrictions on receipt, handling, and transshipment of foreign research reactor spent nuclear fuel at MOTSU. Since the majority of cargoes handled at MOTSU are explosive, the terminal is laid out such that an explosion at one wharf will not seriously impact activities at an adjacent wharf. This would permit containerized spent nuclear fuel to be safely received and transported from the terminal even through there may be conflicting activities within the terminal. However, the unloading of spent nuclear fuel would be scheduled during periods when explosives were not being handled. Since MOTSU receives about 70 vessels per year on average, DOE considers that receipt of spent nuclear fuel at MOTSU would not impact the normal operation of the facility. Obviously, in times of national emergency where scheduled shipments of foreign research reactor spent nuclear fuel might conflict with MOTSU operations, alternate ports of entry would be selected.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

June 6, 1995

TO: Melba McGee

FROM: Dianne M. Reid

RE: Review of Draft EIS on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

I have reviewed the referenced document and found that they have addressed all the concerns indicated in the April 1994 review of the urgent-relief acceptance of foreign research reactor spent nuclear fuel. The one thing I would note for consideration is the location of Outstanding and High Quality Waters in the lower Cape Fear that could be directly affected should an accident occur. These areas include Masonboro Sound (Outstanding Resource Waters) and Walden Creek (High Quality Waters). These waters have excellent water quality and high resource values. There are also primary nursery areas and shellfishing waters downstream of the two North Carolina ports. If there are other ports which do not support these types of natural resources and excellent water quality areas, they should receive higher priority than the North Carolina ports. 485-14

cc: Monica Swihart
Steve Zoffaly
Bill Flournoy, Office of Policy and Development

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## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

***Response to Comment No. 485-14***

See the response to Comment 485-13 above.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

JAMES B. HUNT, JR.
GOVERNOR

R. SAMUEL HUNT III
SECRETARY

June 6, 1995

MEMO TO: Chrys Baggett, State Clearinghouse

FROM: Larry Sam, Assistant to State Highway Administrator

RE: 95-E-9000-0772
Draft EIS, Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

NCDOT's concern with any freight movement on the highway system includes the structural integrity of the roads and bridges over which the movements would occur, along with the safety of the motoring public and nearby residents in the vicinity of the route. The State Port at Wilmington and the Military Ocean Terminal at Sunny Point are discussed as possible ports of entry in the draft EIS. Both would appear to have transportation concerns.

The Wilmington Port does not have direct and easy access to high quality multi-lane highways. Freight movements have to travel city streets for some four miles to reach US Highways 74/76/17 (non-controlled access facilities) and eight miles on city streets to reach Interstate 40. Movements of heavy trucks, and particularly the heavier trucks envisioned in this proposal, could cause structural damage to these city streets as well as increase safety risks in an urban environment. 485-15

The report, on page D-74 of Volume 2, also seems to be misleading with respect to rail service. Norfolk Southern Railway has never served the Wilmington Port, and the intermodal TOFC and COFC facilities were closed down by CSX years ago. 485-16

Similar concerns exist with respect to the Military Ocean Terminal at Sunny Point. The report indicates the Sunny Point Terminal "is serviced by well-maintained roads", but dismisses the fact these are rural two lane roads requiring long connections to multi-lane controlled access highways. We are concerned with the impact that heavy truck movements might have on the structural integrity of these lower-level roadways and bridges. 485-17

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## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

### *Response to Comment No. 485-15*

See the response to Comment 485-11 above. Furthermore, DOE and its shipping contractor would review and comply with all State laws and regulations involving ground transport.

DOE considers that the transportation of foreign research reactor spent nuclear fuel would have about the same impact on the structural integrity of local roadways and bridges as the commercial transportation of gravel and cement. As discussed in Table B-14 in Appendix B of the EIS, transportation casks for foreign research reactor spent nuclear fuel weigh between 10.9 and 25.5 metric tons. Including the truck (an 18-wheeler), the total weight would be approximately 24 to 38 metric tons. For comparison, commercial ten-wheel sand and gravel trucks usually weigh almost 30 metric tons when fully loaded. Newer sand and gravel trucks which have an additional axle can weigh as much as 34 metric tons.

### *Response to Comment No. 485-16*

With regard to the intermodal TOFC (trailer-on-flat-car) and COFC (container-on-flat-car) facilities mentioned in the draft EIS, DOE thanks the Governor of North Carolina for this information and has updated the EIS to reflect it. Requested information received last year from the North Carolina State Ports Authority for the Port of Wilmington indicated a T.O.F.C./C.O.F.C. Area in the port which was assumed to be operational. Subsequent communication with the Port provided the clarifying information which has been incorporated into the EIS in Appendix D, Section D.2.1.10.

### *Response to Comment No. 485-17*

Truck access to interstates is presented in Appendix D, Section D.2.1.5, but does not address the concerns expressed by the North Carolina Department of Transportation. The discussion in the EIS has been modified to respond to those concerns. Also see the response to Comment 485-15 above.

## COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

Chrys Baggett
June 4, 1995
Page 2

It would seem appropriate to consider the ease with which these movements could be made from the port of entry to their final destination. Presumably, movement on an interstate type highway or a higher level rail line would offer the greatest degree of safety, security, and efficiency. Access to southbound Interstate 95, the most likely direction for these shipments, clearly is inconvenient from both Wilmington and Sunny Point. 485-15 (Cont'd.)

ls

cc: Secretary Sam Hunt
Garland Garrett
Larry R. Goode
Chris McAdams

## RESPONSE TO COMMENT COMMENTOR NO. 485: NORTH CAROLINA STATE CLEARINGHOUSE (CONT'D.)

## COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

June 15, 1995

Mr. Charles Head
Office of Environmental Management
US Department of Energy
1000 Independence Avenue SW
Washington DC 20585-0001

Dear Mr. Head

**Document NEPA Review -- "Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, DOE/EIS-0218D, Dated March 1995."**

The Tennessee Department of Environment and Conservation, DOE Oversight Division has received the above subject document. Review was conducted in accordance with the requirements of the National Environmental Policy Act (NEPA) and implementing regulations of 40 CFR 1500 -1508 and 40 CFR 1021.

We request the attached comments on the above document be given full consideration in the preparation of the Final Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

If you have any questions, please contact Dale Rector at (615) 481-0995 or Steve Nisley at (615) 481-0163.

Sincerely

Earl C. Leming, Director

Enclosure
cc w/Encl Brian Kelly, Governor's Office
Patricia W. Phillips, ORO NEPA Compliance Officer
Amy McCabe-Fitzgerald, LOC
Elgan Usrey, TEMA Nashville
Oak Ridge Environmental Peace Alliance em0253.11

## RESPONSE TO COMMENT COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

## COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

**Tennessee Department of Environment and Conservation/DOE Oversight Division**

**Comment on Document DOE/EIS-0211SD, "Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel."**

**General Comments**

1. Foreign research reactor spent nuclear fuel will be managed under the same alternative that is selected for management of DOE spent nuclear fuel. Therefore, the spent nuclear fuel Programmatic Environmental Impact Statement alternative selected by the "Record of Decision" should be identified in the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel Environmental Impact Statement. *498-1*

2. Summary, Figure S-16, page 48. 10 CFR 1021.311 "DOE National Environmental Policy Act (NEPA) Implementing Procedures," paragraph (d) requires a public scoping meeting including news releases to local media or letters to affected parties. A public scoping meeting for a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel Environmental Impact Statement was not held at Oak Ridge but was require prior to preparation of this document as the Oak Ridge Reservation is a candidate site for storage of the foreign research reactor spent nuclear fuel. Since Stakeholders in the Oak Ridge area were denied the opportunity for scoping input, the Oak Ridge Reservation should receive no further consideration as a storage site for foreign research reactor spent nuclear fuel. *498-2*

**Specific Comments**

1. Summary, Section 1.2, last paragraph, page 6. Provide information on how long host countries would have to convert and make arrangements for the disposition of their own LEU Provide information on the length of time for the SNF Management policy. *498-3*

2. Volume 1, Section 2.6.5.3.2 "Idaho National Engineering Laboratory," second paragraph, page 2-64. The sixth sentence of this paragraph states that ".....the Idaho National Engineering Laboratory could receive.....all of the TRIGA-type (Training, Research, Isotope, General Atomic) foreign research reactor nuclear fuel under the Regionalization by Fuel Type alternative (from the SNF PEIS)....." The reason that all TRIGA SNF (including aluminum clad) will go to INEL under the Regionalization by Fuel Type alternative is because SRS cannot process the uranium-zirconium hydride fuel compound contained in the TRIGA fuel. That reason should be explained in this section. *498-4*

1

## RESPONSE TO COMMENT COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

### *Response to Comment No. 498-1*

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory.

### *Response to Comment No. 498-2*

Based on the determination of potential management sites as discussed in response to Comment 498-1, no foreign research reactor spent nuclear fuel would be shipped to the Oak Ridge Reservation.

### *Response to Comment No. 498-3*

Policy duration is described in detail in Sections 2.2.1.1 and 2.2.2.2 of the EIS. Detail in the Summary was reduced for conciseness.

### *Response to Comment No. 498-4*

The reasons for segregating spent nuclear fuel by fuel type under the Regionalization By Fuel Type Alternative in the Department of Energy's Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement include more than just chemical separation expertise. Handling, inspection, canning, and storage expertise are also important, so a commitment to chemically separate was not a prerequisite for selecting this programmatic alternative. The selection criteria are discussed on Page 3-3 of Volume 1 of that EIS.

## COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

3. Volume 1, Section 3.3.4.1, second paragraph, page 3-96. The statement that the only active sinkhole at the Oak Ridge Reservation is on Copper Ridge adjacent to Melton Hill Dam is incorrect and should be revised as the ORR has numerous active sinkholes.

4. Volume 1, Section 3.3.4.3.2, second paragraph, page 3-99. The current conceptual model indicates the Oak Ridge Reservation as the most geologically complex of all DOE Sites. The groundwater conceptual model at the Oak Ridge Reservation is evolving from that of (Solomon et al., 1992) reference. The use of the terms aquitards and aquifers does not benefit decisions concerning environmental issues therefore the use of these terms should be omitted.

5. Volume 1, Section 3.3.4.5, page 3-103. Provide additional information on which endangered species are associated with the preferred habitat within the ORR boundaries.

6. Volume 1, Section 3.3.4.6, page 3-103. Provide a clarification of statement that alluvial and colluvial soil types eligible for classification as prime farmland are present on the West Bear Creek Valley site along Grassy Creek tributaries, and the statement that there are no onsite areas that are subject to Native American Treaty rights or that contain any prime or unique farmland.

498-5

7. Volume 2, Appendix B, note 2 at bottom of page B-3. TRIGA fuel is clad in "zircoloy" aluminum, or stainless steel. "Zircoloy" should be added to this note.

8. Volume 2, Appendix B, Section B.1.1.1 "Fuel Type", item 3 at top of page B-4. TRIGA fuel is clad in "zircoloy", aluminum, or stainless steel. "Zircoloy" should be added to this item.

9. Volume 2, Appendix B, Section B.1.3.5 "Rod-Type Design", pages B-14 through B-18. According to this section, TRIGA SNF is clad in aluminum, stainless steel, or zircoloy. Figure B-6 (on page B-17) show a "typical" TRIGA fuel element with stainless steel cadding. It should be noted at the bottom of the figure that TRIGA fuel elements can have aluminum, stainless steel, or zircoloy cladding.

498-6

10. Volume 2, Appendix F, Section F.4.4.2.1.8, second paragraph, page F-195. Oak and Hickory forest are "climax" succession species that do not grow as quickly as pine forests, a primary succession species. Provide a ratio of existing oak-hickory forest and pine-hardwood forest along with the proposed revegitation ratio.

498-5 (Cont'd.)

### Transportation Comments

1. All probable ground transportation routes should be identified in the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spend Nuclear Fuel Environmental Impact Statement.

498-7

2

## RESPONSE TO COMMENT COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

### *Response to Comment No. 498-5*

For the purpose of being accurate on information presented in the EIS, Sections 3.3.4.1, 3.3.4.3.2, 3.3.4.5, and 3.3.4.6 have been revised. With regard to Appendix F, Section F.4.4.2.1.8, the level of detail desired by the commentor is not required to determine the environmental impacts of the evaluated alternatives.

### *Response to Comment No. 498-6*

The commentor's use of the term zircoloy cladding is incorrect with regard to the TRIGA fuel elements. It may be that the commentor means incoloy cladding when mentioning zircoloy. Appendix B of the EIS has been revised to include the word incoloy when fuel cladding is mentioned.

### *Response to Comment No. 498-7*

There are too many possible ground transport routes to specify them all. DOE has presented representative routes in Appendix E, but these exact routes may not be the ones selected by DOE or approved by the NRC. The results presented in Appendix E and Section 4.2.3 of the EIS indicate that all the ground transport risks would be low along all the representative routes, so other routes would also be expected to have similarly low risks.

DOE agrees with this commentor's intent to minimize the inherent ground transport risks. One way DOE plans to minimize these risks is to minimize the total distance traveled. There may be specific cases, however, when DOE would choose to transport casks across the country.

## COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

2. Volume 1, Section 2.6.4, "Ground Transport Route Options and Route Identification Process", page 2-35 through 2-40. According to this section, foreign research reactor spent nuclear fuel could be delivered to a port on the opposite side of the country from its destination. This would result in excessive ground transportation of the SNF. In order to minimize inherent ground transportation risks, each shipment of foreign research reactor SNF should be delivered to a port near its destination. Accordingly, foreign research reactor SNF destined for Idaho National Engineering Laboratory (INEL) should be shipped to a west coast port. If a shipment contains SNF destined for both INEL and SRR, the ship should deliver SNF to ports at both coasts in order to minimize ground transportation. It should be explained in this section and other applicable sections how this will be accomplished. *498-7 (Cont'd.)*

3

## RESPONSE TO COMMENT COMMENTOR NO. 498: STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (CONT'D.)

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2100

LAWTON CHILES
Governor

LINDA LOOMIS SHELLEY
Secretary

June 16, 1995

Mr. Charles Head
U. S. Department of Energy
Office of Environmental Management (EM-37)
1000 Independence Avenue Southwest
Washington, DC 20585-0001

RE: Nuclear Waste Disposal Siting - Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel - Draft Environmental Impact Statement - Florida
SAI: FL9504170247CE

Dear Mr. Head:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Governor's Executive Order 93-194, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced project.

The Department of Energy's (DOE) draft Environmental Impact Statement (EIS) proposes adoption and implementation of a policy for management of spent nuclear fuel from foreign research reactors. This proposal is intended to reduce the potential for the proliferation of nuclear weapons by storing and managing spent nuclear fuel containing highly enriched uranium in the United States.

In response to the DOE's request for comment, the state has reviewed the draft EIS containing three management alternatives which identifies ten potential ports of entry for the receipt of the spent nuclear fuel. The City of Jacksonville, Florida is identified as a potential port. While the state supports the government policy on nonproliferation of nuclear weapons, we are concerned about the potential adverse environmental impact of bringing the spent fuel into the Jacksonville area. 527-1

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

### *Response to Comment No. 527-1*

The analysis in the EIS indicates that there would be no significant adverse impacts on the natural resources or on the air and water quality at any of the ports that might be used to receive the foreign research reactor spent nuclear fuel. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 30 years of spent nuclear fuel shipments, no radioactive material has ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the cask and distributed into the environment. However, the analysis in Section 4.2.2.3 and Appendix D, Section D.5 determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident. Close in to the accident, near the transportation cask would likely require some cleanup, but the overall impact on water supplies and air quality, and therefore wildlife, in the port and its approaches would be low.

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

Mr. Charles Head
June 16, 1995
Page Two

The Department of Environmental Protection (DEP) and the St. John's River Water Management District (SJRWMD) have expressed major concern regarding the potential for damage to the St. John's River and the Timucuan Ecological and Historic Preserve. Jacksonville is physically located on the lower St. John's River. The lower boundaries of the preserve extend from the mouth of the river and include the river within the preserve which terminates at Blount Island. Therefore, a ship docking at Blount Island would have to travel through the Timucuan Preserve.

The river and the preserve have long been the focal point of state efforts to protect the water resources, endangered and threatened species and habitats in the areas. The lower St. John's is one of six project areas for the State's Ecosystem Management Program; is one of the original state Surface Water Improvement and Management project areas; and is being considered for funding through the EPA's National Estuary Program.

The Timucuan Preserve is an immense estuarine system which includes 46,000 acres of salt marsh grasses, waterways and wooded islands. Recently, the Department of the Interior and the National Park Service proposed a cooperative management option to share responsibilities of the preserve among federal, state, local, and private entities. The area provides habitats for many threatened and endangered species, including the West Indian manatee, bald eagle, wood stork, shortnose sturgeon and Atlantic sturgeon. The preserve has also been designated as Class II waters of the state because of the substantial spawning grounds for fish and invertebrates suitable for shellfish harvesting.

Should Jacksonville be selected as the receiving port, the state is particularly concerned about the potential for accidental release of radioactive materials and its detrimental impacts upon the manatees, sea turtles and right whales which inhabit the area. In addition, it must also be emphasized that the residents of the Jacksonville area and the entire state depend almost entirely upon ground water for drinking water supplies, making the protection of our aquifer system of critical importance. 527-1 (Cont'd.)

To minimize the distance necessary for overland transport, and the possibility of accidents, the DOE is strongly encouraged to select the port in closest proximity to the storage site(s). 527-2 However, if the DOE selects Jacksonville as the port of entry, the final EIS should contain a discussion of the difficulty of navigating the St. Johns River, and a detailed comparison of the navigational risks posed at each of the candidate ports. In 527-3

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

### *Response to Comment No. 527-2*

The distance from the port to the management site(s) is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations such as port population, route population, port experience with handling containers, and access to the ocean would also be considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

### *Response to Comment No. 527-3*

Regarding navigation of the St. Johns River, see response to comment 527-4 below.

As discussed in the response to comment 527-4 , the spent nuclear fuel transportation casks are unlikely to affect the air or water quality. For this reason, there would be no impact on the water supplies, marine, estuarine, aquatic or uplands areas surrounding Jacksonville.

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

Mr. Charles Head
June 16, 1995
Page Three

addition, the EIS should also be revised to more thoroughly describe the affected environment and the potential impacts to those areas, including water supplies, and marine, estuarine, aquatic and upland areas surrounding Jacksonville and along potential transportation routes to the storage site. 527-3 (Cont'd.)

The DEP and SJRWMD letters of June 5, 1995, are enclosed for your review. We appreciate the opportunity to review the draft EIS, and look forward to working with you on the issue in the future.

Very truly yours,

for Mary Anne Price
Linda Loomis Shelley
Secretary

LLS/cmk

Enclosures

cc: Virginia Wetherell, Department of Environmental Protection
Carliane Johnson, Department of Environmental Protection
Margaret Spontak, St. John's River Water Management District

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

Department of
Environmental Protection

JUN 28 1995

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

June 5, 1995

RECEIVED
JUN 9 1995
Florida Coastal
Management Program

Suzanne Traub-Matlay
State Clearinghouse
Office of Planning and Budgeting
Executive Office of the Governor
The Capitol
Tallahassee, Florida 32399-0001

RE: Department of Energy/Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel
SAI: FL9504170247C

Dear Ms. Traub-Matlay:

The Department has reviewed the referenced draft Environmental Impact Statement (EIS) pertaining to the management alternatives of foreign research reactor spent nuclear fuel to processing facilities in the United States. The document identifies ten potential ports of entry for the receipt of the spent nuclear fuel and Jacksonville, Florida is listed as one candidate port.

The Department reviewed a prior EIS for spent nuclear fuel (SAI FL9402100081C) which evaluated seven different ports, including Jacksonville (see attached letter). We continue to have these same general concerns and offer the following additional comments:

1. The lower boundaries of the Timucuan Ecological and Historic Preserve extend from the mouth of the St. Johns River and includes the river within the preserve which terminates at Blount Island. For a ship to dock at Blount Island it must travel through the preserve.

The Timucuan Ecological and Historic Preserve was established by Public Law 100-249 on February 16, 1988. The Department of the Interior and the National Park Service have recently proposed a cooperative management option to share the responsibilities of the preserve among federal, state, local, and private entities. The Department of Environmental Protection is interested in this cooperative management endeavor and has an ecosystem-wide interest in the protection of the Timucuan Preserve. 527-1 (Cont'd.)

The preserve includes 46,000 acres of salt marsh grasses, waterways and wooded islands. It is a vast estuarine system between the Nassau and St. Johns Rivers and the Atlantic Ocean.

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## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

JUN 28 1995

Ms. Traub-Metlay
June 2, 1995
Page Two

Blount Island is on the southwest border of the preserve. Much of the salt marsh is among the least disturbed on the southern Atlantic Coast. Many resident, migratory and rare species rely on the important habitats in the preserve. The preserve also provides important spawning grounds for fish and invertebrates and is designated as Class II waters of the State, suitable for shellfish harvesting. Many threatened and endangered species utilize the preserve's resources including: the West Indian manatee, bald eagle, wood stork, shortnose sturgeon and Atlantic sturgeon. 527-1 (Cont'd.)

Although the draft EIS states that accidents are rare, this unique and sensitive coastal ecosystem should be adequately protected from any potential releases of chemical contamination.

2. The accidental release of radioactive materials could also adversely affect manatees, sea turtles and right whales. Manatees are regularly present in the Jacksonville area including the surrounding estuaries and the St. Johns River system. Sea turtles utilize the beaches for nesting throughout Florida including the Jacksonville area. Right whales are prevalent in the northeastern region of Florida, particularly during winter months, and they utilize the waters off the eastern coast of the U.S. throughout the year.

3. The draft EIS states that the St. Johns River is difficult to navigate which could increase the possibility of accidents. Strong tidal currents could exacerbate the problem if an accident did occur in which there is a loss of cargo. The EIS should make a detailed comparison of the navigational risks posed at each of the candidate ports. 527-4

4. It seems most logical to designate a port as close as possible to the storage site(s) at Savannah River Plant and Oak Ridge National Laboratory to minimize the distance necessary for overland transport. A road or rail accident has the potential to directly affect the citizen population, the upland environment, surface waters and groundwater. It would also be preferrable to designate a port with the most previous experience in handling spent nuclear waste. 527-5

5. If overseas transport is to be used, the cargo should be shipped on vessels of the safest design possible to minimize environmental and health risks to the greatest extent possible. 527-6

If Jacksonville is selected as the preferred location to receive spent nuclear fuel, the EIS should be revised to more thoroughly describe the affected environment and the potential impacts to those areas. This would include the marine, estuarine,

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

### *Response to Comment No. 527-4*

The passage from open ocean up the St. Johns River to the terminals operated by the Jacksonville Port Authority meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS). As noted in the EIS, both terminals serve a number of major general cargo and container ship lines from around the world. Favorable transit from open ocean is only one of the considerations in evaluating and selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations such as port population, along the route to the management site, port experience with handling containers, and port facilities have also been considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered even where tidal currents may be strong. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

### *Response to Comment No. 527-5*

The risk due to ground transport does increase as the travel distance increases and this effect was taken into account in the traffic risk calculations that are presented in Section 4 and Appendix E of the EIS. In all cases the risks were found to be low.

As discussed in Appendix D, Section D.1 of the EIS, independent maritime safety experts have informed DOE that any modern breakbulk or container terminal can accommodate the safe receipt, handling, and transshipments of foreign research reactor spent nuclear fuel. Thus, previous port experience in handling nuclear materials is not necessary.

### *Response to Comment No. 527-6*

Appendix C, Section C.3.1.2 of the EIS discusses types of ships that could be used, including purpose-built ships designed specifically for the transport of spent nuclear fuel. While the specific risks of using purpose-built ships were not analyzed, Section 4.2.1.3 of the EIS analyzes and compares the impacts of using either commercial or chartered (which includes purpose-built ships) shipping. This section demonstrates that, although there are differences between them, both would have low environmental effects and low risks. The Record of Decision will state the type(s) of ships to be used, if foreign research reactor spent nuclear fuel is to be accepted into the United States.

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

Ms. Traub-Metlay
June 2, 1995
Page Three

aquatic, and upland areas surrounding Jacksonville and along potential transportation routes to the storage site. On consideration of this information and the issues addressed above, the Department can evaluate the consistency of designating Jacksonville with its authorities in the Florida Coastal Management Program.

If I can be of further assistance, please feel free to contact me at (904) 487-2231.

Sincerely,

Carliane D. Johnson
Environmental Specialist
Office of Intergovernmental Programs

/cdj
cc: Jan Brewer
Roxane Dow
Ed Irby
Frank Votra

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Henry Dean, Executive Director
John R. Wehle, Assistant Executive Director
Charles T. Myers III, Deputy Assistant Executive Director

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
TELEPHONE 904/329-4500 SUNCOM 904/860-4500
TDD 904/329-4450 TDD SUNCOM 860-4450
FAX (EXECUTIVE/LEGAL) 329-4125 (PERMITTING) 329-4315 (ADMINISTRATION/FINANCE) 329-4508

FIELD STATION

318 E. South Street, Orlando, Florida 32801, 407/897-4300, TDD 407/897-4400
7775 Baymeadows Way, Suite 102, Jacksonville, Florida 32256, 904/730-6270, TDD 904/730-7400
PERMITTING: 305 East Drive, Melbourne, Florida 32904, 407/984-4940, TDD 407/723-5364
OPERATIONS: 2133 N. Wickham Road, Melbourne, Florida 32935-6109, 407/254-1762, TDD 407/254-1303

June 5, 1995

Ms. Suzanne Traub-Metlay
Florida State Clearinghouse
Executive Office of the Governor - OPB
Room 1603, The Capitol
Tallahassee, FL 32399-0001

28

Re: SAI # FL 9504170247C
Name of Project: Draft Environmental Impact Statement on Foreign Research Spent Nuclear Fuel

Dear Ms. Traub-Metlay:

The staff of the St. Johns River Water Management District has reviewed the document listed above for consistency with Chapter 373, Florida Statutes and offer the following comments.

The proposal outlines various policy alternatives for managing foreign research spent nuclear fuel including alternatives that involve transporting and storing foreign fuel in the U.S. vs Management of the spent nuclear fuel overseas. In general, it would appear the management alternative 2 or 3 would be in our best interest to insure protection of the United States natural and human resources. Just the transporting of such fuels would greatly increase the potential for accidents. 527-7

More specifically, one of the proposed ports is Jacksonville, Florida. Jacksonville is situated on the lower St. John's River, an area that has been prioritized by many state and regional agencies as a significant surface water body. The Lower St. John's River is one of six project areas for the State's Ecosystem Management Program. It is one of the original state Surface Water Improvement and Management (S.W.I.M.) project areas based on environmental and economic importance. Currently, the area is being considered for funding through EPA's National Estuary Program (N.E.P). The District would be glad to furnish more specific information of this priority water body at your request.

Special considerations would have to be taken in transporting of the fuels from the port in Jacksonville to the storage site in Savannah. Because residents in Florida depend almost entirely on ground water for drinking water supplies, the protection of our aquifer system is vitally important. I have enclosed a copy of our most recent aquifer recharge map for your assistance. Only a few areas in the vicinity of the Northeast Interstate I-95 system are in low recharge (0-4 inches per year). 527-8

Patricia T. Harden, CHAIRMAN, SANFORD
William Segal, VICE CHAIRMAN, MAITLAND
Don Roach, TREASURER, FERNANDINA BEACH
Ola Mason, SECRETARY, ST. AUGUSTINE
Kathy Chinoy, JACKSONVILLE
Griffin A. Greene, VERO BEACH
James H. Williams, OCALA
Reid Hughes, DAYTONA BEACH
James T. Swann, ORCHA

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

### *Response to Comment No. 527-7*

The commentor's preference for Management Alternative 2 or 3 is noted. These are discussed in Sections 2.3, 2.4, 4.4, and 4.5 of the EIS.

### *Response to Comment No. 527-8*

The commentor's concern for the protection of drinking water supplies is noted. The chance of a cask carrying foreign research reactor spent nuclear fuel crashing in an aquifer recharge area in northeast Florida is very low. Even if such an accident did occur, however, the cask would be expected to survive the crash without releasing any of its radioactive contents. (Appendix B, Section B.2 and Section 2.6.2 of the EIS.)

## COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

Page 2
SAI# 9504170247C

JUN 28

In addition to ground water protection, the northeast area contains many regionally significant habitat areas which are depicted on the enclosed map. These areas should be considered when establishing transportation routes, etc. A more detailed map with supporting information is available. The Florida Game & Fresh Water Fish Commission can provide you with a detailed study indicating their strategic habitat areas and a listing of endangered species for this region. 527-8 (Cont'd.)

This letter does not constitute or substitute for a permit review. Permit reviews require more specific information.

Please feel free to have the Department of Energy staff contact us for further assistance on this important project at (904) 329-4374.

Sincerely,

Margaret Spontak, Director
Division of Policy and Planning

Enclosure

MS/ac

## RESPONSE TO COMMENT COMMENTOR NO. 527: STATE OF FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS (CONT'D.)

## COMMENTOR NO. 541: THE RESOURCES AGENCY OF CALIFORNIA

**The Resources Agency**

Pete Wilson
*Governor*

Douglas P. Wheeler
*Secretary*

**of California**

California Conservation Corps • Department of Boating & Waterways • Department of Conservation
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Water Resources

June 19, 1995

U. S. Department of Energy
Office of Environmental Management (EM-37)
ATTN: Charles Head
1000 Independence Avenue, S.W.
Washington, DC 20585-0001

Dear Mr. Head:

The State has reviewed the Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, submitted through the Office of Planning and Research.

We coordinated review of this document with the Air Resources, California Integrated Waste Management, and San Francisco Bay Regional Water Quality Control Boards; the Energy Resources, Conservation & Development, Public Utility, and State Lands Commissions; and the Departments of Fish and Game, Health Services, and Transportation.

None of the above-listed reviewers has provided a comment regarding this document. Consequently, the State will have no comments or recommendations to offer. 541-1

Thank you for providing an opportunity to review this project.

Sincerely,

for James T. Burroughs
Deputy Secretary and General Counsel

cc: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
(SCH 95054003)

The Resources Building Sacramento, CA 95814 (916) 653-5656 FAX (916) 653-8102

California Coastal Commission • California Tahoe Conservancy • Colorado River Board of California
Energy Resources, Conservation & Development Commission • San Francisco Bay Conservation & Development Commission
State Coastal Conservancy • State Lands Commission • State Reclamation Board

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## RESPONSE TO COMMENT
## COMMENTOR NO. 541: THE RESOURCES AGENCY OF CALIFORNIA

***Response to Comment No. 541-1***

Satisfactory completion of the reviews of the draft EIS by environmental agencies of the State of California is noted. A copy of this final EIS will be provided to the Resources Agency of California, Office of Planning and Research.

## *Commentor No. 551: State of Idaho Office of the Attorney General*

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL
Statehouse, Room 210
P. O. Box 83720
BOISE 83720-0010

ALAN G. LANCE
ATTORNEY GENERAL

Telephone: (208) 334-2400
Fax: (208) 334 2530

Criminal Law Division
Fax: (208) 334-2942

Natural Resources Division
Fax: (208) 334-2690

June 20, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: State of Idaho Comments on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The State of Idaho submits for consideration the following comments on the Department of Energy's Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (Draft FRR EIS).

In general, the portions of the document that deal with the transportation of spent nuclear fuel (SNF) to the Idaho National Engineering Laboratory (INEL) and storage at that site build on the analyses presented in the Programmatic SNF/INEL Environmental Restoration and Waste Management EIS issued by the Department in April 1995. The State of Idaho submitted extensive comments to the Department on the Draft SNF/INEL EIS. However, the Final SNF/INEL EIS did not adequately address Idaho's comments and the matter is now before the court. To that extent, we will not repeat our concerns in this comment letter, except to reiterate that the analysis associated with SNF transportation and storage alternatives is inadequate. *551-1*

In the past, the State of Idaho has also commented on the advisability of accepting SNF from foreign research reactors. These comments focused on the fact that the Department does not have the ability to handle its own wastes. This situation has not improved. Department sites, such as the INEL, have a legacy of environmental problems requiring cleanups which will not be completed for many years. The timing

## *Response to Comment Commentor No. 551: State of Idaho Office of the Attorney General*

### *Response to Comment No. 551-1*

As this comment states, DOE has already responded to the State of Idaho's comments on spent nuclear fuel transportation and storage alternatives in the Programmatic SNF and INEL Draft EIS, so DOE will not repeat them here. This comment does not contain any specific references to the foreign research reactor spent nuclear fuel EIS, so DOE cannot respond in specific terms.

## COMMENTOR NO. 551: STATE OF IDAHO OFFICE OF THE ATTORNEY GENERAL (CONT'D.)

Charles Head
June 20, 1995
Page 2

and adequacy of the Department's clean-up efforts have been put in further jeopardy by recent Congressional efforts to balance the country's budget. 551-1 (Cont'd.)

In addition, the Department does not have a permanent solution for the storage of SNF. The Department has not made any significant progress toward gaining approval for Yucca Mountain or any other permanent repository for SNF. In fact, given the current political climate, it is unlikely that Yucca Mountain will ever be opened.

The Department should solve its own nuclear waste storage and disposal problems before it gratuitously agrees to accept spent fuel from other countries, particularly those with proven ability to handle and control spent fuel consistent with our nation's nuclear nonproliferation policy. Until the Department has a permanent storage solution for SNF and can resolve the existing environmental problems at the sites proposed for "interim" storage, the Department should not permit additional material to be stored at those sites. 551-2

Sincerely,

Kathleen E. Trever

KATHLEEN E. TREVER
Deputy Attorney General
Natural Resources Division

KET/pb

cc: Bob Ferguson, INEL Oversight Program Administrator
Jeff Schrade, Office of Governor Batt

15171nka

## RESPONSE TO COMMENT COMMENTOR NO. 551: STATE OF IDAHO OFFICE OF THE ATTORNEY GENERAL (CONT'D.)

### *Response to Comment No. 551-2*

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

## *Commentor No. 576: The Texas Office of State-Federal Relations*

THE TEXAS OFFICE
OF STATE-FEDERAL RELATIONS

122 C STREET, N.W., SUITE 200
WASHINGTON, D.C. 20001
(202) 639-0027
FAX (202) 628-1941

201 E. 14TH STREET, SUITE 500
AUSTIN, TEXAS 78701
(512) 463-1003
FAX (512) 463-1094

June 13, 1995

Mr. Charles Head (EM-37)
U.S. Dept of Energy/Ofc Spent Nucler Fuel
1000 Independence Avenue, SW
Washington, D.C. 20585

RE: TX-R-95-05-01-0001-50-00
DRAFT EA/PROPOSED NUCLEAR WEAPONS NONPROLIFEATION

Dear Mr. Head:

Your environmental impact statement for the project referenced above has been reviewed. No substantive comments were received. *576-1*

We appreciate the opportunity afforded to review this document. Please let me know if we can be of further assistance.

Sincerely,

T. C. Adams, State Single Point of Contact

TCA//yjy

## *Response to Comment Commentor No. 576: The Texas Office of State-Federal Relations*

***Response to Comment No. 576-1***

The reviewer's satisfactory evaluation of the draft EIS is noted. A copy of the final EIS will be forwarded to the Texas Office of State-Federal Relations.

## COMMENTOR NO. 688: WASHINGTON STATE REPRESENTATIVE SCOTT SMITH

STATE REPRESENTATIVE
2nd DISTRICT
SCOTT SMITH

Washington
House of
Representatives

FINANCIAL INSTITUTIONS & INSURANCE
VICE CHAIRMAN

EDUCATION

LAW & JUSTICE

June 20, 1995

Department of Energy
Attn: Mr. Charles Head
Office of Spent Nuclear
Fuel Management (EM-37)
1000 Independence Avenue
Washington D.C. 20585

Dear Mr. Head:

I want to voice strong opposition to the proposed shipping of nuclear fuel through the Port of Tacoma in Washington State. Not one person in the 2nd Legislative District is in favor of this proposal, and I am in opposition to it personally as well. *688-1*

Thank you for your time and attention to this matter.

Sincerely,

Scott Smith

Representative Scott Smith
2nd Legislative District

SS/tt

cc: Mr. Patrick O'Malley
President of Port Commissioners
Port of Tacoma

LEGISLATIVE OFFICE: 413 JOHN L. O'BRIEN BUILDING, PO BOX 40600, OLYMPIA, WA 98504-0600 • (360) 786-7912
HOTLINE DURING SESSION: 1-800-562-6000 • TDD: 1-800-635-9993

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## RESPONSE TO COMMENT COMMENTOR NO. 688: WASHINGTON STATE REPRESENTATIVE SCOTT SMITH

### *Response to Comment No. 688-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 689: WASHINGTON STATE REPRESENTATIVE GRANT O. PELESKY

STATE REPRESENTATIVE
25th DISTRICT
GRANT OWEN PELESKY

State of Washington House of Representatives

APPROPRIATIONS
VICE CHAIRMAN
EDUCATION
FINANCIAL INSTITUTIONS & INSURANCE

June 21, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Mgt (EM-37)
U.S. Dept. of Energy
1000 Independence Ave.
Washington, D.C. 20585

Dear Mr. Head,

As you know, ours is a government of, by and for the people. As a Representative of the 25th Legislative District of Washington State, I am compelled to write regarding shipments of nuclear spent fuel through the Port of Tacoma. 689-1

Via resolutions of the Pierce County Council, The Port Commission of Tacoma, and citizen input, it is abundantly clear that said shipments of spent fuel through the port do not have the consent of the governed.

It is my further belief that shipment of spent fuel without the consent of the governed would exemplify federal overreach as defined in the 10th Amendment to the United States Constitution.

As a legislator familiar with sensitive public issues, I am convinced that alternative #2 of the Draft Environmental Impact Statement is the only acceptable solution. Finally, The United Kingdom is willing to accept the material at a cost savings to us. Please feel free to contact me if you would like to discuss this matter further. 689-2

Respectfully,

Grant Pelesky

Rep. Grant O. Pelesky
State Representative
25th District

cc: Patrick O'Malley, President
Mike Fletcher, Commissioner
Mr. Leonard Sanderson, Mayor
Mr. John Komen, Editor, TNT
Mr. George Pica, Editor, Pierce County Herald

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## RESPONSE TO COMMENT COMMENTOR NO. 689: WASHINGTON STATE REPRESENTATIVE GRANT O. PELESKY

### *Response to Comment No. 689-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 689-2*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 690: WASHINGTON STATE REPRESENTATIVE DEBBIE REGALA

STATE REPRESENTATIVE
27th DISTRICT
DEBBIE REGALA

State of
Washington
House of
Representatives

NATURAL RESOURCES
ASSISTANT RANKING MINORITY

CAPITAL BUDGET

AGRICULTURE & ECOLOGY

June 23, 1995

Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Ave SW
Washington, D.C. 20505

Dear Mr. Head;

As a Washington State Representative, representing Tacoma, Fife and the Puyallup Indian Tribe, I am writing to express my strong opposition to the proposal to bring shipments of high level nuclear waste through the Port of Tacoma.

Bringing these shipments to the Port of Tacoma would mean transporting these wastes through Puget Sound; a major population center extending from Everett to Olympia. Puget Sound is also a highly important and fragile eco-system. Several areas in this waterway are so deep that retrieval of any casks lost overboard would be impossible. With 721 shipments planned, an accident is not impossible and one accident would be devastating. A shipboard fire would expose millions of people to potential health risks. *690-1*

Transport by rail or truck from the Port of Tacoma to any possible storage sites would also require the shipments to pass though large population areas. It should be noted the most likely highway route contains the 4th most congested highway corridor in the United States. *690-2*

Although the Port of Tacoma has highly trained longshoremen, they are not trained in handling spent nuclear fuel. In fact our longshoremen have strongly expressed their refusal to handle such shipments. Neither the Port nor the City of Tacoma have adequate resources to respond in an emergency involving this type of hazardous material. A military port where such worst-case scenario training and resources are available seems a more appropriate port of entry. *690-3* *690-4*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 690: WASHINGTON STATE REPRESENTATIVE DEBBIE REGALA

### *Response to Comment No. 690-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

All of the population in the area of the port, including the population in close proximity of the terminal, was considered when the effects of possible accidents were calculated (Appendix D, Section D.5 of the EIS). These calculations demonstrate that the risk from accidents to all individuals is not significant. However, on the issue of air and water quality as it pertains to the proposed policy of managing foreign research reactor spent nuclear fuel, DOE considers that there would be no significant adverse impacts to any of the ports that might be used to receive the material. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. In the unlikely event of a severe accident, the analysis performed for the EIS indicates that some radioactive material could be released from the cask and distributed into the environment. However, the analysis also shows that the resultant contamination is so small that no cleanup would be required in any of the ports or surrounding areas. Close to the accident, near the casks would likely require some cleanup, but the overall impact on the water and air quality in the port would be very small. Section 4.2.2.3 and Appendix D, Section D.5 of the EIS detail the accident analysis and results.

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1000 feet). Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5).

### *Response to Comment No. 690-2*

DOE acknowledges the population density and the congestion on the highway corridor near Tacoma. However, the approach taken in the EIS to risk assessment adequately considers local conditions and accident patterns.

## COMMENTOR NO. 690: WASHINGTON STATE REPRESENTATIVE DEBBIE REGALA (CONT'D.)

During the hearing on June 19, it was stated that France, Japan and the United Kingdom were all willing to accept these materials and that reprocessing was possible in Scotland. The United States, however, does not have that capability. I believe alternative 2 provides a more reasonable and less costly solution. 690-5

In reviewing the screening criteria for evaluation of ports, there are serious questions about the Port of Tacoma in at least 5 areas. The citizens of this area have studied the DEIS and have expressed their concern with the adequacy of that document. They have also expressed their strong objection to further consideration of this proposal by the Department of Energy. As their Representative, I echo that objection.

Sincerely,

Debbie Regala

DEBBIE REGALA
State Representative
27th Legislative District

DR:laf

## RESPONSE TO COMMENT
## COMMENTOR NO. 690: WASHINGTON STATE REPRESENTATIVE DEBBIE REGALA (CONT'D.)

The frequency of accidents on highways has been taken into account in all the ground transport risk estimates in the EIS. As discussed in Section 4.2.3 and Appendix E of the EIS, spent nuclear fuel has been transported along highways, railways, and waterways for over 40 years without release of the radioactive contents from the spent nuclear fuel transportation cask.

The population along all representative truck transport routes was taken into account in the calculations of ground transport risks. In all cases the risk was found to be low. This subject is discussed further in Section 4.2.3 and Appendix E of the EIS.

***Response to Comment No. 690-3***

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the casks used to transport it would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in approved standard shipping containers; experience with handling containers is sufficient. Therefore, no special training of longshoremen is required.

There is a maximum allowable radiation dose rate of 200 mrem per hour, however, this limit is on the dose rate at the surface of the transportation cask, which would be inside of the container. The maximum radiation dose rate limit of interest to those that would be near the container, such as longshoremen, is 10 mrem per hour at a distance of 2 meters from the surface of the container (both dose rate limits come from regulation 49 CFR 173). The actual total dose that a longshoreman would get handling a cask would be quite small due to the fact that a handler would not be present at the surface of the container for long and the total time near the cask would be quite short. Appendix D, Section D.4.3.2.1 of the EIS provides the time/distance analysis of cask handling, Appendix D, Section D.4.5 presents the resulting doses and risks, and Appendix F, Section F.5 presents an evaluation of the dose rates from a transportation cask containing research reactor spent nuclear fuel. The maximum allowable exposure for port workers would be 100 mrem per year, the same radiation dose limit established by the NRC to protect individual members of the public (Section 4.2.2.2 of the EIS). As the EIS demonstrates, both the dose and dose rate for the port workers would be low.

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE-sponsored meetings, informal discussions, and informational materials.

RESPONSE TO COMMENT
COMMENTOR NO. 690: WASHINGTON STATE REPRESENTATIVE DEBBIE REGALA (CONT'D.)

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

***Response to Comment No. 690-4***

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without the additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all of the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference of the use of military ports is noted.

***Response to Comment No. 690-5***

The commentor's preference for overseas reprocessing is noted. This is Management Alternative 2, Subalternative 1b, which is discussed in Sections 2.3 and 4.4.2 of the EIS.

## COMMENTOR NO. 818: WASHINGTON STATE SENATORS MARC GASPARD AND LORRAINE WOJAHN

**Washington State Senate**

June 19, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Ave. S.W.
Washington, D.C. 20585

Dear Mr. Head:

We strongly oppose any shipment of high-level nuclear waste through the Port of Tacoma and urge you to eliminate the port from your list of possible entry sites.

High-level nuclear waste is extremely radioactive and a spill, cask rupture, or shipboard fire would have disastrous consequences for our entire region. This deadly fuel would have to be transported through our waters, unloaded by port longshoremen, and then trucked through city streets and highways to its final destination. With more than 721 shipments scheduled to move through the Port over 13 years, the public safety and environmental risks are huge and, we believe, unacceptable. 818-1

Additionally, we think the draft environmental impact statement prepared by the federal government is incomplete and inaccurate. It is based on outdated information about the port and its terminals, and fails to adequately address critical security and cleanup concerns.

For these reasons we respectfully urge you to reject the Port of Tacoma site and select a port in a less densely populated area.

Sincerely,

Sen. Marc Gaspard
Senate Majority Leader
25th District

Sen. Lorraine Wojahn
Senate President Pro Tempore
27th District

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## RESPONSE TO COMMENT
## COMMENTOR NO. 818: WASHINGTON STATE SENATORS MARC GASPARD AND LORRAINE WOJAHN

### *Response to Comment No. 818-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, Sections 4.2.2 and 4.5 of the EIS demonstrate that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low. The analysis of impacts associated with an accident involving foreign research reactor spent nuclear fuel also determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 of the EIS).

Foreign research reactor spent nuclear fuel in a transportation cask cannot spill because it is solid metallic fuel and is shipped dry. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident.

In regard to the EIS being based on outdated and inaccurate information, errors have been found in the draft EIS, including some of the information on the Port of Tacoma and the associated map. Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. All of these errors have been corrected in the final EIS, and the conclusion that the risks associated with accepting foreign research reactor spent nuclear fuel into the United States through Tacoma, or any of the other candidate ports, are low and would result in low impacts is still valid. The population data used in the analyses, which was verified as being correct, were based on the 1990 census.

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

The general security provisions are provided in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

## COMMENTOR NO. 942: WASHINGTON STATE REPRESENTATIVE VELMA VELORIA

STATE REPRESENTATIVE
11th DISTRICT
VELMA VELORIA

State of
Washington
House of
Representatives

STATE GOVERNMENT
VICE CHAIR
HEALTH CARE
COMMERCE & LABOR

June 27, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
US Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

I am very concerned about the shipment of Nuclear Spent Fuel through the Port of Tacoma.

As a member of the National Environmental Justice Advisory Council, US EPA (NEJAC), I am very much aware of the pollution and health risks involved in moving nuclear materials

I am deeply troubled at the lack of understanding by the Department of Energy of the Port of Tacoma terminals, water depth, population and environment, that Commencement Bay is a superfund site, and other serious concerns as stated in the Port of Tacoma Resolution no. 95-16. I support this resolution and ask that you recognize the problems involved in considering the Port of Tacoma as a shipment site for nuclear spent fuel. 942-1

Thank you for your consideration.

Sincerely,

Velma Veloria
State Representative
11th District

LEGISLATIVE OFFICE: 403 JOHN L. O'BRIEN BUILDING, PO BOX 40622, OLYMPIA, WA 98504-0622 • (206) 786-7862
HOTLINE DURING SESSION: 1-800-562-6000 • TDD: 1-800-635-9993
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## RESPONSE TO COMMENT COMMENTOR NO. 942: WASHINGTON STATE REPRESENTATIVE VELMA VELORIA

### *Response to Comment No. 942-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

Some outdated and inaccurate information has been found in the draft EIS, including some of the information on the Port of Tacoma and the associated map. Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. All of these errors have been corrected in the final EIS, and the conclusion that the risks associated with accepting foreign research reactor spent nuclear fuel into the United States through Tacoma, or any of the other candidate ports, are low and would result in low impacts is still valid. The population data used in the analyses, which was verified as being correct, were based on the 1990 census.

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS regarding Commencement Bay being a Superfund site. The analysis of impacts in Section 4 of the EIS demonstrates that there would be no significant adverse impacts on the ports, people, or natural environment from shipments of foreign research reactor spent nuclear fuel and the overall impacts to Commencement Bay would be unchanged by the various management alternatives.

The port selection process that determined that Tacoma was an acceptable port considered the population of the port and surrounding areas (Appendix D, Section D.1.9.5 of the EIS). Additionally, all population within a fifty mile radius of the Port of Tacoma was considered when analyzing the potential impact of a range of hypothetical port accidents. The risks were found to be low (Appendix D, Section D.5 of the EIS).

Human health and safety were primary considerations during the evaluation of environmental effects for the proposed action. Conservative estimates of radiological and non-radiological impacts show that risks to the population and workers are low (Sections 4.2.2 and 4.5 of the EIS). Section 4.10 of the EIS describes risks associated with U.S. acceptance of the spent nuclear fuel and compares these risks with those due to natural background radiation and other common risks.

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

July 13, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management
U.S. Dept of Energy
1000 Independence Ave SW
Washington DC 20585

Dear Mr. Head:

Thank you for the opportunity to comment on the draft environmental impact statement (DEIS) for the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (DOE/EIS-0218D). We reviewed the DEIS and have the following comments for the State of Washington.

Key Principles

Washington State has dealt with the issue of importing foreign nuclear reactor spent fuel since the mid-1980s. Based on public concerns and on the work of an interagency task force, the state has developed a consistent position based on the following key principles:

1. There must be a clear demonstration of the need to return spent fuel to the United States.
2. There must be a basis to select the safest option for transport and storage of the spent fuel.
3. There must be early, open, and honest communication with workers, responsible officials and the public in affected communities.
4. The federal government must support and work cooperatively with the responsible state and local government agencies in developing the regulatory and emergency preparedness measures needed to assure safe and uneventful transport of spent fuel.

1026-1

Appropriateness of DEIS

In July, 1991, Ecology strongly challenged the U.S. Department of Energy's (USDOE) draft environmental assessment covering the same issues, and urged that a full environmental impact statement (EIS) be prepared. Ecology argued that only an EIS would provide

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

### *Response to Comment No. 1026-1*

Section 1.2 of the EIS describes the purpose of and need for the proposed action and management alternatives. The intent of the proposed policy is to remove as much U.S. - origin HEU as possible from civil programs worldwide and give foreign research reactor operators time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS).

Appendices D through F provide the rationale for selection of candidate ports, transportation routes, and management sites. As discussed in Section 4 of the EIS, environmental effects were evaluated at the candidate ports, along representative transportation routes and at potential management sites. The proposed action and management alternatives were found to result in no significant benefits or risks to human health or the environment.

DOE has attempted to develop this EIS in a completely open manner. In fact, DOE's public interaction related to this draft EIS has been well in excess of the requirements set forth in NEPA and DOE's environmental regulations. Seventeen public hearings were held in the locations determined most likely to be directly affected by the EIS alternatives. In addition, the period of acceptance for written comments was extended from June 20 to July 20, 1995, for a total comment period of 90 days. DOE considers that these actions have provided sufficient opportunity for the public to comment on the draft EIS.

DOE considers that if foreign research reactor spent nuclear fuel is managed in the United States there is adequate regulatory and emergency preparedness infrastructure to ensure its

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Charles Head
July 13, 1995
Page 2

sufficient information and adequate opportunity for public comment, and the development of public understanding of such a policy (see attachment). We welcome the publication of the DEIS, and USDOE's efforts to communicate with the public.

Storage and Treatment Options

We have not reviewed in detail those portions of the DEIS dealing with Hanford as a potential storage site for foreign reactor spent nuclear fuel. We expect consideration of Hanford (as well as Oak Ridge National Laboratory and the Nevada Test Site) to be dropped from the final EIS for this proposal. This is based upon the fact that Secretary of Energy Hazel O'Leary adopted a Record of Decision (ROD) on June 1, 1995, based on the Final Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory EIS. It is our understanding that the ROD names the Savannah River Site and Idaho National Engineering Laboratory (INEL) as storage and potential treatment sites for spent nuclear fuel from foreign research reactors. 1026-2

Transport

It is Washington's perspective that the safest option for transporting, storing, and disposing of nuclear materials should be selected. If reasons, such as cost or practicality, cause the selection of a less safe option, that choice should be discussed openly and arrived at with broad public support.

Unfortunately, the stance taken in the DEIS seems to be that the risks of all options are low, and the DEIS fails to provide sufficient information to determine the safest method of transport. We believe that the following topics should be adequately evaluated to provide sufficient, clear and consistent information to assist the public in understanding the decisions to be made:

Selection of potential ports of entry. The process for selecting potential ports of entry appears complex and inconsistent in application (Appendix D), and in some cases decisions appear arbitrary. For instance, the application of Criterion 2, favorable transit from open ocean (pp. D-11 ff) drops two ports with substantially shorter routes from the open sea than Portland, Oregon. The section on favorable transit dismisses accident data as not comprehensive. When accident data exist regarding navigation accidents, as in the case of the Columbia River approach to Portland, the data are dismissed as probably applying to barges rather than ocean-going vessels (p. D-63). Similar data are not disclosed for the use of Lake Charles, Louisiana, but the latter is eliminated based on Coast Guard judgments about increasing traffic (p. D-106). 1026-3

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

safe acceptance and transportation to the designated management site. As discussed in Section 2.7.1, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, Tribal and local agencies involved with a radiological incident. DOE is also required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of the shipment of hazardous cargoes, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

### *Response to Comment No. 1026-2*

The subject Record of Decision designates the Savannah River Site and the Idaho National Engineering Laboratory as interim DOE management sites for domestic and foreign research reactor spent nuclear fuel. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

### *Response to Comment No. 1026-3*

The process of selecting ports is complex because all ports are unique in their positive and negative attributes so that selecting acceptable ports involves evaluating trade-offs. DOE decided that five of the most important attributes would be used as selection criteria: container experience, favorable transit from the open ocean, appropriate facilities, access to intermodal land transportation, and relatively low human population in the port and along routes to management site(s) (Appendix D, Section D.1.9 of the EIS). Other attributes were considered, but were not mandatory (Desirable Attributes, Appendix D, Section D.1.9.6). The application of these criteria required judgement and expert opinion to be applied. For example, Criterion 2, favorable transit from the open ocean or large deep body of water, involves not only distance from the open ocean or deep body of water, but relative safety of the passage. For this reason, a port relatively close to the ocean, such as Houston, may be eliminated while a port such as Portland, which is far from the open ocean (actually the preferred Terminal 6 is about 140 km from open ocean and has been corrected in Appendix D, Table D-4), was not. See Appendix D, Section D.1.9.2 for more information. As stated in Appendix D, Section D.1.9.2 of the EIS, reliable accident rate information is difficult to find and so could not be used as a stand-alone criterion. However, where available, accident rate data was considered as part of the favorable transit.

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Charles Head
July 13, 1995
Page 3

Criterion 4, ready access to intermodal transportation (pp D-15 ff.) is particularly confusing. That criterion eliminates no ports. However, when one gets to "Desirable Port Attributes" (pp. D-32 ff.)--i.e. not mandatory criteria--ready intermodal access is apparently not a necessity. Ports that have it cannot use it, due to populations along transport routes. Yet, Wilmington, Delaware is dropped from further consideration because it loses intermodal "usefulness" in reaching INEL (where about 20% of shipments will go), and Tacoma, Washington is retained, even though it loses intermodal "usefulness" for the approximately 80% of shipments going to Savannah River (p. D-32 and Table D-6). 1026-3 (Cont'd.)

Selection of shipment modes and routes. The selection of shipment modes and routes--which is interrelated with both port selection and risk analysis--again appears both complex and confusing. It also appears that there are inconsistencies between Appendix D, port selection; and Appendix E for the selection of routes. Route selections made in Appendix E appear to drive the affected population (pp. D-20 through D-31), which, in turn, drives port selection. The connection is, however, not easily traceable.

The attached comment from Lt. Lonnie R. Brackins, of the Washington State Patrol, indicates one aspect of the problem encountered in the DEIS when it comes to mode and route selection. The safer--and lower population exposure--route for highway shipments from the Port of Tacoma is identified in Appendix D (p. D-71). But that route (longer by about 48 miles) was not used for risk analysis purposes or for determining exposed populations. More astonishing is the selection of a rail route from Tacoma to Savannah River (Figure E1-18). The route analysed appears to be several hundred miles longer than an alternate route, and to traverse major population centers (Seattle and Chicago) that the alternate route avoids. No specific information is given to indicate why this selection was made. 1026-4

A second issue raised by the port selection methodology is this: If a port, such as Tacoma, is found not to be "useful" for rail shipment, due to corridor population, will USDOE only use truck shipments from that port? If so, what is the basis for equating the numbers of people at risk along a route, as truck accident rates are higher than rail accident rates (per Fig. 4-27, p. 4-126)? If the above is not applicable, what is the point of the exercise in which some ports are eliminated because their intermodal "usefulness" is impacted (pp. D-20 to D-34)?

Lack of specific cost information to compare scheduled cargo and chartered ship transport. The DEIS does provide risk analysis based on these two alternatives, but appears to give little 1026-5

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Criterion 4, ready intermodal transportation, turned out to be an easily met criteria for most ports which passed the first three screening criteria. However, this simply reflects the fact that good ports generally have access to intermodal facilities. Thus, while the criterion failed to screen out any additional ports, it was one which DOE felt obliged to evaluate due to the United States Merchant Marine Academy Workshop determination that it was important to safety.

The confusion between the mandatory requirement for ready intermodal access and desirable port attribute of usefulness is understandable. DOE defined usefulness in Appendix D, Section D.1.9.6 as a relative term reflecting the potential for receiving spent nuclear fuel from around the world to specific ports (Relative Usefulness by Foreign Research Reactor Fuel Shippers in Table D-6), and the ability of those ports to transship the spent nuclear fuel to DOE storage facilities around the United States via truck and rail routes (Relative Usefulness by Storage Sites in Table D-6). For example, Wilmington, Delaware was removed from further consideration because of the relatively high population along the rail routes to the Idaho National Engineering Laboratory, the Hanford Site, and the Nevada Test Site, and its limited service by conventional carriers.

As shown in Appendix D, Figures D-8 through D-17 of the EIS, some combined port/truck route populations are significantly different than the combined port/rail route populations between the same port and management site(s). For example, Appendix D, Figure D-8 of the EIS indicates that the combined port/truck-route population from Tacoma to the Savannah River Site is clearly below the average for the group of 28 ports evaluated. On the other hand, Appendix D, Figure D-9 shows that the combined port/rail-route population from Tacoma to the Savannah River Site is well above the average for the same group of ports and would not be permitted under the low population criterion. Thus, the usefulness of a port is not based on intermodal usefulness, but on the number of sites which can eventually receive spent nuclear fuel by truck and rail from that port within the restrictions imposed by the low population criterion.

### *Response to Comment No. 1026-4*

As the comment states, the representative route selections in Appendix E do contribute to the affected population, which is a contributing factor to port selection. This process is discussed in Appendix D, Section D.1.9.5 of the EIS. Since the commentor did not mention a specific inconsistency, DOE is unable to respond in specific terms.

The representative truck routes from Tacoma used in the EIS analysis are presented in Figure E1-17 in Appendix E of the EIS. These are representative routes only, which were selected using the HIGHWAY computer code. The representative routes all use I-90, but DOE recognizes the possibility of using I-84 via Portland. A State of Washington routing agency could designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Charles Head
July 13, 1995
Page 4

consideration to chartered shipping. No cost differential is presented, yet the DEIS appears to assume the higher risks of scheduled cargo shipping are low enough to be acceptable, and that cost tips the balance. There is no explicit analysis of the two alternatives to support the choice of commercial shipping.

The DEIS does include analysis that shows lower health impacts and risks from chartered ships than from regularly scheduled commercial ships. Routine (incident-free) results are presented in Table 4-5. Accident results can be derived from Table 4-7, using the "direct" line for shipments into each port. If one also assumes that chartered ships can go to a port closest to the receiving site, potentially affected populations along land transport routes can be minimized.

As Table 4-7 also indicates, there is in-port risk for ports other than those selected as potential ports of entry if break-bulk cargo ships are used. (This elevated risk is more thoroughly discussed in Appendix D, Section D.5.5.)

USDOE appears to prefer general cargo liner transport, probably for cost reasons. However, section 4.8, Costs, does not separate ocean and ground transport costs out. There is no indication of the proportion of total program costs allotted to transport, or the relative costs of charter as against general commercial shipping. Therefore, the public has no basis to discuss the tradeoffs between an obviously lower risk option and supposedly higher costs.

Consistent with the principle of selecting the safest practicable option, we strongly urge USDOE to assess fully the charter ship option.

*1026-5 (Cont'd.)*

Consideration of economic impacts of spent fuel shipments on ports. Neither the DEIS nor Appendix D deals with economic impacts of proposed alternatives on potential ports of entry. Appendix A, on Environmental Justice, deals only with minority and low-income population distribution. This is a serious deficiency in the DEIS.

Two economic impacts need to be analyzed. First, refusal of union workers to off-load spent fuel casks--or even to work on a ship containing a spent fuel container--could be highly disruptive of port activities and schedules. Yet there is strong indication, not only from comments on the present DEIS, but from comments on previous environmental assessments relating to this program, that such refusals are likely.

*1026-6*

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

As discussed in Appendix E, Section E.4.2 and Section 2.6.4.2 of the EIS, all the representative rail routes were selected using the INTERLINE computer code, which uses a shortest-route algorithm that finds the minimum impedance path. Again, since the commentor does not suggest an alternative rail route, DOE cannot perform a specific comparison.

If a port, such as Tacoma, is found not to be useful for rail shipment, then DOE would use only truck shipments from that port. While truck accident rates are generally higher than rail accident rates, risk is a complex function of the severity of these accidents, the incident-free doses to the public and crew, the vehicle emissions, and the affected population. The affected population should not be restricted to those people who might be involved in accidents, but should include everyone at risk to all aspects of the transport.

The usefulness of a port may change in the future, as population distributions shift or port facilities are upgraded. Thus, DOE evaluated all the transport modes from each port to each management site to maintain flexibility for the future and to make the comparisons complete.

### *Response to Comment No. 1026-5*

The risks associated with using either charter or commercial ships were found to be low (Sections 4.2.2.2 and 4.2.2.3 of the EIS), even though those for charter ships were slightly lower. Since the risks were low for both types of vessels, either type of vessel was determined to be acceptable for use. Since risk is essentially the same, cost, as well as many other items, such as the availability of commercial lines that would accept nuclear material, would go into the final decision of what type of vessel to use, if the foreign research reactor spent nuclear fuel is to be accepted into the United States.

### *Response to Comment No. 1026-6*

The possibility of union workers' refusal to off-load spent nuclear fuel was not considered in the port selection process (Appendix D, Section D.1.9 of the EIS) since that factor does not impact on the capability to safely receive containers carrying foreign research reactor spent nuclear fuel. The decision as to which port or ports would be used, in the case that foreign research reactor spent nuclear fuel is accepted into the United States, will be made in the Record of Decision. In either case, the possibility of union workers' refusal to off-load spent nuclear fuel is one of the many factors that must be considered in determining which ports to use.

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Charles Head
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Second, both the potential for disruption and the perception of increased risk may affect both shippers' and carriers' decisions about use of ports. There is no acknowledgement of the "stigma," or risk-perception aspect of economic impact. 1026-6 (Cont'd.)

Port operating environment. In Ecology's 1991 comments, we were particularly concerned by the lack of any data or analysis of actual port operations and operating environments. The DEIS now includes some explicit discussion about how cargoes are handled, transferred, stored, inspected, and transported out of ports.

While the consequences calculated for ship collisions and shipboard fires (accidents of severity 4-6, pp. 4-16 to 4-22, and Appendix D, section D.5) may be pounding, we note there is no treatment of dockside accidents that could produce a breach of a transport cask. This appears to be based on the assumption that physical forces involved in port handling could not be so severe; this assumption needs to be thoroughly explored with dock workers and port managers. Assumptions used to estimate incident-free exposures also need to be verified. Ecology strongly urges USDOE not only to take port management and worker comments very seriously, but also to pro-actively elicit port-specific "profound knowledge." 1026-7

Commitments to basic safety measures and procedures for overland transportation. Ecology's 1991 comments on the environmental assessment clearly listed six areas where Washington would expect explicit commitments in order to assure safe transportation of spent fuel in the state.

The DEIS cites a number of past USDOE activities that support providing safe conditions for overland transport of nuclear materials (e.g. Sections 5.5 and 5.6). However, Washington believes that the items enumerated in our 1991 letter need to be listed and considered as mitigation measures. State, local, and tribal authorities share responsibility and accountability to citizens in the regulation, inspection, security, emergency planning and emergency response areas, along with the federal government. There must be specific commitments to mitigate both the risks resulting from overland transport and the added requirements borne by other governments. 1026-8

Should shipments in fact come through the Port of Tacoma and move along the routes designated in Appendix E, it is misleading to assert that USDOE, through other programs, has already put in place the resources, training, and other mechanisms needed to ensure safe transport. These activities have not previously occurred in the Puget Sound Basin, or along the routes designated.

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified is not greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel. Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 1026-7*

The commentor's evaluation of why dockside handling accidents were not analyzed in regard to violating the spent nuclear fuel transportation cask is correct. The tests performed to receive NRC certification of transportation casks are more severe than any accidents envisioned on the dockside. Although the NRC drop test is only from 30 feet and dockside heights can easily exceed this amount, the NRC test is still considered more severe because the cask is dropped upon an unyielding surface. The unyielding surface used in NRC tests is a monolithic reinforced concrete base covered with battleship armor. Docks are not of such construction. Likewise the puncture test is demanding, consisting of a one meter (39.4 in) cask drop onto a 15 cm (6 in) solid steel bar mounted on an unyielding surface. Section 5.4.1 of the EIS presents details of the certification.

DOE would measure the radiation dose rates at the surface of every ISO container to ensure that the regulations were met and that the incident-free exposures that were calculated in the EIS were conservative. Further, records would be maintained of ships' crews and dock workers, so that if any individuals began to approach the regulatory limit of 100 mrem per year, they would be excused from further activities associated with the shipment of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 1026-8*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding enhances a jurisdiction's emergency management and response capabilities. Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency

## COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

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**Public Involvement**

As previously mentioned, the DEIS is a major step toward the kind of public involvement this issue requires. The public needs to have the information on which to make up its own mind about tradeoffs, risk management, costs and other key issues. However, USDOE still has some way to go to secure good public involvement. The public hearing that was originally scheduled in Tacoma, as one of the ten potential ports of entry, was moved to SeaTac. There was also no repository library for the DEIS located in Tacoma. Together, this appears to signal a lack of respect for input from the potentially affected public, and the result is increased mistrust and decreased substantive dialogue. 1026-9

**Conclusion**

Briefly, the items requiring federal support, are: 1026-10

- Independent inspections at all critical points in the shipment;
- Avoiding unsafe sea and road conditions, as determined by responsible state, port, and other officials;
- Provision for pre-arranged safe parking areas along transport routes;
- "Real-time" shipment tracking, accessible to emergency response personnel;
- Training for emergency responders; and
- Active incorporation of shipment-specific provisions in, and regularly exercising of, emergency response plans.

If you have any questions, please call Mr. Mark Wallace with our Nuclear Waste Management Program at (360) 407-7121.

Sincerely,

Keith E. Phillips

Keith E. Phillips
Environmental Review Section

KEP:ri
95-3235

cc: Mark Wallace, Nuc Waste

Attachments

## RESPONSE TO COMMENT COMMENTOR NO. 1026: STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (CONT'D.)

management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 1026-9*

When DOE first attempted to arrange for a public hearing in Tacoma, a suitable meeting facility could not be located. When a meeting facility was located at SeaTac airport, DOE erroneously concluded that this would be close enough to allow interested participants to attend the meeting. However, after being informed of the dissatisfaction of Tacoma citizens with the SeaTac meeting location, and in the interests of securing good public involvement, DOE held a second public hearing in the city of Tacoma on June 19, 1995. Although the applicable regulations only require DOE to hold one public hearing on a draft EIS, the Tacoma public hearings were among 17 public hearings DOE held on the draft of this EIS.

In addition, as announced in the April 21, 1995 Federal Register notice announcing the availability of the draft EIS, a copy of the draft EIS was available in Tacoma in the Tacoma Public Library, 1102 Tacoma Avenue South, Tacoma, Washington. Additional copies were made available in other locations in the State of Washington, and were available by mail by calling a toll free telephone number specified in the April 21 Federal Register notice.

In addition, the period of acceptance for written comments was extended from June 20 to July 20, 1995, for a total period of 90 days. DOE considers that the public hearings, coupled with the numerous mechanisms used to distribute the draft EIS and accommodate written comments, provided ample opportunity for public involvement.

### *Response to Comment No. 1026-10*

Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. The issues would include capabilities and training of first emergency responders as well as the other issues raised by the comment.

## COMMENTOR NO. 1030: MIKE LOWRY, GOVERNOR STATE OF WASHINGTON

STATE OF WASHINGTON
OFFICE OF THE GOVERNOR
P.O. Box 40002 • Olympia, Washington 98504-0002 • (206) 753-6780

June 23, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Mgmt. (EM37)
US Dept. of Energy
1000 Independence Ave. SW
Washington, D.C. 20585

Dear Mr. Head:

This letter is in response to the Draft EIS on foreign research reactor spent nuclear fuel.

I appreciate the Department of Energy's commitment to do this full-fledged Environmental Impact Statement. This DEIS fulfills this state's consistent position that considerations involving the return of this fuel be open to the public with full disclosure of information about risks, alternatives and impacts. I also support fully the position taken in the closely-related EIS on spent nuclear fuel management. The preferred alternative, which Secretary O'Leary formally adopted in a Record of Decision on June 1, provides for storage of foreign spent fuel at sites other than Hanford. Given Hanford's mission to clean up the wastes left behind after forty years of plutonium production for this nation's security, we believe this is a wise decision.

With regard to this draft EIS on foreign research reactor spent nuclear fuel, the state of Washington believes the primary consideration for port of entry options must be safety, security and expertise in the handling of foreign spent nuclear fuel. Off-loading facilities must contain adequate safety and security arrangements and served by personnel who have expertise in handling this material. Further, an off-loading facility should be separated from and not intermingled with commercial port facilities to ensure security and safety, and also to avoid any disruptions to commercial port activity. By these tests, the state of Washington does not believe the DEIS provides adequate justification for Tacoma serving as the west coast port of entry for this material. *1030-1*

The state of Washington believes that defense facilities capable of handling containerized cargo, in contrast, best meet the tests for safety, security and expertise. Relative to other considerations, the state of Washington believes it is best to select a military facility capable of handling containerized cargo which is closer to the final destination of this material in order to *1030-2*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1030: MIKE LOWRY, GOVERNOR STATE OF WASHINGTON

### *Response to Comment No. 1030-1*

The State of Washington's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low. The use of a remote port might slightly reduce the already low consequences of an accident, however there are other considerations that also must be made when making port selection. See Appendix D, Section D.1.9 for a complete discussion of the port selection process.

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security measures employed at any port would be required to meet or exceed all the security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel in any commercial port.

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel, This appendix presents the general provisions of the Transportation Plan, which is a document that provides details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the casks used to transport it would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in approved standard shipping containers; experience with handling containers is sufficient. Therefore, no special training of longshoremen is required.

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This position is based on the fact that the foreign research reactor spent nuclear fuel would be accepted by the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 1030-2*

The State of Washington's recommendation for exclusive use of military ports to transport the foreign research reactor spent nuclear fuel is noted.

## COMMENTOR NO. 1030: MIKE LOWRY, GOVERNOR STATE OF WASHINGTON (CONT'D.)

Charles Head
June 23, 1995
Page Two

minimize the distance traveled in the United States and minimize overall risk. We also believe there should be greater consideration of the use of charter vessels which go directly to an off-loading facility, as opposed to use of commercial vessels which may make intermediate stops at commercial port facilities. We would prefer to see greater discussion of these points in the EIS. 1030-2 (Cont'd.)

In short, the state of Washington believes shipment to an equipped military off-loading facility nearest the destination of the spent fuel should be the preferred option. This option meets our test for safety, security and expertise, and provides relatively less risk to the public and commercial activities. 1030-3

Also, for the record, I am submitting the Department of Ecology's detailed comments on this DEIS.

Sincerely,

MIKE LOWRY
Governor

Enclosure

## RESPONSE TO COMMENT
## COMMENTOR NO. 1030: MIKE LOWRY, GOVERNOR STATE OF WASHINGTON (CONT'D.)

Candidate ports were chosen from among commercial and military ports along the eastern seaboard, western seaboard, and the Gulf of Mexico. The selection process is described in Appendix D, Section D.1 of the EIS. No significant human health, safety, or environmental risks were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS). The experience criterion used in the port selection process (Appendix D, Section D.1.9.1) evaluates the port's experience in handling containerized cargo, such as would be the case for any spent nuclear fuel shipments. Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the casks used to transport it are low, so no special handling is required.

### *Response to Comment No. 1030-3*

The commentor's preference for greater consideration of charter vessels, as opposed to commercial vessels, is noted. Based on the analysis of impacts associated with accidents and incident-free operations involving foreign research reactor spent nuclear fuel, the EIS demonstrates that commercial ships represent an acceptable option for the transportation of foreign research reactor spent nuclear fuel (Section 4.2.2.3 of the EIS on consequences of port accidents and Section 4.2.2.2 for impacts of incident-free operation). Whether the shipments come as cargo on a scheduled carrier or on a chartered ship, no special precautions are expected to be required by the Coast Guard or any other authority. As such, there need be no additional requirements to use dedicated ships, nor any adverse consequences to the use of the commercial ships.

## COMMENTOR NO. 1068: WASHINGTON STATE REPRESENTATIVE STEVE CONWAY

STATE REPRESENTATIVE
29th DISTRICT
STEVE CONWAY

State of
Washington
House of
Representatives

COMMERCE & LABOR
HEALTH CARE
RULES

June 14, 1995

Secretary Hazel O'Leary
U.S. Department of Energy
1000 Independence Ave SW
Washington D C 20585

Dear Secretary O'Leary,

This is to express my strong opposition to adoption of a policy by your agency to ship spent nuclear fuel through the Port of Tacoma, Washington.

There is one crucial reason for my opposition: the safety and protection of port employees and the civilian population through which these shipments must pass to inland receiving areas. The Port of Tacoma is located in a city of dense population. It clearly fails to meet the criteria of choosing a low population density site. 1068-1

In addition, such shipments also would have an adverse impact on the commerce of the port, with importers and exporters being fearful of designation of the Port of Tacoma as a nuclear transshipment point. 1068-2

Rather than utilizing public port facilities, my suggestion is that military ports should handle spent nuclear fuel from overseas research reactors. This is a national security issue and demands a military solution where safety will not be compromised. 1068-3

The Port of Tacoma, the Tacoma City Council and the Pierce County Council have adopted resolutions in opposition to the shipment of spent nuclear fuel through Tacoma. These resolutions have my full support.

Would you please enter this letter into the record of the hearing on the Draft Environmental Impact Statement on Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Spent Nuclear Fuel, which will be held at the Tacoma Public Utilities Auditorium, June 19.

Sincerely yours,

Steve Conway

Steve Conway
Representative
29th District

SC:j

LEGISLATIVE OFFICE: 340 JOHN L. O'BRIEN BUILDING, PO BOX 40600, OLYMPIA, WA 98504-0600 • (360) 786-7908
HOTLINE DURING SESSION: 1-800-562-6000 • TDD: 1-800-635-9993
RESIDENCE: 8121 SOUTH PARK, TACOMA, WA 98408 • (206) 472-0937
PRINTED ON RECYCLED PAPER

## RESPONSE TO COMMENT
## COMMENTOR NO. 1068: WASHINGTON STATE REPRESENTATIVE STEVE CONWAY

### *Response to Comment No. 1068-1*

The commentor's opposition to the use of the Port of Tacoma for receipt of foreign research reactor spent nuclear fuel is noted. However, the analysis in the EIS indicates that the risks associated with an accident are low (Sections 4.2.2.3 and 4.5) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel are also low (Sections 4.2.2.2 and 4.5), and pose no significant risk to port personnel, the local population, or the environment.

It should also be noted that Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the fiscal year 1994), requires that "the Secretary of Energy shall, if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel...at a port of entry in the United States which...had the lowest human population in the area surrounding the port of entry... " Public Law 103-160 was signed on November 30, 1993, which is after completion of the scoping process for this EIS. DOE included consideration of Section 3151 of Public Law 103-160 by including Criterion 5 in the port selection criteria for this EIS (Appendix D, Section D.1.9.5). Application of this criterion resulted in cities such as Seattle being dropped from the list of proposed ports of entry, while Tacoma stayed on the list.

### *Response to Comment No. 1068-2*

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This position is based on the fact that the foreign research reactor spent nuclear fuel would be accepted by the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel.

### *Response to Comment No. 1068-3*

The commentor's preference of the use of military ports to receive foreign research reactor spent nuclear fuel is noted. Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL

**WASHINGTON STATE LEGISLATURE**

July 14, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management
U.S. Department of Energy
1000 Independence Ave. S.W.
Washington D.C. 20585

Dear Mr. Head,

We firmly oppose adoption of a policy by your agency to ship spent nuclear fuel through the Port of Tacoma, Washington.

This letter outlines our objections in detail. Please enter it into the record of written comments on the Draft Environmental Impact Statement (DEIS) on foreign research reactor spent nuclear fuel. We applaud the Department of Energy's commitment to the EIS process, and we welcome the opportunity to share not only our views, but those of many citizens in Washington's 30th Legislative District.

I. GENERAL COMMENTS

In our state, people matter more than policy. The safety and well-being of port employees and residents of neighboring communities must guide DOE's decisions in this matter. The port is no place for nuclear waste. It is bordered by Tacoma and Federal Way, two of Washington's six largest cities. When residents from the other neighboring city of Fife and unincorporated Pierce County are factored in, the civilian population surrounding the port exceeds 200,000 – which hardly can be classified as low-density. Please note that the city of Federal Way, the city of Milton, the city of Puyallup, the Pierce County Council and the Port of Tacoma have passed resolutions opposing this action, and the city of Tacoma has expressed grave concerns. The representatives of these communities recognize, as we do, that the risk to residents from an accident during transport of this hazardous material is too great. *1209-1*

Though we are pleased by USDOE's commitment to the public process, we note that it has not been entirely satisfactory. Initially, the agency did not even schedule a public hearing in the Tacoma/Federal Way area. It was inexcusable to exclude citizens who would feel the greatest impact from the proposed action. It implied a lack of concern on the part of USDOE, not to mention a failure to recognize the simple geography and population of the surrounding area. USDOE has since remedied the situation by scheduling a hearing in Tacoma, but we must point out that this took place only after significant public outcry. *1209-2*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL

### *Response to Comment No. 1209-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

All population within a fifty mile radius of the Port of Tacoma was considered when analyzing the impact of both incident-free transport and the range of hypothetical port accidents. The risks were found to be low. (Section D.5 of Appendix D, of the EIS provides details on accident analysis).

### *Response to Comment No. 1209-2*

DOE has attempted to provide ample opportunity for individuals, organizations, and government representatives to comment and/or attend hearings on the proposed action. In fact, seventeen public hearings were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition, as stated by the commentor, at the request of the City of Tacoma, representatives of DOE attended a second hearing in that area to allow interested parties to presents comments on the proposed action.

## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

WASHINGTON STATE LEGISLATURE

2

We agree with DOE's intention to promote nonproliferation of nuclear weapons. We also agree with DOE's policy objective to ultimately eliminate highly-enriched uranium (HEU) from civilian commerce. 1209-3

Because we agree with those objectives, we cannot agree with the proposal to ship spent nuclear fuel through a civilian port. Among alternatives described in the DEIS, we prefer Management Alternative 2, which would facilitate overseas management of foreign research reactor spent nuclear fuel. We add that this alternative should receive strong consideration in well-developed countries that participate in the IAEA Nuclear Safeguards Program, specifically France, the United Kingdom, Japan, Germany, Sweden, Switzerland and Canada. Participation by these countries would greatly reduce the total amount of spent nuclear fuel to be transported. 1209-4

Within the limits of Management Alternative 1, we would prefer to see secure military ports handle foreign spent nuclear fuel. This option would guarantee the security of civilians, and add a layer of protection against potential terrorist attacks. The tragedy of Oklahoma City teaches us that attacks can come from any quarter at any time, even within our own borders. In our opinion, the DEIS does not adequately address this lethal possibility. 1209-5

II. PRINCIPAL CONCERNS

*1) Transportation*

The DEIS provides conflicting and confusing information about transportation. It is difficult to tell which interstate route (I-90 or I-84) is being considered. This raises several questions.

A) First, our State Patrol informs us that transporting nuclear waste via I-90 and Snoqualmie Pass is unacceptable, given the high likelihood of dangerous road conditions. The I-90 route should be removed from consideration in the DEIS. 1209-6

B) Second, the I-84 route is described as a connection to the city of Portland via I-5. If this route is under consideration, surely a shorter path to it is preferable in terms of risk. It makes no sense to transport the material from the Port of Tacoma and through half of Washington when it could easily be routed through the Port of Portland.

C) Third, the DEIS rather vaguely refers to rail transportation as an option, even though the only conceivable rail route would move through Seattle -- already rejected on the basis of population density. 1209-7

D) Fourth, USDOE Secretary Hazel O'Leary's June 1 adoption of a Record of Decision formally provides for storage of foreign spent fuel at sites other than Hanford. I applaud this decision; Hanford has more than its share of wastes to clean up. Also, possible decisions by the current Congress could include severe cuts at Hanford, which would 1209-8

## RESPONSE TO COMMENT
## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

### *Response to Comment No. 1209-3*

The commentor's support for nonproliferation of nuclear weapons and elimination of HEU from civilian programs is noted. Sections 1.1 and 1.2 of the EIS discuss the nonproliferation of nuclear weapons and reductions in the use of HEU in civilian programs.

### *Response to Comment No. 1209-4*

The commentor's preference for Management Alternative 2 is noted. Sections 2.3 and 4.4 of the EIS discuss the advantages and disadvantages of overseas storage and reprocessing.

### *Response to Comment No. 1209-5*

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted.

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures can greatly reduce the risk of such actions. Security would be provided for all shipments of foreign research reactor spent nuclear fuel, as required by the Code of Federal Regulations (10 CFR Part 73). The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

### *Response to Comment No. 1209-6*

The representative truck routes from Tacoma used in the EIS analysis are presented in Figure E1-17 in Appendix E of the EIS. These are representative routes only. The representative routes all use I-90, but DOE recognizes the possibility of using I-84 via Portland. A State of Washington routing agency could designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

WASHINGTON STATE LEGISLATURE

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endanger the site's ability to handle additional waste. Moreover, the Hanford site is currently unequipped to receive this type of waste for permanent storage. 1209-8 (Cont'd.)

We would add that if an eastern storage site such as Savannah River is selected, there is no need to use any West Coast port as a destination point for spent nuclear fuel. 1209-9

*2) Lack of consistent standards in cancer risk assessment*

Information regarding the acceptable level of cancer risk is unclear with respect to variable thresholds among federal agencies. Where public health is concerned, it is inappropriate for individual federal agencies to set thresholds which differ. Particularly in matters of this magnitude, the most stringent cancer risk level should apply, whether the standard is set by DOE or another agency.

For example, the federal Clean Air Act of 1990 sets an acceptable cancer risk level of less than 1 in 10,000. Within our own state, carcinogen risk levels for air toxics are defined as 1 in 100,000 to 1 in 1,000,000. DOE appears to set a standard of 1 in 10,000. Given a surrounding population of roughly 200,000 citizens in Tacoma, Federal Way, Fife and unincorporated Pierce County, this means approximately 20 people could contract cancer. Please provide a policy rationale for this risk level. Also, please compare it to the cancer risk levels established by other agencies, including the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), the Food and Drug Administration (FDA) and the Department of Transportation (DOT). Please explain the differences (if any) between thresholds and provide justification for adhering to lower standards. 1209-10

We share the opinion of California Congressman Henry Waxman that any cancer risk greater than 1 in 1,000,000 is unacceptable. The inclusion within the DEIS of various daily activities that pose a cancer risk is simplistic and deceptive; regardless of the activities that human beings engage in which pose health risks, the government has no business adding to the risks.

*3) Duration*

The amount of time spent nuclear fuel will reside at the Port demands further analysis. The superficial assumption that Hanford staffers will shoulder the burden of labor fails to account for an obvious lack of experience in maritime environments. While the DEIS includes some information about port operations, I believe more information is needed. For example, the DEIS does not consider the likelihood that port workers will refuse to offload this cargo -- a distinct possibility. Also, the DEIS does not seem to recognize the standard backlog of time at the port before cargo is rotated out. Please include this factor in a reassessment of risk levels. 1209-11

*4) Absence of cost/benefit analysis*

The DEIS does not consider the impact of transporting spent nuclear fuel on business as a whole within the Port and in surrounding communities. It is undeniable that a stigma 1209-12

## RESPONSE TO COMMENT
## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

### *Response to Comment No. 1209-7*

The representative rail routes from Tacoma used in the analysis are presented in Figure E1-18 in Appendix E of the EIS. These are representative routes only, but three of the five routes do not pass through Seattle.

Rail shipment from Tacoma to the Savannah River Site is not permitted based on the EIS. Rail routes from Tacoma to the Idaho National Engineering Laboratory do not go through Seattle.

### *Response to Comment No. 1209-8*

The commentor's support of the Record of Decision for the Department of Energy's Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement, released on May 30, 1995, is noted. In accordance with this Record of Decision, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

### *Response to Comment No. 1209-9*

Based on the criteria presented in Section 2.6.3.1 of the EIS for identifying the ports to be considered, the choice of a management site does not directly affect the identification of a port of entry. Shipments from the western hemisphere nations could still be accepted at western U.S. ports.

### *Response to Comment No. 1209-10*

DOE has not set a cancer risk standard of 1 in 10,000, as suggested by the commentor. DOE has proposed a set of alternative actions, and calculated the risks that would apply under each portion of each alternative to the potentially affected population groups. The risks are presented in Section 4 of the EIS, and it is up to the public and the government decisionmakers to determine if those risks are acceptable.

For the general public in a port area, there would be no measurable radiation exposure at all unless there was an accident that released some radiological material from the spent nuclear fuel transportation cask. The frequency of such an accident multiplied by the consequences of such an accident yields the risk of that accident. The risk of such an accident to the general public in the Tacoma area is given in Table 4-7 of Section 4 of the EIS, and it is shown to be far less than one LCF. The analysis in the EIS contradicts the commentor's statement, that approximately 20 people could contract cancer presumably from receipt of foreign research reactor spent nuclear fuel at the Port of Tacoma.

The information in Section 4.10 of the EIS on various daily activities that pose risks is valid and the public can use it to put the risks from the proposed action into perspective. DOE considers this information appropriate to share with the public.

## COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

WASHINGTON STATE LEGISLATURE

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follows nuclear waste, and its presence can have a chilling effect on commerce. Moreover, the Port of Tacoma is already a federal Superfund site, where millions of taxpayer dollars are being expended in cleanup efforts. The presence of nuclear waste would add another potential hazard to a site that is already fraught with them, scuttling any attempts to restore the port's reputation and improve its cometitiveness in international markets. The DEIS does not acknowledge these factors. Whenever DOE considers a project of this sort, analysis of the costs to surrounding communities should be included. Please provide an analysis of economic impacts on business within the Port, and in the surrounding cities of Tacoma, Federal Way, and Fife. *1209-12 (Cont'd.)*

***5) Inaccurate appraisal of depth in Puget Sound***

The DEIS asserts that in the event of an accident within the waters of Puget Sound, recovery of any spent nuclear fuel containers should be relatively easy, because depth is less than 200 feet. This statement is inaccurate. Within Puget Sound, pockets exist where depth is greater than 200 feet. Please reanalyze the potential impact of a nautical accident within Puget Sound, with particular emphasis on the possibility of spent nuclear fuel containers dropping into areas of greater depth. *1209-13*

This concludes our comments. Thank you for your consideration.

Sincerely,

Maryann Mitchell

Tim Hickel

Maryann Mitchell
Tim Hickel
State Representatives
30th District

## RESPONSE TO COMMENT COMMENTOR NO. 1209: WASHINGTON STATE REPRESENTATIVES MARILYN MITCHELL AND TIM HICKEL (CONT'D.)

### *Response to Comment No. 1209-11*

Under normal circumstances, the foreign research reactor spent nuclear fuel would remain at a port for only a few hours. In the event of a major disruption of ground transportation systems due to adverse weather, seismic activity, or other situation, DOE's goal is to minimize holding times at the ports and to provide safe transport of the spent nuclear fuel to its destination as quickly as possible.

The commentor is correct that the EIS does not analyze the possibility of a longshoremen's refusal to off-load this material, but such a factor does not impact the capability to safely receive containers carrying foreign research reactor spent nuclear fuel. However, this possibility is one of the many factors that would be considered in determining which ports to use.

### *Response to Comment No. 1209-12*

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified is not greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel. Based on this past experience, DOE considers that shipping foreign research reactor spent nuclear fuel through the Port of Tacoma would have no adverse economic impacts on business within the port or the surrounding communities.

### *Response to Comment No. 1209-13*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES

**Georgia Department of Natural Resources**
4244 International Parkway, Suite 114, Atlanta, Georgia 30354
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
Environmental Protection Division
(404) 362-2675

Mr. Charles Head, Program Manager
U.S. Department of Energy
Office of Spent Nuclear Fuel Management, EM-37
1000 Independence Avenue, SW
Washington, DC 20585

July 20, 1995

Dear Mr. Head,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) on a Proposed Nuclear Nonproliferation Policy Concerning Foreign Research Reactor (FRR) Spent Nuclear Fuel (SNF), DOE/EIS-0218D. Should the proposed action in this draft EIS be implemented, the State of Georgia would be a significant stakeholder in this activity, as the Port of Savannah is one of the ten ports identified in the draft EIS, and also as a corridor state for shipments received at the Port of Jacksonville, Florida. In addition, much of the spent fuel addressed by this action would likely be managed just across the South Carolina border at the Savannah River Site (SRS).

The Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR), by Executive Order, is the lead state agency for response to peacetime incidents involving radioactive materials. Although we have concerns regarding the long-term management of foreign research reactor spent nuclear fuel at Savannah River Site (SRS), our main concerns lie in the area of transportation, and more particularly the emergency preparedness and response capabilities of state and local government agencies along transportation corridors, and as such, I will limit my comments to the Emergency Management and Response section of the draft EIS.

Section 2.7.1 states that "State and local governments are required to have emergency management and response programs", and that these programs "must be capable of managing all hazards ranging from natural disasters to hazardous materials incidents on a day-to-day basis". Contrary to the above assertion, the purpose of the Georgia Emergency Management Act of 1981, as amended (Official Code of Georgia, Annotated, Chapter 38-3) is "to create a state emergency management agency and to *authorize* the creation of local organizations for emergency management in the political subdivisions of the state" [emphasis added]. Despite the efforts of federal and state emergency management officials, not all of Georgia's one-hundred fifty nine (159) counties currently have an emergency management agency. Many counties in Georgia rely heavily on volunteers for vital services such as fire protection and emergency

*1220-1*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES

### *Response to Comment No. 1220-1*

The commentor's concerns about to the nation's emergency management system are noted.

DOE considers that if foreign research reactor spent nuclear fuel is managed in the United States, there is adequate regulatory and emergency preparedness infrastructure to ensure its safe acceptance and transportation to the designated management site. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides technical advice and assistance to the State, Tribal and local agencies involved with a radiological incident. DOE is also required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of the shipment of hazardous cargos, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

Letter to Mr. Charles Head, DOE
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management and have limited law enforcement resources. While the ability to manage all hazards, including those posed by a transportation accident involving radioactive materials, on a day-to-day basis is a legitimate goal for the nation's emergency management system, this section seem to indicate to the reader that this goal has been achieved. Experience in Georgia, as well as the rest of the nation, would seem to indicate otherwise. *1220-1 (Cont'd.)*

Section 2.7.2 contains a commitment, on behalf of DOE, to "provide support and assistance to State, Tribal and local government agencies responsible for responding to a foreign research reactor spent nuclear fuel incident". We fully expect DOE to honor this commitment, as will be discussed later in these comments. *1220-2*

Section 2.7.3 indicates that approximately 160 local responders from North Carolina, South Carolina and Georgia participated in a Radiological Emergency Training for Local Responders (RETLR) course. To our knowledge, no local responders from Georgia participated in this training. *1220-3*

Section 2.7.3.1 of the draft EIS discusses Department of Energy (DOE) financial and technical assistance to state and tribal governments, and mistakenly implies that DOE provides funds directly to state and tribal governments to fund operations related to transportation emergency preparedness by stating that these funds "enhance a jurisdiction's emergency management and response capabilities". While DOE indeed may provide direct funding to certain states, DOE funding to southeastern states, including Georgia, is in the form of Cooperative Agreements with the Southern States Energy Board (SSEB). Under these agreements, SSEB performs several critical regional coordination activities, including funding two (2) meetings of the SSEB Advisory Committee on Radioactive Waste Transportation per year, providing travel funds for committee members and staff to attend national meetings related to the transportation of spent nuclear fuel, and publication of the SSEB Spent Fuel and High-Level Radioactive Waste Transportation Handbook. Funds provided by DOE to SSEB, however, do not provide support for crucial state needs such as salaries for state management, planning, training, inspection, public information, communications and emergency response personnel, equipment and supplies, equipment repair and maintenance, office space, utilities, telecommunications charges or other regular operating expenses. *1220-4*

The State of Georgia does receive direct funding from DOE in the form of an Agreement in Principle (AIP) with the Savannah River Site (SRS) for environmental monitoring and emergency preparedness activities. Conditions included in this AIP, however, prohibit the use of AIP funds for transportation activities. In short, while DOE may indeed be providing substantial sums of money to "states and tribes" for transportation related

## RESPONSE TO COMMENT COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

### *Response to Comment No. 1220-2*

As described in response to Comment 1220-1 above, this support and assistance is currently being supplied, and will continue to be supplied.

### *Response to Comment No. 1220-3*

The commentor is correct in that no local responders from the State of Georgia participated in the Radiological Emergency Training for Local Responders (RETLR) course referred in Section 2.7.3 of the EIS. The participants were from the States of North and South Carolina. The section has been revised to correct the inaccuracy.

### *Response to Comment No. 1220-4*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdictions emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

The operational items and the transportation emergency response capabilities mentioned in the letter are normal and routine functions any jurisdiction would be expected to maintain.

As discussed in response to comment 1220-1, above, Appendix H to the EIS contains the general provisions for emergency preparedness associated with the transportation of foreign

## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

Letter to Mr. Charles Head, DOE
July 20, 1995
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activities, as is indicated by Table 2-16, little if any of this funding may be used directly by states, tribes or local government agencies to insure the safe, routine transportation of spent nuclear fuel, or to insure that adequate emergency response capabilities exist along transportation routes through their jurisdictions. In order to fulfill the commitment found in Section 2.7.2 and discussed above, DOE must provide direct funding to states, tribes and local governments for these purposes, or require the foreign research reactor operators, particularly those in developed countries, as a condition of DOE management of their fuel, to provide funds specifically for these purposes. Such funding requirements are consistent with the discussion regarding financial arrangements for "basic implementation" contained in Section 2.2.1.2 and the discussion of alternative financial arrangements in Section 2.2.2.3.

*1220-4 (Cont'd.)*

Section 2.7.3.2 of the draft EIS describes several DOE radiological training courses which have been made available to states, tribes and local governments, including the Radiological Emergency Response Operations (RERO) course, the RETLR course mentioned above, and the Transportation Emergency Training for Response Assistance (TETRA) series of courses. These courses have been provided through the Office of Environmental Management (EM) as part of the Transportation Emergency Preparedness Program (TEPP), which is discussed in Section 2.7.3.4. TEPP also provides support for both the TRANSAX and WIPPTREX series of exercises, as shown in Table 2-18. At a DOE Transportation External Coordination Working Group (TEC/WG) meeting in Kansas City, Missouri on July 18, 1995, the Director of the Office of Transportation, Emergency Management and Analytical Services (EM-26) advised DOE stakeholders that the House markup of the 1996 Federal budget eliminates funding for the Emergency Management activity. The anticipated impacts of this action include deferral of planned 1996 WIPPTREX and TRANSAX exercises, and the inability to provide the training courses mentioned above and outlined in Section 2.7.3.2 of the draft EIS.

*1220-5*

The impacts of eliminating EM-26 emergency management funding would appear to be inconsistent with the commitment contained in Section 2.7.2 to provide support and assistance to state, tribal and local governments. We urge DOE to take actions necessary to prevent the erosion of assets required to deliver the training courses and to conduct the exercises detailed above. One option may be to consolidate emergency management resources from various DOE offices into a single, department-wide emergency management program. Given the number of spent nuclear fuel shipments proposed in this action, coupled with DOE's own internal spent nuclear fuel shipments and shipments anticipated by the Office of Civilian Radioactive Waste Management (OCRWM), we feel that the time has come for DOE to establish a National Transportation Emergency Response Training Center, and we feel that the resources at the Nevada Test Site (NTS) provide a solid base upon which to develop this center.

*1220-6*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 1220-5*

DOE historically has provided a variety of support to governmental jurisdictions in fulfillment of its responsibilities under regulatory and National emergency plan responsibilities. However, DOE, like all other Federal agencies is undergoing a comprehensive Congressional, as well as an internal budgetary and operational review and realignment to ensure that all of its resources are used in the most effective manner possible. The end results of this will not be fully known until a final budget is passed.

### *Response to Comment No. 1220-6*

The commentor's suggestions that relate to DOE-wide emergency management program are noted. DOE will continue to fulfill its responsibilities, as well as assist other governmental jurisdictions with the incremental impacts its operations cause above and beyond a jurisdiction's normal operations to the best of its ability within the fiscal constraints and realities imposed by our elected leadership. Funding for emergency preparedness associated with the foreign research reactor spent nuclear fuel acceptance and transportation in the United States, which is the subject of this EIS, is addressed in the response to comment 1220-4, above.

## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

Letter to Mr. Charles Head, DOE
July 20, 1995
Page 4 of 4

Section 2.7.5 of the draft EIS states that states and tribes would be responsible for augmenting their existing emergency management plans and response procedures to accommodate requirements specific to the shipments of foreign research reactor spent nuclear fuel, and to provide personnel and equipment to manage an incident should one occur. Absent provision of funds by DOE or the foreign research reactor operators themselves directly to states, tribes and local governments to facilitate these activities, and absent the radiological training assistance provided in the past by DOE and outlined in this draft EIS, many jurisdictions may find it difficult to meet the requirements imposed on them by the activity proposed in this draft EIS. *1220-7*

Again, thank you for the opportunity to comment on this draft EIS. I look forward to continuing dialogue in this matter.

Sincerely,

James C. Hardeman, Jr., Manager
Environmental Radiation Program

JCH/jh

## RESPONSE TO COMMENT
## COMMENTOR NO. 1220: GEORGIA DEPARTMENT OF NATURAL RESOURCES (CONT'D.)

***Response to Comment No. 1220-7***

DOE would provide assistance to local authorities to ensure that appropriate measures are taken in the unlikely event of an accident. As part of this assistance, DOE's Radiological Assistance Program teams from the eight offices strategically located throughout the country would be used to coordinate and to provide remediation assistance. This type of assistance and coordination would be specified in the Transportation Plan prepared for any foreign research reactor spent nuclear fuel shipment to be carried out.

As discussed in response to comment 1220-1, above, Appendix H to the EIS contains the general provisions for emergency preparedness associated with the transportation of foreign research reactor spent nuclear fuel in the United States.

## COMMENTOR NO. 1264: TEXAS STATE REPRESENTATIVE A. CRAIG EILAND

TEXAS HOUSE OF REPRESENTATIVES

CAPITOL, EXTENSION E2.702
P.O. BOX 2910
AUSTIN, TEXAS 78768-2910
(512) 463-0502
FAX (512) 469-0149

217 TREMONT
GALVESTON, TX 77550
409-763-3260
1-800-345-3630

CRAIG EILAND

July 21, 1995

VIA FAX: (202)586-5256
Charles Head, Program Manager
Office of Spent Nuclear Fuel Mgmt. (EM-37)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Mr. Head,

I am responding to your request for public comments for the period ending July 20, 1995. I have received and reviewed the letter from various Galveston individuals including Ms. Gini Brown. I join in those comments and have two other items to point out;

1. The Houston Ship Channel is one of the busiest ports in the United States. The entrance to the Houston Ship Channel is the same entrance to the Port of Galveston and is the same entrance to the Port of Texas City. It is a narrow channel and is very crowded. I do not believe that it would be safe or appropriate to transport nuclear waste through such a narrow and busy water way. *1264-1*

2. Texas City is home to one of the largest petro-chemical complexes in the world. This complex is within clear view of the Port of Galveston and is only a couple of miles away. There have been historic explosions of unparalleled magnitude at these plants, additionally highways and byways have been shut down because of chemical spills and releases. This does not even take into account the chemicals and product which are shipped through the Houston Ship Channel as previously mentioned, nor does it include the items that are brought by barge through the intracoastal waterway. The intracoastal waterway also contributes to the congestion around the entry to the Houston Ship Channel and the Port of Galveston. *1264-2*

Please consider the above as well as those items contained in Ms. Brown's correspondence when rejecting Galveston as a port of transport for nuclear waste. *1264-3*

Sincerely yours,

A. Craig Eiland

ACE\ps
legislat\channel.ltr

SANTA FE, LA MARQUE, DICKINSON, FRIENDSWOOD, HITCHCOCK, BAYOU VISTA, THE ISLAND, WEST TEXAS CITY, GALVESTON
DISTRICT 24

## RESPONSE TO COMMENT
## COMMENTOR NO. 1264: TEXAS STATE REPRESENTATIVE A. CRAIG EILAND

### *Response to Comment No. 1264-1*

The physical constraints of the passage from the Gulf of Mexico to the Port of Galveston were considered as part of the port selection process and were found to meet the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS).

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS.

### *Response to Comment No. 1264-2*

The port selection criterion do not consider the existence of land-based facilities such as refineries because they have no direct impact on the risk associated with the shipment of foreign research reactor spent nuclear fuel. The worst case accident is considered to be the collision of the ship carrying the foreign research reactor spent nuclear fuel with a petroleum tanker. In this accident the transportation cask is damaged in the collision, then subjected to a fire that resulted from the collision (Appendix D, Section D.5 of the EIS). The addition of some mishap at a land-based facility would not add to the severity of this accident, and so was not considered. Section 4.2.2.3 of the EIS discusses the assumptions that went into the port accident analyses and the results of those analyses. As discussed in response to Comment 1264-1, the port selection process does not specifically consider the amount of marine traffic as a criterion.

DOE would like to point out that the foreign research reactor spent nuclear fuel is neither volatile nor unstable. The fuel that the proposed policy deals with is a metal which contains enriched uranium matrixed in, all clad with either aluminum or stainless steel. This type of fuel is very stable. Section 2.6.1 of the EIS presents a detailed description of the foreign research reactor spent nuclear fuel.

### *Response to Comment No. 1264-3*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Galveston is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing foreign research reactor spent nuclear fuel to the Port of Galveston, or to any of the ports analyzed in the EIS, is low. With respect to the comments received by DOE from Ms. Gini Brown, please see the response to comment 1140.

# Section 2.3
# Local Government

## *Commentor No. 2: Cheryll N. Woods-Flowers, Mayor, Town of Mount Pleasant*

TOWN OF MOUNT PLEASANT

TOWN COUNCIL

Robert H. Barton, Jr.
W. Jewel Browder
G. M. Darby, III
Margaret A. Kerr

Cheryll N. Woods-Flowers
Mayor

May 8, 1995

TOWN COUNCIL

Terence M. McManus
E. A. Rodenberg, III
Kruger B. Smith
Thomas P. Tanis

Mr. Charles Head
Office of Environmental Management
Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Mr. Head:

Thank you for holding this hearing to give citizens of the Town of Mount Pleasant the opportunity to make their views known on this important issue. I would like to take this opportunity to comment on the proposal to bring spent fuel rods through the SC State Ports Authority terminal on the Wando River in the Town of Mount Pleasant; this is the same port referred to in the document as the Port of Charleston.

Several points need to be made:

- Section 3151 of the National Defense Authorization Act directs the Secretary of Energy, "if economically feasible and to the maximum extent practicable," to receive spent nuclear fuel for storage at the SRS at a port of entry that has "the lowest human population in the area surrounding the port of entry, is closest in proximity to SRS, and has the most appropriate facilities for, and experience in, receiving spent nuclear fuel. Section 3151 points directly the fact that the Wando Terminal is indeed not the best choice for receipt of these shipments. It should be noted that the population in the Town is well over 35,000 people with some 4,000 more people in the unincorporated area surrounding the port. I have included, for your review, the most recent socio demographic information for the Town, along with excerpts from the Master Plan for this area, which clearly point out the fact that we are one of the fastest growing municipalities in South Carolina. The Wando Welch Terminal has no experience in the handling of nuclear materials, but previous documents have assumed in error that the Terminal has a Hazardous Material Team to be on hand if needed. This is, in fact, not the case. The closest residential dwellings are within 100 linear feet from the terminal. 2-1 2-2 2-3

P. O. Box 745, 100 Ann Edwards Lane
Mount Pleasant, SC 29465
(803) 884-8517

## *Response to Comment*
## *Commentor No. 2: Cheryll N. Woods-Flowers, Mayor, Town of Mount Pleasant*

### *Response to Comment No. 2-1*

The requirements of Section 3151 of the National Defense Authorization Act for Fiscal Year 1994 were specifically considered in development of the criteria for port selection (Appendix D, Section D.1.6 of the EIS). The application of the criteria that was developed from the Section 3151 requirements, along with the other port selection criteria, are discussed in Appendix D of the EIS.

Appendix D has been revised to specifically note the presence of Mount Pleasant in the immediate vicinity of the Wando Terminal, and the rate of population growth of Mount Pleasant (Attachment 2 to Appendix D). The demographic data pertaining to Mount Pleasant were considered in application of the port selection criteria, but still resulted in the Port of Charleston (that is, the Wando Terminal in Mount Pleasant) being identified as one of the proposed ports of entry.

### *Response to Comment No. 2-2*

Detailed information regarding emergency response requirements and capabilities are found in Section 2.7.4, and Appendix D, Sections D.2.1.1, and D.4.3. The EIS does not indicate the presence of a Hazardous Material Team, but states in Appendix D, Section D.2.1.1 that The South Carolina State Ports Authority Port Police are part of an emergency response team comprised of the local fire departments, Coast Guard, and private hazardous materials response organizations. Such teams are primarily trained for first response duties. The EIS also provides information on the availability of well-trained and equipped national emergency response teams, including DOE's Radiological Assistance Program teams that are available for prompt, reliable assistance to first responders for long-term response and mitigation.

### *Response to Comment No. 2-3*

The entire population in the area of the port, including the population in closest proximity to the terminal, was considered in calculating the effects of possible accidents (Appendix D, Section D.5 of the EIS presents additional details on this issue). Although there may be people who live within 100 feet of the fence around the terminal, due to the large size of the terminal's fenced area, these individuals actually live quite some distance from the wharf area where the spent nuclear fuel transportation casks would be unloaded. The dose rate at 100 feet from a cask containing foreign research reactor spent nuclear fuel is essentially zero (Appendix F, Section F.5 of the EIS). The calculations in the EIS demonstrate that both the dose from incident-free operations (Section 4.2.2.2) and the risk from accidents (Section 4.2.2.3) to all individual would be low, including that to the people in the closest houses.

## COMMENTOR NO. 2: CHERYLL N. WOODS-FLOWERS, MAYOR, TOWN OF MOUNT PLEASANT (CONT'D.)

Mr. Charles Head 2 5/8/95

- As was pointed out previously by a number of the Town's planning staff, in 1990, the 185 urban square miles of Charleston County closest to the metropolitan core had a population of approximately 277,500 persons with approximately 17,539 county residents spread over rural sections of the County. The Wando Welch Terminal is in the immediate proximity to Metropolitan Charleston County's twenty square mile heart which includes Peninsular Charleston, sections of North Charleston, and sections of East Cooper. This area of at least 100,000 translates into a density of 5,000 people per square mile. 2-4

During the two hearings held here in the Town of Mount Pleasant last year, many of our citizens lodged their disapproval of this proposal, Congressman Ravenel delivered his letter of disapproval, and I presented a Resolution passed by the Mount Pleasant Town Council (enclosed) in opposition to it as well. I am also aware of several petitions containing thousands of signatures that were mailed during the original comment period. I was told that the Department of Energy does not normally oppose the will of a community in these matters. I believe, as does my Council, that the criteria could not justify a Wando Terminal decision for these shipments and, in fact, we would vehemently dispute any decision made in this regard. 2-5

I am enclosing several pieces of correspondence and several petitions, all of which were presented just over one year ago when a port of entry was being considered for emergency shipments. The Department of Energy made the decision that the Wando Welch Terminal was not the best choice for emergency shipments subsequent to the 1994 public hearings. I would respectfully submit to you that the Wando Terminal would be less appropriate for the proposed 10-15 years of shipments. 2-6

If I or my staff can provide you with further information, do not hesitate to contact me. Please advise me, personally, as soon as any decision has been made.

Sincerely,

Cheryll N. Woods-Flowers

Cheryll N. Woods-Flowers
Mayor
TOWN OF MOUNT PLEASANT

/ch
Attachments

cc: Town Council
cc: The Honorable Strom Thurmond
cc: The Honorable Ernest F. Hollings
cc: The Honorable Mark Sanford
cc: Mr. Don Welch, SPA

## RESPONSE TO COMMENT
## COMMENTOR NO. 2: CHERYLL N. WOODS-FLOWERS, MAYOR, TOWN OF MOUNT PLEASANT (CONT'D.)

### *Response to Comment No. 2-4*

The commentor states that the population of Mount Pleasant and surrounding communities is large and growing rapidly, hence it is not an appropriate port to use to bring in the foreign research reactor spent nuclear fuel. However, as shown in Table D-5 of Appendix D of the EIS, the population within 10 miles (16 km) of Wando Terminal (233,424) is currently the 7th lowest port population in the final group of 28 ports evaluated using the EIS low population criterion. Sections 4.2.2. and 4.5 evaluate the impacts on ports of accepting the foreign research reactor spent nuclear fuel in the United States. The results of these analyses, which take into account population, indicate that the risk associated with this activity at any of the assessed ports, including those ports in the Charleston/ Mount Pleasant area, are low.

In addition, Appendix D, Section D.1.9.5 of the EIS specifically addresses the consideration of port populations in the port selection process. Attachment D2 shows that the projected population growth is expected to be in the range of 35 percent to 80 percent for most of the ports from Wilmington, NC, to Jacksonville, FL. While high, that growth is not expected to result in any of those ports becoming unacceptable under the selection criteria employed in Appendix D of the EIS. The demographic data presented by the commentor were considered in the EIS analyses.

### *Response to Comment No. 2-5*

The commentor's objection, as well as the oppositions of the Town of Mount Pleasant Town Council and Congressman Ravenel to bringing foreign research reactor spent nuclear fuel through the Port of Charleston Wando Terminal, are noted. However, Sections 4.2.2 and 4.5 demonstrate that the risk of bringing spent nuclear fuel to the Port of Charleston, or to any of the ports analyzed in the EIS, is low. In making the decision which ports to use if foreign research reactor spent nuclear fuel is to be accepted into the United States, the desires of the affected communities will be considered as well as the qualifications of the port.

### *Response to Comment No. 2-6*

Although the Wando Terminal was not used for the urgent-relief shipment of foreign research reactor spent nuclear fuel last year, the port selection process described in Appendix D, Section D.1.9 concludes that the use of any of the ports selected, including the Port of Charleston, can safely receive the foreign research reactor spent nuclear fuel. However, the port selection process only indicates ports that are acceptable for the receipt and handling of foreign research reactor spent nuclear fuel, it does not determine which port is best. The decision as to which port or ports would be used if foreign research reactor spent nuclear fuel is accepted into the United States, will be addressed in the Record of Decision.

## COMMENTOR NO. 22: HELEN M. ALLEN, MAYOR, CITY OF CONCORD

CITY OF CONCORD
1950 Parkside Drive, MS/01
Concord, California 94519-2578
FAX (510) 798-0636

OFFICE OF THE MAYOR
Telephone: (510) 671-3158

Concord

CITY COUNCIL
Helen M. Allen, Mayor
Lou Rosas, Vice Mayor
Colleen Coll
Bill McMurigal
Michael A. Pastrick

Lynnet Reihl, City Clerk
Thomas Wentling, City Treasurer

Edward R. James, City Manager

May 22, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

RE: Draft Environmental Import Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

I want to thank you and your team from the Department of Energy for coming to our community this evening to conduct a public information meeting. The potential shipment of spent nuclear rods through the Concord Naval Weapons Station raises a number of health and safety issues which need to be addressed. The issue of public safety is our paramount concern. Public information meetings such as this can provide an excellent forum for you to explain the project to the community and for you to obtain a response from the community about your proposal.

The City of Concord and the Naval Weapons Station have been good neighbors for over 50 years. The Station has been actively involved with the community. Major amenities enjoyed by City residents as well as Navy personnel, such as Willow Pass Park and the Diablo Creek Golf Course, are due in part to cooperation between the Station and the City. Questions and concerns raised by the City regarding D.O.E.'s proposal to use the Port of Concord should not be construed as questioning the role and mission of the Navel Weapons Station.

The City will not be taking a position regarding the merits of the proposed federal nuclear nonproliferation policy. Our objective is not to formulate a stance on federal foreign policy, but to identify potential impacts to Concord of using the Naval Weapons Station port as a transfer facility from ships to trains and trucks.

The following are concerns and issues that we have identified thus far. After the presentation of information at this meeting is made, we may wish to add to our list:

1. General Issues

   - D.O.E. has stated that the chance of an accident is minimal. If so, why did a D.O.E. spokesperson state that one reason the Port of Oakland was dropped from consideration in favor of the Port of Concord was that the Concord area had a smaller population than the Oakland area? Also, if the chances of an accident are so low, why did Charles Head of D.O.E. state that some operators of commercial ports believe that spent nuclear fuel rods should only be off-loaded at military ports? 22-1

## RESPONSE TO COMMENT COMMENTOR NO. 22: HELEN M. ALLEN, MAYOR, CITY OF CONCORD

### *Response to Comment No. 22-1*

The calculations of incident-free operations demonstrate that there would be no increase in impacts associated with increases in the population surrounding the potential ports of entry (Section 4.2.2 of the EIS). Even in the event that an accident should occur, the impact analysis results demonstrate that, although there is a linear relationship between the population around the port and the accident consequences expressed in person-dose (Section 4.2.2.3 and Figure 4-1), the highest risk of a latent cancer fatality is 0.000029 for the full range of ports considered. The risk number assumes the acceptance of all of the foreign research reactor spent nuclear fuel into the United States and the use of very high population-density ports such as Elizabeth, New Jersey, which is just across the Hudson River from New York City. These results demonstrate that there are only minor benefits to be obtained from restricting the proposed action to low population-density ports.

Nevertheless, Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the Fiscal Year 1994), requires that the Secretary of Energy shall, "if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel at a port of entry in the United States which had the lowest human population in the area surrounding the port of entry..." Public Law 103-160 was signed on November 30, 1993, which is after completion of the scoping process for this EIS, including the scoping meeting in Oakland, California. While the National Defense Authorization Act was written specifically to regulate the receipt and management of foreign research reactor spent nuclear fuel at DOE's Savannah River Site, DOE elected to apply this criterion, among others, in identifying potential ports of entry, to the maximum extent practicable.

DOE included consideration of Section 3151 of Public Law 103-160 by including Criterion 5 in the port selection criteria for this EIS (Appendix D, Section D.1.9.5). Application of this criterion resulted in Oakland being dropped form the list of proposed ports of entry, while Concord stayed on the list.

Mr. Head's comments to the effect that some operators of commercial ports believed that spent nuclear fuel should only be off-loaded at military ports merely reported the nature of some of the comments DOE had received, not DOE's position regarding the need to use military ports.

## COMMENTOR NO. 22: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Charles Head
May 22, 1995
Page 2

- The Bay Area is one of the largest metropolitan regions in the country. Even though the danger of nuclear accident is low, we question bringing the rods through the Golden Gate Bridge to Concord. The Bay Area has over 6 million people.

2. Port of Concord

- The Port of Concord is a very specialized facility built and operated solely for the loading and off-loading of munitions. Does the port have the capacity or the equipment to off-load spent nuclear fuel rods? 22-2

- Are additional police personnel or military personnel needed to secure the port area and temporary storage areas? What additional role, if any, would be placed on the City, County, and State law enforcement agencies? 22-3

- The entry to the Naval Weapons Station has been the scene of demonstrations by people opposed to various federal policies. Concord police personnel have been involved in the past in providing support to military personnel during these demonstrations. What resources will D.O.E. provide to deal with large demonstrations? 22-4

3. Emergency Services

- In case of an accident, D.O.E. has stated that local emergency services agencies would be expected to handle the situation. Has D.O.E. contacted agencies such as those listed below to assess their capability to help in accident situations? 22-5

  - Contra Costa County Emergency Services
  - County Consolidated Fire District
  - County Sheriff's Department
  - Concord Police Department
  - Mt. Diablo Hospital
  - John Muir Hospital
  - Kaiser Hospitals
  - Ambulance companies
  - Toxic waste companies

- What resources are being provided by D.O.E. to deal with the long-term impacts of an accident to the surrounding area? What would we do if an accident situation resulted in health hazards, contaminated the water supply, closed major roads, and caused localized panic? 22-6

- Has D.O.E. included in its analysis a review of particular hazards in this area which might increase the risk of accidents, such as earthquake faults? 22-7

4. Rail/Truck Shipments from Concord to Storage Sites

- Concord is far away from the three western storage sites: Hanford, Washington; Idaho National Engineering Laboratory; and the Nevada Test Site near Las Vegas. These inland storage areas are not easily reached from Concord, routes carry significant amounts of civilian traffic, and mountain routes are often closed due to snow storms.

  - Why was Concord one of the studied ports? 22-8

## RESPONSE TO COMMENT COMMENTOR NO. 22: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

### *Response to Comment No. 22-2*

Concord NWS has the experience and facilities necessary to handle the containers in which the foreign research reactor spent nuclear fuel would be shipped. Currently the Concord NWS has a floating crane that routinely handles containers. Also, the NWS is scheduled to add two container cranes to increase the container handling capacity of the facility.

### *Response to Comment No. 22-3*

NRC regulations require armed guards on all spent nuclear fuel being transported through cities (10 CFR Part 73). The Transportation Plan that will be developed prior to implementation of the policy will address security requirements. The Security Plan for each shipment will be reviewed by affected State and local governments. The costs for guards and escorts would be paid by the shipper (foreign research reactor operators). The general provisions of the Transportation Plan are presented in Appendix H, which was added to the EIS in response to public comments.

### *Response to Comment No. 22-4*

Dealing with demonstrations is the responsibility of the local and State governments, as well as the military if such demonstrations occur on military bases. However, if the demonstrations were the result of the receipt of foreign research reactor spent nuclear fuel, DOE would work with local, State, or military organizations to deal with the situation.

### *Response to Comment No. 22-5*

Each port considered in the EIS has developed an Area Contingency Plan. This plan outlines response capabilities, procedures and authorities for responding to and recovering from hazardous material incidents. Additionally, DOE would provide assistance to local authorities to ensure that appropriate measures would be taken in the unlikely event of an accident. As part of this assistance, DOE's Radiological Assistance Program teams, from eight offices strategically located throughout the country, would be used to coordinate and to provide remediation assistance. This type of assistance and coordination would be specified in the Transportation Plan that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H of the EIS. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected.

### *Response to Comment No. 22-6*

DOE would provide coordination and technical assistance and training to the State, Tribal, and local emergency response personnel. In addition, DOE has Radiological Assistance Program teams that operate from eight strategically located DOE offices around the

## COMMENTOR NO. 22:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Charles Head
May 22, 1995
Page 3

- Routes pass by and through major cities in the Western states. What would they do in case of accident? 22-9
- Considering the long distance between Concord and the storage areas, would not one anticipate the possibility of more traffic accidents and terrorist activity? 22-10
- In accessing interstate routes to the storage areas would local Concord streets be used to transport rods? 22-11

These issues are important to our community. Hearing your responses will help local residents develop positions regarding D.O.E.'s proposal. I would appreciate responses to our concerns as soon as possible so all concerned parties can intelligently comment on the D-EIS prior to the June 20, 1995 deadline.

Thank you for the opportunity to address these issues with you.

Sincerely yours,

Helen M. Allen
Mayor

JM6720.HA5

cc: City Council
City Manager
Senator Barbara Boxer
Senator Diane Feinstein
Representative Bill Baler
Representative George Miller
Contra Costa County Board of Supervisors

## RESPONSE TO COMMENT
## COMMENTOR NO. 22:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

country. Upon State, Tribal, or local request, these teams can provide technical expertise and assistance to monitor and assess radiological hazards. The teams are activated on an as-needed basis and generally can be ready to deploy from their home station within four hours of notification. However, as discussed in Section 2.7 of the EIS, the primary responsibility for emergency response to an incident would reside with State, Tribal, and local authorities.

In dealing with the long-term impacts of an accident, each case would have to be dealt with separately, since the exact situation cannot be known ahead of time. According to the analyses in Section 4.2.2.3 of the EIS, no significant impacts are anticipated from any accident associated with the shipment of foreign research reactor spent nuclear fuel.

In addition, the Price-Anderson Act would provide funds to cover costs associated with public liability claims that arise out of a "nuclear incident," as defined by law. In pertinent part, a "nuclear incident" is one that causes, for example, injury, sickness or property damage, resulting from radioactive, toxic, explosive or other hazardous properties of source, special nuclear, or by-product material.

### *Response to Comment No. 22-7*

Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents; however, the number of earthquake-induced ship and road accidents is small compared to other causes.

### *Response to Comment No. 22-8*

Concord NWS was one of 161 ports (153 commercial and eight military ports) considered. These ports were evaluated against selection criteria, resulting in 10 ports that met all of the criteria. Appendix D, Sections D.1.8 and D.1.9 of the EIS provide a detailed discussion of the process and results.

### *Response to Comment No. 22-9*

See response to comment 22-6 above.

## COMMENTOR NO. 22:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 22:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

***Response to Comment No. 22-10***

Yes, for traffic accidents. The chance of a traffic accident does increase as the travel distance increases and this effect was taken into account in the traffic risk calculations that are presented in Section 4.2.3 and Appendix E of the EIS.

Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists. Also see the response to Comment 78-2 for a brief description of the requirements for physical protection of spent nuclear fuel shipments.

***Response to Comment No. 22-11***

DOE has not yet selected ports, routes, or transport modes for the foreign research reactor spent nuclear fuel. If Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, and/or Waterfront Road. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## *Commentor No. 63: Thomas C. Taylor, Chairman, County Council of Beaufort County*

COUNTY COUNCIL OF BEAUFORT COUNTY
ADMINISTRATION BUILDING
1000 RIBAUT ROAD
POST OFFICE DRAWER 1228
BEAUFORT, SOUTH CAROLINA 29901-1228
TELEPHONE: (803) 525-7100
FAX: (803) 525-7181

THOMAS C. TAYLOR
CHAIRMAN

ELIZABETH P. GRACE
VICE CHAIRMAN

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SUZANNE M. RAINEY
CLERK TO COUNCIL

MICHAEL G. BRYANT
COUNTY ADMINISTRATOR

DEPUTY ADMINISTRATORS

MORRIS C. CAMPBELL
THOMAS A. HENRIKSON, CPA
RANDOLPH L. WOOD, JR.

LADSON F. HOWELL
COUNTY ATTORNEY

May 5, 1995

U.S. Department of Energy
Office of Environmental Management (EM-37)
Attention: Mr. Charles Head
1009 Independence Avenue, SW
Washington, DC 20585-0001

RE: Draft Environmental Impact Statement on Proposed Nuclear Weapons Non-Proliferation Policy Concerning Foreign Research Reactors Spent Nuclear Fuel

Dear Mr. Head:

I am writing to you as the Chairman of the Beaufort County Council. Our County Council represents the 87,000 citizens of Beaufort County which is located in the lower southeastern quadrant of South Carolina, near Savannah and within 150 miles of the Savannah River Site. Over 20,000 of our citizens in Beaufort County receive their drinking water from the Savannah River. I am writing you to express our Council's serious concern about the Department of Energy's consideration of further expansion of the current program of storage of spent nuclear fuel rods at the Savannah River Site. As I understand it, the Environmental Impact Statement on the proposed Nuclear Weapons Non-Proliferation Policy estimates that further storage of foreign spent nuclear rods may be forthcoming. While we certainly appreciate the overall intent of this policy, that being to stop the spread of nuclear weapons grade material, we have serious concerns on behalf of the citizens of Beaufort County about further storage of spent nuclear fuel rods at the Savannah River Site. *63-1*

On behalf of our citizens, we strongly request the Department of Energy's efforts be directed toward cultivating and procuring other sites away from South Carolina for the disposal and/or storage of foreign spent nuclear fuel rods. South Carolina has provided its fair share of storage for nuclear waste in the *63-2*

## *Response to Comment Commentor No. 63: Thomas C. Taylor, Chairman, County Council of Beaufort County*

### *Response to Comment No. 63-1*

The commentor's opposition to the acceptance and management of foreign research reactor spent nuclear fuel in South Carolina is noted. The EIS has analyzed the environmental impacts that could result from management of foreign research reactor spent nuclear fuel at the Savannah River Site in Section 4.2.4. The analysis indicates that the risk to the health and safety of the public within 50 miles from the Savannah River Site would be low.

### *Response to Comment No. 63-2*

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory.

## COMMENTOR NO. 63: THOMAS C. TAYLOR, CHAIRMAN, COUNTY COUNCIL OF BEAUFORT COUNTY (CONT'D.)

COUNTY COUNCIL OF BEAUFORT COUNTY

U.S. Department of Energy
May 5, 1995
Page 2

United States. We urge you to now look elsewhere for the protection of future generations of our citizens in this State. 63-2 (Cont'd.)

Cordially

Thomas C. Taylor
Chairman

TCT:smr

cc: Beaufort County Council
Legislative Delegation
County Administrator

## RESPONSE TO COMMENT
## COMMENTOR NO. 63: THOMAS C. TAYLOR, CHAIRMAN, COUNTY COUNCIL OF BEAUFORT COUNTY (CONT'D.)

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ

Mr. Charles R. Head
Office of Spent Fuel Management
U.S. D.O.E.
1000 Independence Ave. SW
Washington, DC 20585-0001

May 25, 1995
(Page 1 of 6)

From:
George Dalacrus
Bay Point Municipal Advisory Council
3569 Sharon Court
Bay Point CA 94565
(510)458-3373

Dear Mr. Head:

Please accept the following comments on the Draft Environmental Impact Statement, and the Port Selection Process for the Handling of Spent Nuclear Fuels at Concord Naval Weapons Station, California.

Certain criteria for port selection is used by the D.O.E. I will attempt to categorize each item with the representative criteria.

CONTAINER EXPERIENCE

Only moderate experience with containers is documented at CNWS. The facts represent that CNWS, not having the proper containerization equipment, couldn't have the experience necessary for this highly critical commodity. 72-1

PORTS MUST PROVIDE SAFE PASSAGE FROM THE OCEAN

CNWS is situated on a very narrow estuarine body of water. Navigation is difficult and the threat of collision is always present. Funding cuts have reduced the Coast Guard Radar Facility at Treasure Island, further adding to the possibility of ship collision. Passage from the Pacific Ocean would take the ships in question, past numerous petro chemical plants, which could well add to the hazard these ships face. In addition, although SNF casks are tested for resistance to fire, the fairly short term testing the D.O.E. has used does not replicate the usual ship fire, which is of long term duration. 72-2 72-3

APPROPRIATE FACILITIES

The proposed activity at CNWS does involve construction of new port facilities and a change to existing facilities, in contravention to D.O.E.'s port selection criteria. This community believes that the closure of Port Chicago Highway to Bay Point, the closure of Waterfront Road to Martinez and the proposed construction of new port facilities were orchestrated with this D.O.E. proposal in mind, not to speed up CNWS's ordinary munitions handling, although this would be a corollary benefit. D.O.E. must follow it's own criteria for port selection. 72-4

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ

### *Response to Comment No. 72-1*

While Concord NWS's experience with containers may not equal some of the ports that deal with a high volume of container traffic, a majority of the containers that Concord NWS handles contain hazardous materials. DOE considers that Concord NWS's extensive experience dealing with hazardous materials easily balances any concern there might be in regard to their lesser experience with handling containers. In regard to container handling equipment, the existing facilities are adequate. In the longer term Concord NWS is scheduled to add container cranes by 1999. Appendix D, Section D.2.1.6 of the EIS provides further details of the container handling.

### *Response to Comment No. 72-2*

The passage from San Francisco Bay to Concord meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2). Favorable transit from open ocean is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations such as port population, population along the route to the management site, port experience with handling containers, and port facilities have also been considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

### *Response to Comment No. 72-3*

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the transportation casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship fire's intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Charles R. Head
PAGE 2 OF 6

GOOD ACCESS TO TRUCK AND RAIL TRANSPORT

Although reasonable access is available to rail and truck transport, the containers would have to move through heavily populated areas.

Oakland was eliminated as a site for this offloading. Containers going east or south would have gone through Oakland, San Jose, other heavily populated areas in the San Joaquin Valley, and the remaining areas of California as well as the eastern and southern parts of the nation. East, they would go through Bay Point, the Northern Counties of California, and the States of Nevada, Oregon, and Idaho. 72-5

HUMAN POPULATION IS LOW

Oakland was eliminated because of the high population density; yet, Concord and Bay Point are only some 15 miles from Oakland and are in the center of a population of approximately 6,000,000 people, the same as Oakland. If, as a hypothetical doomsday scenario, someone were to hijack an ISO container loaded with an SNF cask, he would only have to move a short way, with little chance of being noticed, (as there are many ISO containers in the area). He could pump ammonium nitrate and fuel oil into the container, and detonate it; thus, causing many deaths from radiation poisoning, in addition to untold suffering from future cancers. This is not too far fetched a scenario, considering what happened in Oklahoma. As a point in fact, it is well known that intermodal drivers are the lowest paid and have the most poorly maintained equipment. Most should not be allowed to haul these containers due to lack of training and skill. 72-6 72-7 72-8

In addition to the above referenced-criteria, I include the following comments:

Contra Costa County, California, has the highest inventory of toxic materials in the State and the 2nd highest in the Country; thus, adding more danger to an already dangerous situation. 72-9

Concord Naval Weapons Station has failed to participate fully in our Community Warning System. This lack of respect for the surrounding communities shows just how little it really cares. If there was an accident involving SNF, how would the warning get out? CNWS's share of the Community Warning System is $54,000.00. It paid only $8,000--far short of what is needed to insure adequate warning of a catastrophic event. The secrecy surrounding CNWS creates a problem should there be a catastrophic event. We would always wonder if warning would be given in time for our citizens to remove themselves from the vicinity. In the event of such a catastrophe, even with timely warning, the problems of rapid evacuation would be almost insurmountable. 72-10

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt research reactor nuclear fuel. Appendix D, Sections D.5.3 and D.5.4 of the EIS present a detailed discussion of accident probabilities and radioactive material source terms and the results of the analyses, respectively.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS).

### *Response to Comment No. 72-4*

DOE understands that the expansion of capabilities at Concord NWS will continue as scheduled regardless of the outcome of the proposed policy on foreign research reactor spent nuclear fuel. Likewise, the closures of Port Chicago Highway and Waterfront Road were independent of the proposed policy. Selection of Concord NWS as one of the ports that might receive foreign research reactor spent nuclear fuel, if the proposed policy is adopted, would be based on the selection criteria set out in Appendix D, Section D.1.9 of the EIS.

### *Response to Comment No. 72-5*

The human populations along the highway and rail routes from Concord NWS to each of the five DOE management sites are listed in Table E-4 in Appendix E of the EIS. The incident-free and accident risks are also tabulated in Appendix E, and are shown to be low.

### *Response to Comment No. 72-6*

Concord NWS was one of ten ports that was indicated to be acceptable to receive the foreign research reactor spent nuclear fuel, if accepted into the United States. Population of the port and surrounding areas is one of the considerations of the port selection criteria, and one of the reasons the port of Oakland was not included in the final list of ports. Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Charles R. Head
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I must take exception to the routes taken by these Spent Nuclear Fuel containers. These routes do not take into consideration accident rate, transit time, population density, or activities in the area. 72-11

The routes these containers must follow would be as follows: Port Chicago Highway near Clyde California, to Highway 4, then east or west. If these containers go west, they would go through what is known as Franklin Canyon to reach Highway 80. This area is well known as a very dangerous stretch of Highway, being at least partly responsible for many deaths and injuries each year. If they go west to Highway 680 and then north, they would have to cross the Benicia Bridge. This bridge has some of the most roller coaster approaches I have ever seen, and I must state that I have 40 years of experience driving 18 wheelers. The winds on the Benicia Bridge have been known to upset even the most solidly built trucks.

If they leave via Waterfront Road, They would have to navigate a Road which is under water when the tide is high. They would then have to go over one of the most dangerous on-ramps I have ever seen, to reach the Benicia Bridge. This route would also take the trucks or rail car's through petro chemical plants--one of which had a very serious fire 2 1/2 years ago, causing the release of large amounts of sulfuric acid (SO2). 72-12

If they are instructed to use Port Chicago Highway in the community of Bay Point, to Highway 4, these containers would then pass dangerously close to homes in the Bay Point community--in some cases within 30 feet. They would then proceed south on Willow Pass Road to Bailey Road taking them onto Highway 4 south. They would then enter the San Joaquin Valley and go either north to Nevada and Idaho, south to the Los Angeles area or to the east. In all of the above-referenced cases, these containers would pass through highly populated areas.

At many times of the year, fog plays an important part in the safety of our highways. This element is rather quick to develop and is not always predictable.

The issue has been raised regarding the quality of the workforce at CNWS. There have been many reports of substance abuse and it has been noted that there is no drug testing on the job at CNWS. It has been reported that employees at CNWS have been seen working under the influence of alcohol and various drugs. 72-13

There have been reports of containers punctured by fork lifts. This appears to be a very common type of "accident", and goes to the talent of the work crews which could be used to handle SNF containers. 72-14

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Fiscal Year 1994), requires that the Secretary of Energy shall, "if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel...at a port of entry in the United States which...had the lowest human population in the area surrounding the port of entry..." Public Law 103-160 was signed on November 30, 1993, which is after completion of the scoping process for this EIS, including the scoping meeting in Oakland, California. While the National Defense Authorization Act was written specifically to regulate the receipt and management of foreign research reactor spent nuclear fuel at DOE's Savannah River Site, DOE elected to apply this criterion, among others, in identifying potential ports of entry, to the maximum extent practicable.

DOE included consideration of Section 3151 of Public Law 103-160 by including Criterion 5 in the port selection criteria for this EIS (Appendix D, Section D.1.9.5). Application of this criterion resulted in Oakland being dropped from this list of proposed ports of entry, while Concord stayed on the list.

### *Response to Comment No. 72-7*

As discussed in Sections 2.7 and 5.4.2 of the EIS, the security measures and the transportation regulations for marine and ground transport would significantly reduce the likelihood that an unauthorized individual would have a chance of getting near the ISO container carrying the spent nuclear fuel transportation cask. In spite of these precautions, if such a doomsday scenario were to occur, the cask would be tossed around by the force of the explosion, however, it would most likely survive the explosion. In response to this and similar comments, Appendix D, Section D.5.9 of the EIS presents an evaluation of the consequences of two scenarios resulting from sabotage and terrorist attack. These scenarios were evaluated to provide guidance on the level of evacuation to be considered by the emergency response team.

### *Response to Comment No. 72-8*

The commentor's position that most intermodal drivers are poorly paid, operate poorly maintained equipment, and are not competent to haul hazardous cargo is noted. DOE does not agree with this opinion. During the past four decades, thousands of shipments of spent nuclear fuel have been transported over truck and rail routes in the United States (Section 4.2.3 of the EIS). Only 21 incidents involving spent nuclear fuel have occurred during that period. To date, no radioactive contents have ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel cask ever been punctured, even as a result of an accident.

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Charles R. Head
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There are reports of 1,000 lb. bombs being dropped into the waters around CNWS, and it is said that some of the munitions are unrecoverable. If they remain submerged at the piers, they would pose a substantial risk to the safety of ships calling at CNWS. 72-14 (Cont'd.)

I believe that the port selection process is deficient. Some highly qualified ports were left off the list which could perform the work called for in the EIS--Seal Beach Naval Weapons Station and Point Mugu Naval Station, to name just two. These ports were not on the original list for consideration. Why? 72-15

Within less than one mile of the offloading site at CNWS, is Contra Costa Water District's Mallard reservoir which provides safe drinking water for as many as 500,000 people. 72-16

The map on page 3-27, figure 3-24, Volume 1, March 1995 of the Draft EIS, is very deceptive. It does not show the close proximity to a large population of Contra Costa County residents. It does not show the prevailing winds in this area which would, in the normal course blow directly over Bay Point, Pittsburg, Antioch, Brentwood, Oakley and the rest of East Contra Costa County. In the event of a release of radioactivity, the life and well being of everyone in the these communities would be jeopardized 72-17

Figures 3-23 and 3-26 are incorrect and show some lack of care in the preparation of this document. These tables consider surrounding counties only when Contra Costa is the county which would bear the brunt of any accidental release of radiation from SNF. 72-18

Having lived in this area all of my life, I must take exception to the calling of Suisun Bay, San Suison Bay. It appears your cartographers are documenting the area from afar, and don't care about the historic significance of our area. 72-19

What percentage of SNF casks are of the 125-ton variety? These, of course, would demand special handling. The exhibits shown at the Concord Centre Public meeting showed standard 20 and 40 foot ISO containers. The public needs to know which are going to be the predominant type. 72-20

What will the D.O.E. do to indemnify residents for the drop in property values which will surely follow the bringing of SNF into the Concord Naval Weapons Station. Under California Realty Law, home sellers are required to notify potential buyers of any hazards incumbent upon their property, such as electro magnetic power fields and earthquake faults. Potential radiation exposure will be included in this list. 72-21

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

### *Response to Comment No. 72-9*

If the foreign research reactor spent nuclear fuel is accepted into the United States (Management Alternative 1 or 3) there would be no storage of this material at Concord NWS, any other port, or anyplace except for DOE management sites. Under normal circumstances, it would remain at a port for only a few hours. In the event of a major disruption of ground transportation systems, due to adverse weather, seismic activity, or other situation, DOE's goal is to minimize holding times at the ports and to provide safe transport of the spent nuclear fuel to its destination as quickly as possible. Spent nuclear fuel from foreign research reactors is radioactive, but is not toxic, flammable, or explosive.

### *Response to Comment No. 72-10*

DOE expects that agreements between Concord NWS and Contra Costa County would be followed in the unlikely event of an accident. The Station has a Disaster Preparedness Plan which includes a Mutual Aid Agreement between the Naval Weapons Station and Contra Costa County. Under the terms of the agreement each party is to immediately notify the other of any emergency which presents an imminent danger. A similar mutual aid agreement also exists between the Station and the County Fire Protection District.

Several accident scenarios including a breach of the cask and fire sufficient to oxidize the contents were analyzed during preparation of the EIS. Results of the accident analysis at the ports are given in Section 4.2.2 of the EIS with supporting detail in Appendix D, Section D.5. of the EIS. No catastrophic effects were found to result from severe accidents involving foreign research reactor spent nuclear fuel.

### *Response to Comment No. 72-11*

The routes in Appendix E of the EIS are representative routes and the actual routes may vary, but all the routes do take into consideration accident rates, transit times, and population densities. Since the commentor did not specify what activities in the area that DOE did not consider, a more specific response cannot be provided.

### *Response to Comment No. 72-12*

DOE has not yet selected transportation routes or transport modes for the foreign research reactor spent nuclear fuel. If the Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with U.S. Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, and/or Waterfront Road. These are the local Concord streets that the trucks would probably use. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Charles R. Head
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The E.I.S. does not appear to address the negative economic impact that the receipt of SNF would have on the communities surrounding CNWS. The abject fear of the possible release of lethal amounts of radiation could have a depressing effect on the economic activity in the area. Developers could decide to build elsewhere; businesses could decide to close due to their proximity to CNWS! 72-22

I would like to suggest that D.O.E. adopt Management Alternative Two. A ship could be outfitted to collect SNF casks and process the product aboard ship. Then, perhaps, store the product on the South Sea Islands. 72-23

Many structures at CNWS have not been retrofitted to withstand expected earthquakes in the Richter Scale Range of 7.0 to 8.0. This by itself should eliminate CNWS from consideration as the port to receive SNF. The cost would be very prohibitive. 72-24

Under decisions to be Made Based on this EIS, Page 1-10, Sub-Section 1.4, Volume one, March 1995, CNWS would need much upgrading of existing facilities and extensive new construction to handle containers of SNF. 72-25

There are, at this time, no geologic repositories available to handle the reprocessed SNF. There would have to be extensive new Environmental Impact Statements provided for the new sites that would be needed, and immense amounts of funding would also be needed. This would come at a time when Congress is intent on balancing the budget and reducing spending. 72-26

Under Implementation Alternative 6, 2.2.2.6, Page 2-15, the high level waste is only EXPECTED to be acceptable for geologic disposal. It also appears that the technology has not been perfected to process SNF for Near Term Conventional Separation. New construction would also be necessary at Idaho National Engineering Laboratory to store these SNF's. 72-27

Mr. Head, you stated, "No SNF's would go through the Panama Canal." This would mean that all SNF's from Pacific Rim nations would pass through CNWS if it is chosen. This is, again, not acceptable to the citizens of Contra Costa County, California, due to the strong possibility of release of radioactive material into the atmosphere. 72-28

The DEIS does not show any geologic survey maps of the CNWS area. As earthquakes are so predominant in this area I believe this omission could create severe problems in the future. 72-29

I suggest that all SNF's go to the new wet storage facility at Oak Ridge National Laboratory until geologic disposal sites are ready. 72-30

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

### *Response to Comment No. 72-13*

Concord NWS has a no-tolerance policy on alcohol and drug abuse. Individuals suspected of being under the influence of drugs or alcohol would be removed from their worksite and escorted to the on-site dispensary for a competence-for-duty examination. If found to be under the influence, they would be sent home and action initiated to rehabilitate and/or discipline the individuals, depending on specific circumstances in each case. A drug testing program for Concord NWS has been approved by the Navy and is expected to begin before the end of the calendar year 1995.

### *Response to Comment No. 72-14*

As the result of public concern born from a September 1993 television report, the Contra Costa County Board of Supervisors initiated an investigation of the safety at Concord NWS. Their report on the subject, Safety at the Concord Naval Weapons Station dated November 2, 1993, concluded in part: "There were no incidents involving explosions or radiation exposure"; and that "Many of the reported incidents were not accidents caused by Weapons Station employees but, rather, were discoveries by employees that materials being received had been damaged during loading or transit." In some cases the shipments had not been properly blocked, braced or banded.

In fact, the safety record at Concord NWS is significantly better than that of similar activities in ports in the private sector. According to the Department of Labor statistics, for the category of marine cargo handling, the number of lost workday cases per 100 full-time workers for 1993 was 7.1 nationwide (current data not available), which is typical. The number of lost workday cases per 100 workers at Concord NWS for the first three quarters of fiscal year 1995 was 5.3, which is also typical for Concord.

Specifically addressing forklifts, forklifts would not be expected to be used to unload foreign research reactor spent nuclear fuel containers, however, if a forklift was to puncture a container with foreign research reactor spent nuclear fuel, the cask would not be damaged for two reasons. First, there is a gap between the cask and the container wall of approximately 0.5 meter (1.5 feet) and second, the rugged construction of the cask would not be damaged by a fork lift prong because the casks are designed and built to withstand being dropped one meter (40 inches) onto a 15 cm (6 inch) steel bar without damage (Appendix B, Section B.2.1.3 of the EIS).

In regard to the allegation that ordnance has been dropped into the water and not recovered, an official at Concord NWS has assured DOE that no ordnance has ever been dropped into the water. The official explained that if ordnance were to be dropped into the water, their policy is to recover it without exception. As a confirmation that no ordnance has fallen into the water and not been reported, periodic dredging of the dock area has never detected or recovered an ordnance.

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

Charles R. Head
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I understand the preferred alternative is to send the aluminum based SNF to Savannah River and the Triga based as well as some aluminum based SNF to INEL. This would mean 80% to Savannah River and 20% to INEL. If all Pacific Rim nation shipments go to CNWS rather than Portland or Tacoma, an inordinate number of ships would then go through San Francisco Bay and it's narrow ship channels, greatly increasing the chance of accident. 72-31

Tacoma's newly set public hearing (June 19) would only allow one day for public comment. I suggest you extend the public comment period 60 to 90 days. 72-32

"Type B" casks, although they haven't had an accidental release of radioactivity, present the greatest possibility of terrorist attack--simply due to their relatively small size and their shipment in standard I.S.O. containers. These containers could be captured rather simply and pumped full of ammonium nitrate and fuel oil for detonation. The rather large open space in the container around the cask provides room for, speculatively speaking, 5,000 to 10,000 lbs. of explosive. I don't believe the cask could withstand such an explosion. 72-33

The possibility of a release of substantial amounts of radiation from the sinking of a transport vessel in very deep water is highly likely. Extreme depths would probably rupture the cask, releasing large amounts of SNF into the water and could jeopardize the food chain of many. 72-34

From Section 4.2.3.5, Ground Transportation Mitigation Measures, it is clear Portland or Tacoma should be selected simply on the basis of their proximity to the Idaho National Engineering Laboratory. 72-35

I suggest that only developing nations be subsidized for the removal of reactor fuel. The United States of America has more than paid it's share of developing nuclear power and research for the world. 72-36

Thank you for your consideration and attention.

Sincerely,

George Delacruz

George Delacruz

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

### *Response to Comment No. 72-15*

The initial screening of both military and commercial ports removed those ports and bases that did not regularly handle containerized cargo from ocean-going ships in any sufficient quantity. Only 31 commercial ports and three military bases qualified, not including Seal Beach Naval Weapons Station or Point Mugu Naval Station (Appendix D, Section D.1.9.1 of the EIS).

### *Response to Comment No. 72-16*

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 40 years of spent nuclear fuel transports within the United States, no radioactive contents have ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as the result of an accident. Based on this experience, DOE considers that spent nuclear fuel transportation casks passing through the Concord NWS would not release their radioactive contents, and would not affect the quality of the water supply for Contra Costa Water District via Mallard Reservoir or any other path. Analysis of a severe accident involving a ship at Concord NWS (Section 4.2.2.3 of the EIS) indicates that the resultant contamination would be so small that no cleanup would be required, other than possibly in the immediate vicinity of the accident. This means that contamination of Mallard Reservoir would be minimal. To insure that this was the case, if such a severe accident were to occur, all water supplies in the area, as well as food and air, would be tested for contamination.

### *Response to Comment No. 72-17*

The maps in Section 3.2 of the EIS are presented to provide the reader with some detail of the immediate area of the proposed site of receipt to aid in identifying the site being discussed, not to show the general area and major population centers or meteorology. If the scale were to be increased so as to show the general area, the details of the immediate area of the port or base would be lost. The text of Section 3.2 for each port does discuss the population within 10 miles, and the analysis of the impacts of accidents considers the population within 50 miles of the port (Appendix D, Section D.5 of the EIS), so the population of the general area has been considered. Likewise, the local meteorology was taken into account when the impacts of accidents were calculated (Appendix D, Section D.5.3.3 of the EIS). To present a map showing the prevailing wind might wrongly convey that only that wind was considered, when in fact that is not the case.

Section 4.2.2.3 of the EIS discusses the impacts of accidents in ports, and shows that the risks of using any of the proposed ports to receive foreign research reactor spent nuclear fuel would be low.

RESPONSE TO COMMENT
COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

***Response to Comment No. 72-18***

In Section 3 of the EIS, Figures 3-23 and 3-26 show the number of low-income households surrounding the Military Ocean Terminal at Sunny Point, North Carolina and the Naval Weapons Station at Concord, California, respectively. The enumeration of households residing within 10 miles (16 km) of candidate ports, and within counties whose boundaries lie at least partially within a 10-mile radius centered at the port, was obtained from data published by the United States Bureau of the Census based on the 1990 Census (Appendix A of the EIS). County data shown in Section 3 and Appendix A for the Military Ocean Terminal at Sunny Point includes Brunswick and New Hanover Counties, while the corresponding data for the Naval Weapons Station at Concord includes Contra Costa and Solano counties. Additional data concerning low-income households surrounding candidate ports is given in Table A-3 of Appendix A. Figures A-11 through A-20 of Appendix A show distributions of low-income households residing near candidate ports.

***Response to Comment No. 72-19***

This correction has been made in Section 3.2.1.6 and Appendix D, Section D.2.1.6 of the EIS.

***Response to Comment No. 72-20***

As discussed in Appendix B of the EIS the potential casks identified for marine transport of foreign research reactor spent nuclear fuel weigh approximately 10 to 25 metric tons. The 125-ton variety of casks are rail transportation casks to be potentially used for spent nuclear fuel transportation between management sites. These casks are not used for marine transport. Either size of ISO container might be used, depending on availability at the time of a shipment

***Response to Comment No. 72-21***

There is no evidence that property values would be diminished at Concord NWS, or any other port for that matter, due to the implementation of the proposed action. Furthermore, the analysis in the EIS examined in detail potential risks related to the proposed action, and determined that they are low. Additionally, as to the concern that California realty law would eventually require home sellers to notify potential buyers of potential radiation exposure, DOE's safe management and operation of the foreign research reactor spent nuclear fuels program would minimize any potential risk.

***Response to Comment No. 72-22***

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports

## *Commentor No. 72: Bay Point Municipal Advisory Council Member George Delacruz (Cont'd.)*

## *Response to Comment*
## *Commentor No. 72: Bay Point Municipal Advisory Council Member George Delacruz (Cont'd.)*

identified is not greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, such adverse impacts have not been observed during the 30 plus years foreign research reactor fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel at Concord NWS.

***Response to Comment No. 72-23***

The commentor's position on Management Alternative 2 is noted. Management Alternative 2 is discussed in Sections 2.3 and 4.4. of the EIS.

***Response to Comment No. 72-24***

The risk of releasing radioactive material from a foreign research reactor spent nuclear fuel transportation cask as the result of a seismic event is low. Transportation casks are designed and built to withstand significant punishment without releasing their contents (Section 2.6.2 of the EIS). Therefore, a seismic event, even if it caused structures at Concord NWS to fail, is not expected to compromise the transportation cask.

***Response to Comment No. 72-25***

DOE understands that the expansion of capabilities at Concord NWS will continue as scheduled regardless of the outcome of the proposed policy on foreign research reactor spent nuclear fuel. The principal upgrade to occur at Concord NWS is the addition of two container cranes. Although these cranes would facilitate the off-loading of the foreign research reactor spent nuclear fuel, if it were to be shipped to Concord NWS, the current container handling equipment is adequate. Therefore, no new facilities are required in order to use Concord NWS. The facility upgrade that is to occur at Concord NWS has no connection with the proposed policy to manage foreign research reactor spent nuclear fuel. The need for construction of new facilities or modification of existing facilities discussed in Section 1.4 is referring to construction or modification of DOE management sites, not ports or bases that might receive the spent nuclear fuel for transshipment to the management sites.

***Response to Comment No. 72-26***

The impacts of ultimate disposition of foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime,

support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

***Response to Comment No. 72-27***

Under Implementation Alternative 6, vitrified high-level waste generated after chemical separation of spent nuclear fuel is expected to be acceptable for geologic disposal. The criteria for waste acceptance in a geologic repository and the long-term performance of the repository are still under investigation, but vitrified waste is known to be very stable over long periods of time.

The technology for chemical separation of spent nuclear fuel is not under development, but rather has been used for decades and is still being used today in several nations.

If the decision is made to accept foreign research reactor spent nuclear fuel into the United States, and if DOE's decision is to store the foreign research reactor spent nuclear fuel instead of chemically separating it, then new construction for long-term storage would be necessary at any of the five management sites.

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs EIS. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory.

***Response to Comment No. 72-28***

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing foreign research reactor spent nuclear fuel to the Concord NWS, or to any port analyzed in the EIS, is low.

There are no regulations against sending spent nuclear fuel through the Panama Canal. Furthermore, Mr. Head does not recall stating that the Panama Canal would not be used. It is possible that, if foreign research reactor spent nuclear fuel is accepted into the United States, some of it may pass through the Panama Canal. Appendix D, Section D.5.3.1 of the EIS discusses the probability of the release of radioactive material from a spent nuclear fuel transportation cask and shows that the probability is low.

## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

***Response to Comment No. 72-29***

The EIS evaluates the risk associated with marine port activities in Section 4.2.2. The port impacts were evaluated for both incident-free and accident conditions. Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents, however, the number of earthquake-induced ship and road accidents is small compared to other causes. DOE considers that the inclusion of geologic survey maps of the Concord NWS area is not relevant to the impacts analysis presented in Section 4 of the EIS.

***Response to Comment No. 72-30***

The commentor's suggestion that all spent nuclear fuel go to a new wet storage facility at the Oak Ridge Reservation is noted.

***Response to Comment No. 72-31***

DOE did not specify a preferred alternative in the draft EIS. DOE's preferred alternative is specified in this final version of the EIS (Sections 2.9 and 4.7). However, if DOE decides to accept the maximum quantity of foreign research reactor spent nuclear fuel into the United States under the basic implementation of Management Alternative 1 (Section 2.2.1), the number of shipments expected to be received at West Coast ports would be approximately 185 over 13 years, or about one a month. Other possible amounts of foreign research reactor spent nuclear fuel that might be accepted on the West Coast under the hybrid alternative range from 185 to zero.

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay Appendix D, Section D.1.9.2). (Appendix D, Section D.5.3.1.3 presents a discussion of the determination of the probability of ship accidents used in the EIS.

RESPONSE TO COMMENT
COMMENTOR NO. 72: BAY POINT MUNICIPAL ADVISORY COUNCIL MEMBER GEORGE DELACRUZ (CONT'D.)

### *Response to Comment No. 72-32*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

### *Response to Comment No. 72-33*

The majority of transportation casks used for transport of foreign research reactor spent nuclear fuel are smaller in size than that used for commercial power reactor spent nuclear fuel. This fact alone does not mean that it is easier to handle. As stated in the response to Comment 72-7, the likelihood that an individual could get to the ISO container and have sufficient time to accomplish the scenario that has been hypothesized by the commentor is low. Nevertheless, Appendix D, Section D.5.9 of the EIS evaluates the consequences of an enveloping sabotage scenario.

### *Response to Comment No. 72-34*

The impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in deep ocean waters was estimated in Appendix C, Section C.5 of the EIS. In that analysis it was assumed that the transportation cask seals would rupture if the cask were to sink in the deep ocean. If the cask is not recovered, the spent nuclear fuel corrodes and all of the radioactive material eventually reaches the ocean environment. However, the results of this analysis shows that both the consequences and the risk of this accident are low (Appendix C, Sections C.5.4 and C.5.5). Very little fishing or other harvesting of the deep ocean occurs due to difficulty of such an operation and to the relatively low populations of life in the deep ocean, so the food chain would be little impacted by an accident that resulted in the loss of a cask in the deep ocean.

### *Response to Comment No. 72-35*

The distance from the port to the management site(s) is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations such as port population, route population, port experience with handling containers, and access to the ocean would have to be considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

### *Response to Comment No. 72-36*

The commentor's suggestion that the U.S. only subsidize management of foreign research reactor fuel from developing countries (Section 2.2.2.3 of the EIS) is noted.

## COMMENTOR NO. 78: CITY OF FEDERAL WAY

CITY OF FEDERAL WAY
33530 1ST WAY SOUTH
(206) 661-4000
FEDERAL WAY, WA 98003-6210

May 26, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue SW
Washington, D. C. 20585

Dear Mr. Head:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) on the proposed Nuclear Weapons Proliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

The City of Federal Way is a municipality of 73,500 persons north of and adjacent to the City of Tacoma. Our municipal boundary is only one mile from the Port of Tacoma. Our review of the DEIS leads us to the conclusion that the review is inadequate in several respects:

1. The DEIS fails to adequately addresses security issues at the port and in transit. What measures are provided to adequately secure the spent fuels from a hostile attempt to steal or pirate the casks while in transit on ship, rail or truck? *78-1 & 78-2*

2. The DEIS fails to adequately identify emergency response in the event of a catastrophic mishap. What agency and resources would respond? What is the plan of action? Who is responsible for training? *78-3*

3. The DEIS fails to adequately address the socio-economic factors that would be associated with the stigma of being a port for the transport of spent nuclear fuel. What costs would there be associated with lack of future business to the Port of Tacoma and the City of Tacoma by those choosing to do business elsewhere because of this issue? *78-4*

Without a complete and detailed analysis addressing these issues it would appear that the DEIS is inadequate. You can contact me at (206) 661-4106 if you have any questions.

Sincerely,

Gregory D. Moore

Gregory D. Moore, AICP
Director of Community Development Services

c: Federal Way City Council
United States Representative Randy Tate
United States Senator Patty Murray
United States Senator Slade Gorton
State Representative Ray Schow
State Representative Tim Hickel
State Representative Maryann Mitchell
Patrick O'Malley, President, Port of Tacoma, and Commissioners
Harold G. Moss, Mayor, City of Tacoma, and Council

## RESPONSE TO COMMENT
## COMMENTOR NO. 78: CITY OF FEDERAL WAY

### *Response to Comment No. 78-1*

To better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel, Appendix H has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 78-2*

The requirements for physical protection of spent nuclear fuel shipments are specified in 10 CFR Part 73.37. The principal points are (1) cooperation with local law enforcement agencies, (2) armed escorts, and (3) communications with a communications center that is staffed 24 hours per day. (Section 5.4.2 of the EIS.)

For truck shipments in heavily populated areas, one escort vehicle containing an armed guard would lead the truck and another escort vehicle containing another armed guard would follow the truck. In less populated areas, there would be only one escort vehicle instead of two. For rail shipments, the escort would ride on the train in a location that permits observation of the shipment car while the train is in motion.

### *Response to Comment No. 78-3*

Each port considered in the EIS has developed an Area Contingency Plan. This plan outlines response capabilities, procedures and authorities for responding to and recovering from hazardous material incidents. Additionally, DOE would provide assistance to local authorities to ensure that appropriate measures would be taken in the unlikely event of an accident. As part of this assistance, DOE's Radiological Assistance Program teams, from eight offices strategically located throughout the country, would be used to coordinate and to provide remediation assistance. This type of assistance and coordination would be specified in the Transportation Plan that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H of the EIS. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected.

### *Response to Comment No. 78-4*

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified would not be greater than the risk associated with the handling of other hazardous

cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving foreign research reactor spent nuclear fuel. Based on this past experience, DOE considers that shipping foreign research reactor spent nuclear fuel through the Port of Tacoma would have no adverse economic impacts on business within the port or the surrounding communities.

## COMMENTOR NO. 79: MARTINEZ CITY COUNCIL MEMBER JULIAN FRAZER

City of Martinez
525 Henrietta Street, Martinez, CA 94553-2394
(510) 372-3505
FAX: (510) 372-0257

May 26, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

I appreciated the opportunity to address questions to you at the May 22 public hearing in Concord. As an elected councilperson and resident of the City of Martinez, I am concerned that the Department of Energy (DOE) has not fully considered critical health and safety issues raised by its proposal to ship foreign spent nuclear fuel through the Concord Naval Weapons Station (Concord NWS).

This letter is my individual position. The City Council will consider adopting a City position on June 5, 1995.

The City of Martinez, like Concord, has been a close neighbor to the Concord NWS for over 50 years. Martinez is a major refinery and chemical production center, and together with Richmond and Benicia, forms part of one of the largest refinery areas in the United States. Millions of tons of petroleum and chemicals pass through these ports every year. The proposed federal action will move spent nuclear fuel directly through the heart of this busy area. We note that the draft environmental impact statement (Draft EIS) does not appear to take the proximity to refineries or refinery ship traffic into consideration in its calculations of risk of accident from the project. The ships bearing spent nuclear fuel will pass under at least six bridges (including the Golden Gate) before reaching Concord NWS. Moreover, the Draft EIS does not appear to acknowledge the close proximity of the Concord Fault to the Concord NWS, or consider the risk of seismic disturbances in the immediate vicinity of shipping activities. 79-1 79-2

The Draft EIS considers the hazards of an accident to be so minimal as to be comparable to routine human activities, as shown in Table 4-60. This assertion appears inconsistent with DOE's explanation for moving the proposed entry port from Oakland to Concord NWS, namely that the area around Concord NWS has a lower population than that surrounding Oakland. In addition, the stated preference for military ports also suggests a higher level of risk than acknowledged in the Draft EIS. 79-3 79-4

CITY COUNCIL: Michael M. Marchetti, Mayor · Hankerson Hall · Timothy F. Corley · Julian M. Frazer · Barbara J. Woodhouse
CITY MANAGER: James Abel

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## RESPONSE TO COMMENT COMMENTOR NO. 79: MARTINEZ CITY COUNCIL MEMBER JULIAN FRAZER

### *Response to Comment No. 79-1*

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (port selection Criterion 2; Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS. The addition of some mishap at a land-based facility would not add to the severity of this accident, and so was not considered. Section 4.2.2.3 discusses the assumptions that went into the port accident analysis and the results of those analyses.

### *Response to Comment No. 79-2*

Appendix D, Section D.2.1.6 of the EIS discusses the seismic activity at Concord NWS. Transportation casks are designed and built to withstand significant punishment without releasing their contents (Section 2.6.2 of the EIS). Therefore, a seismic event, even if it caused structures at Concord NWS to fail, is not expected to compromise the transportation cask. Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents, however, the number of earthquake-induced ship and road accidents is small compared to other causes.

### *Response to Comment No. 79-3*

Concord NWS was one of ten ports that was indicated to be acceptable to receive the foreign research reactor spent nuclear fuel, if accepted into the United States. Population of the port and surrounding areas is one of the considerations of the port selection criteria, and one of the reasons the port of Oakland was not included in the final list of ports. Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the Fiscal Year 1994), requires that the Secretary of Energy shall, "if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel...at a port of entry in the United States which...had the lowest human population in the area surrounding the port of entry..." Public Law 103-160 was signed on November 30, 1993, which is after completion of the scoping process for this EIS, including the scoping meeting in Oakland, California. While the National Defense Authorization Act was written

## COMMENTOR NO. 79: MARTINEZ CITY COUNCIL MEMBER JULIAN FRAZER (CONT'D.)

Charles Head
May 26, 1995
Page 2

The Draft EIS does not appear to explain the social or economic impact of a catastrophic accident. I am further concerned that the Draft EIS does not address the hazard to human health that might result from an intentional breach of a radioactive cask. One of the principal reasons given by DOE for return of the spent fuel is to avoid such potential activities (i.e., terrorism) in foreign countries, but recent events show that our country is not exempt from these activities. 79-5 79-6

I have many questions concerning the impacts and costs imposed by the proposed project upon already strained local services that would be required in the event of an accident. In your presentation on May 22, you stated that local agencies would be responsible for responding to an accident once the material leaves Concord NWS. However, we do not know what assistance Concord NWS or DOE would request in the event of a ship-board fire or accident at Concord NWS? What particular police, fire, and emergency services would be required in the event of an accident? What is the fiscal cost to local communities imposed by the project? What additional social services will be required by Concord NWS in order to carry out the proposed activity? Will DOE provide financial and other assistance to the county, Martinez, Concord, and other communities along transportation routes? 79-7

The Draft EIS does not identify the streets and roads in the immediate vicinity of Concord NWS that would be connect with interstate highways. The lack of such information inhibits the ability of local providers of emergency services to plan for potential responses in the event of an accident. I must point out that the most direct route to I-680 is Waterfront Road, which passes through the City limits of Martinez. 79-8

The present deadline for responses to the Draft EIS (June 20) provides insufficient time for local agencies and members of the public to respond to a federal proposal of such local significance. Normally, project proposals that are presented to our City require months of consideration and discussion before a decision is made. I request that DOE extend the comment period for at least 60 additional days (until August 20, 1995), and respond to these concerns in writing at your earliest opportunity. 79-9

Thank you for affording me the opportunity to present these matters to you.

Sincerely,

Julian Frazer
Councilmember

cc: Mayor and City Council, Martinez
Community Development Department, Martinez
Association of Bay Area Governments (ABAG)
Contra Costa County Board Supervisors
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman Bill Baker
Congressman George Miller

## RESPONSE TO COMMENT COMMENTOR NO. 79: MARTINEZ CITY COUNCIL MEMBER JULIAN FRAZER (CONT'D.)

specifically to regulate the receipt and storage of foreign research reactor spent nuclear fuel at DOE's Savannah River Site, DOE elected to apply this criterion, among others, in identifying potential ports of entry, to the maximum extent practicable.

DOE included consideration of Section 3151 of Public Law 103-160 by including Criterion 5 in the port selection criteria for this EIS (Appendix D, Section D.1.9.5). Application of this criterion resulted in Oakland being dropped from the list of proposed ports of entry, while Concord NWS stayed on the list.

### *Response to Comment No. 79-4*

Ten ports that are considered to be able to safely receive foreign research reactor spent nuclear fuel were selected using the port selection criteria discussed in Appendix D, Section D.1.9. of the EIS. Examination of the port selection criteria will show that there is no stated preference for military ports, contrary to the comment. Either military or commercial ports, if they meet the selection criteria, are equally acceptable. Risks associated with accidents in both military and commercial ports are discussed in Appendix D, Section D.5.5.

### *Response to Comment No. 79-5*

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios, including catastrophic accidents. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4.

### *Response to Comment No. 79-6*

An analysis of an enveloping sabotage scenario, cask explosion, is evaluated in Appendix D, Section D.5.9, of the EIS. The consequences of such scenario indicate that the general property destruction and numerous fatalities and injuries that could result from the explosion would result in far greater harm to the general health of the public in the immediate vicinity of such explosion than caused by the release of radioactive material from the spent nuclear fuel inside the transportation cask.

### *Response to Comment No. 79-7*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transportation to the designated management site if foreign research reactor spent nuclear fuel is managed in the United States. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance

## *Commentor No. 79: Martinez City Council Member Julian Frazer (Cont'd.)*

## *Response to Comment Commentor No. 79: Martinez City Council Member Julian Frazer (Cont'd.)*

to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

***Response to Comment No. 79-8***

DOE has not yet selected ports, routes, or transport modes for the foreign research reactor spent nuclear fuel. If Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with U.S. Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, and/or Waterfront Road. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

***Response to Comment No. 79-9***

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers that the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 91: CITY OF BERKELEY


City of Berkeley

City Clerk Department
Martin Luther King, Jr. Civic Center Building
2180 Milvia Street
Berkeley, California 94704

TEL: (510) 644-6480 FAX: (510) 644-8801


May 30, 1995

Public Comments on the Draft FRR SNF EIS
Attn.: Charles R. Head
Office of Spent Fuel Management (EM-37)
United States Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-0001

Subject: Proposed Policy of Transporting Spent Fuel Rods of Nuclear Waste from Foreign Research Reactors back to the United States for Permanent Storage

On May 23, 1995, the Berkeley City Council unanimously expressed its opposition to the proposed policy which would permit the return of spent HEU (highly enriched uranium) wastes to various ports in the United States including the Concord Naval Weapons Center via San Francisco Bay.

It is understood that the intent of this policy is to reduce the risk of plutonium contained in these wastes being used to produce nuclear weapons in other countries and that this policy is to serve as an incentive for the substitution of low level uranium by foreign research reactors. Balanced against these considerations, however, should be the concern that the environmental and public health impacts from even brief exposures to the radioactivity in these spent fuel rods are extremely dangerous. The dispersal of even a small quantity of this material into the environment by fire and explosion (as happened at Chernobyl on a massive scale) can have dire economic and health consequences which could last for decades or even centuries. The potential for accident during shipment by sea is serious, and the potential risk, particularly airborne, in case of fire, in transportation of these materials through the San Francisco Bay and the estuary to Concord for even temporary storage is enormous given the population density in the Bay Area. 91-1 91-2 91-3 91-4

These comments are submitted to you for inclusion among the formal comments for the public hearings on this issue.

Sincerely,

Sherry M. Kelly
City Clerk

Telecommunication Device for the Deaf (510) 644-6915

## RESPONSE TO COMMENT
## COMMENTOR NO. 91: CITY OF BERKELEY

### *Response to Comment No. 91-1*

The intent of the proposed action is to support U.S. nuclear weapons nonproliferation policy seeking to reduce, and eventually eliminate, the use of highly enriched (weapons-grade) uranium in civil programs worldwide (Section 1.2 of the EIS). The proposed action encourages the continued use of, or conversion to, LEU fuels in foreign research reactors. Plutonium is present in such minute quantities in spent nuclear fuel from research reactors that it is not considered a proliferation threat. The uranium-235 content of HEU spent nuclear fuel is a significant proliferation concern.

### *Response to Comment No. 91-2*

The risks of adverse environmental and human health effects were evaluated and found to be low. The general radiological health effects are quantified in Section 4.1.3 and the risks associated with each alternative are presented throughout the rest of Section 4 of the EIS.

### *Response to Comment No. 91-3*

The health risks due to accidents involving the transportation and other management of the foreign research reactor spent nuclear fuel are discussed in Sections 4.2.3 and 4.2.4 of the EIS. The results of the analyses of the credible accidents involving foreign research reactor spent nuclear fuel demonstrate that the risk associated with implementation of the proposed action is low. Due to differences in the nature of the foreign research reactor spent nuclear fuel from the situation at Chernobyl (e.g., Chernobyl involved an operating power reactor with a graphite moderated core versus the foreign research reactor spent nuclear fuel which is metallic, water moderated, shutdown and shipped dry in relatively small quantities), there are no accidents involving the foreign research reactor spent nuclear fuel that could approach the severity of the Chernobyl accident.

### *Response to Comment No. 91-4*

The probability of an accident at sea is discussed in Appendix C, Section C.5.5 of the EIS, while the port accident probabilities are found in Appendix D, Section D.5.3.1.3. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.2.3). With respect to accidents involving a fire as mentioned by the commentor, the EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), during which an airborne release of radioactive material results. Appendix D, Section D.5.4 of the EIS presents the results of the analysis.

## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL

Fax Transmittal Memo

To Charles Head
Company US Dept of Energy
Location
Fax #
Telephone #
Comments thank you for your consideration.

(4) No. of Pages 4
Today's Date 6/6/95
From Pierce County Council
930 Tacoma Ave So #1046
TACOMA, WA 98402
(206) 591-7777
Original Disposition: ☐ Destroy ☐ Return ☐ Call for pickup

FILE NO. 282 PROPOSAL NO. R95-112

Sponsored by Councilmembers Karen Biskey, Wendell Brown, Ken Madsen, Jan Shabro and Sally W. Walker

Requested by Ken Madsen

RESOLUTION NO. R95-112

A RESOLUTION OF THE PIERCE COUNTY COUNCIL EXPRESSING STRONG OPPOSITION TO THE ADOPTION OF A POLICY, BEING PROPOSED JOINTLY BY THE UNITED STATES DEPARTMENT OF ENERGY AND UNITED STATES DEPARTMENT OF STATE, TO ACCEPT AND MANAGE SPENT NUCLEAR FUEL FROM FOREIGN RESEARCH REACTORS BY SHIPMENT THROUGH THE PORT OF TACOMA, WASHINGTON.

WHEREAS, the United States Department of Energy and the United States Department of State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

WHEREAS, nuclear fuel containing uranium enriched in the United States of America would be covered by this policy; and

WHEREAS, the purpose of this policy is to promote United States nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce, and

WHEREAS, the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy are assessed; and

WHEREAS, alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States; and



## RESPONSE TO COMMENT
## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL

## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

RESOLUTION NO. R95-113 continued

WHEREAS, under alternative number one the spent nuclear fuel would be shipped by ocean-going vessels from foreign countries to the United States of America; and

WHEREAS, the Pierce County Council is the legislative body for Pierce County, Washington, and the Port of Tacoma is a part thereof, and

WHEREAS, the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur, and

WHEREAS, the Draft Environmental Impact Statement (DEIS) was prepared to address the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel; and

A. the DEIS has used outdated information about the Port of Tacoma, its terminals, its operations, and the surrounding area; 94-1

B. the DEIS did not consider the deep-water depth in the Puget Sound area, which will cause substantial problems in recovery of nuclear fuel shipping containers in case of accident; 94-2

C. the DEIS fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating Puget Sound; 94-3

D. the DEIS did not recognize the status of Commencement Bay as a superfund site, the stigma attached to this designation, and the expansion of this stigma by Alternative Number One; 94-4

E. the DEIS ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma, the industries in Commencement 94-5

Page 2 of 4

## RESPONSE TO COMMENT
## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

### *Response to Comment No. 94-1*

Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS.

### *Response to Comment No. 94-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters. The impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in coastal and deep waters are estimated in the EIS (Appendix C, Section C.5). The results of this analysis show that both the consequences and the risk of these accidents are low (Appendix C, Sections C.5.4 and C.5.5).

### *Response to Comment No. 94-3*

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire during marine transport, including accidents close to land as would be the case in Puget Sound. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5). Although the non-radiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 94-4*

The acceptance of foreign research reactor spent nuclear fuel through the Port of Tacoma would neither affect the activities being conducted in Commencement Bay as a result of being a Superfund Site, nor would it add any additional burden to this designation. The transport of the spent nuclear fuel on the Bay would not add any hazardous material to the Bay or the environment. DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS recognizing the designation of the Commencement Bay as a Superfund Site. The notion that the spent nuclear fuel shipments, but not other more hazardous material shipments, passing through the Port of Tacoma would create a stigma is an unjustified fear. The analysis of impacts, as documented in Section 4 of the EIS, shows that there would be no significant adverse impacts on the port, people, or natural environment from

## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

RESOLUTION NO. R95-113 continued

Bay, and the associated crippling business interruption issues; 94-5 (Cont'd.)

F. the DEIS stated that part of this material would be of interest to unfriendly nations and/or terrorists, and yet did not provide adequate risk and consequence information of a complete, explosive breach of the nuclear fuel by disgruntled persons or terrorists; 94-6

G. the DEIS did not consider the security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County, and the State of Washington; 94-7

H. the DEIS did not adequately address the life cycle costs or benefits and risks of the proposed alternatives; 94-8

I. the DEIS fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential; and 94-9

WHEREAS, the record for the safe operation and handling of nuclear materials in United States Department of Energy regulated facilities is less than satisfactory, and there are facilities owned and operated by the United States Government capable of receiving and handling this nuclear material, and 94-10

WHEREAS, the United States House Budget Resolution eliminates the United States Department of Energy thereby creating funding uncertainties, and 94-11

WHEREAS, the United States Department of Energy has failed to properly answer a question in a meeting conducted by the Port of 94-12

Page 3 of 4

## RESPONSE TO COMMENT
## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

shipments of foreign research reactor spent nuclear fuel through any of the ports of entry. Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 94-5*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years experience shipping spent nuclear fuel, DOE considers that transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway analyzed in the EIS would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. Similarly, DOE considers that based on the experience of ports that have received spent nuclear fuel in the past, there would be no adverse impacts to any businesses or industry in the Commencement Bay/Port of Tacoma area from shipments of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 94-6*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all the security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 94-7*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

See also the 1st Paragraph of the response to Comment 94-6, above.

## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

RESOLUTION NO. R95-113 continued

Tacoma, in Tacoma on the 22nd day of May, 1995, pertaining to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, or to respond in writing to that question as promised and; NOW, THEREFORE, 94-12 (Cont'd.)

BE IT RESOLVED by the Council of Pierce County:

Section 1. The Pierce County Council strongly opposes adoption of a policy, being proposed jointly by the United States Department of Energy and United States Department of State, to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington. 94-13

Section 2. Copies of this Resolution shall be transmitted to President Clinton, Vice President Gore, the United States Department of Energy, the United States Department of State, the Washington State Congressional delegation, the Washington State Legislature, the Office of the Governor, the Pierce County Executive, the King County Council and Executive, and all Cities and Towns in Pierce County.

PASSED this 6th day of June, 1995.

ATTEST:

Clerk of the Council

PIERCE COUNTY COUNCIL
Pierce County, Washington

Council Chair

Approved As To Form Only:

Deputy Prosecuting Attorney

Page 4 of 4

## RESPONSE TO COMMENT
## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

### *Response to Comment No. 94-8*

Section 4.9 and Appendix F, Section F.7 of the EIS fully address the life cycle costs, risks, and benefits of the proposed action. The use of a net present value approach reflects the life cycle costs. Benefits would be primarily in the form of reduced risks of the proliferation of nuclear weapons to countries who might use them on us or our allies, as well as, income and employment to the management sites and regions conducting the programs and to the nation from reducing the commerce in certain types of nuclear materials. Health and safety risks would be low, as discussed fully Section 4 of the EIS and Appendices C, D, E, and F. Economic risks are described in detail in Appendix F, Section F.7. Particular attention is paid to major cost uncertainties (e.g., waste acceptance criteria, geologic disposal). Economic impacts relating to ports are minor in all respects.

### *Response to Comment No. 94-9*

As demonstrated by the analyses in the EIS, the risk associated with accepting spent nuclear fuel from foreign research reactors through any of the ports analyzed would be low. This result is borne out by the experience gained in over 30 years of shipments of foreign research reactor spent nuclear fuel to the United States. Accordingly, DOE considers that there is no fairness or equity issue to be resolved.

### *Response to Comment No. 94-10*

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

### *Response to Comment No. 94-11*

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 94: PIERCE COUNTY COUNCIL (CONT'D.)

***Response to Comment No. 94-12***

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no transportation cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst cause analysis in an EIS. For the purpose of analysis in the EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

***Response to Comment No. 94-13***

The commentor's opposition to bringing the foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, Section 4.4.2 and 4.5 demonstrate that the risks associated with bringing the spent nuclear fuel through the Port of Tacoma, or any port analyzed in the EIS, is low.

## COMMENTOR NO. 113: CITY OF CONCORD

AGENDA ITEM NO. 4

Concord

REPORT TO MAYOR AND COUNCIL

TO THE HONORABLE MAYOR AND COUNCIL:

DATE: June 6, 1995

**SUBJECT:** **CONSIDERATION OF A RESPONSE TO THE U. S. DEPARTMENT OF ENERGY'S DRAFT ENVIRONMENTAL IMPACT STATEMENT ON A PROPOSED NUCLEAR NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL**

**Report in Brief**

The U. S. Department of Energy has had a Draft Environmental Impact Statement prepared on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. The Port of Concord at the Naval Weapons Station could be used by ships bringing spent fuel rods into the United States. Spent fuel rods would be loaded on trucks and trains and transported to designated temporary storage sites. There are numerous public safety and public welfare issues associated with this project. The City of Concord has until June 20, 1995 to respond to the Department of Energy regarding the adequacy of the EIR and the proposed project.

**Background**

For a number of years the federal government has provided foreign countries with nuclear fuel for research purposes. After the fuel is used, or spent, it cannot be used for nuclear research activities. However, this spent fuel could be used by foreign countries or terrorist organizations to manufacture nuclear bombs.

The federal government is considering the adoption of a policy which would allow foreign countries to have their spent nuclear fuel shipped to and stored in this country. Storage in this country, according to the Department of Energy, would lessen the possibility of spent nuclear fuel rods falling into the hands of terrorists or irresponsible governments. The Port of Concord at the Concord Naval Weapons Station is one of the port facilities being considered by the Department of Energy as an entry point for fuel rods into the United States.

The Department of Energy has had a draft environmental impact statement (DEIS) prepared on the proposed policy to ship and store spent nuclear fuel rods in the U. S. The Department of Energy conducted a public informational hearing on this proposal at Centre Concord on May 22. About 235 people were in attendance. Mayor Allen and Councilmember McManigal were at the meeting. The Mayor read the attached letter into the record. The letter outlines the City's concerns and raises questions; it does not take a position on the issue. 113-1

## RESPONSE TO COMMENT
## COMMENTOR NO. 113: CITY OF CONCORD

*Response to Comment No. 113-1*

The letter referenced in and attached to the Concord City Council Agenda Item No. 4 summary has been received by DOE and is identified as document 22. Responses have been provided to each comment stated in document 22, which is located in the portion of this volume designated for comments received from local governments.

## COMMENTOR NO. 113: CITY OF CONCORD (CONT'D.)

U. S. Department of Energy's Draft EIS on a Proposed Nuclear Nonproliferation
Policy Concerning Foreign Research Reactor Spent Nuclear Fuel
June 6, 1995
Page 2

**Discussion**

The City Council has the option whether or not to respond to the EIS. If the Council does decide to respond, staff recommends that comments be limited to potential impacts to life and property in Concord. Staff further recommends that the City Council not take a position on the merits of the federal government's proposed policy to ship fuel rods from foreign countries to the U. S. International foreign policy issues are not matters normally addressed by local governments.

Staff also recommends that the City's response separate the role of the Weapons Station from the Department of Energy proposal. This issue is discussed in the second paragraph of the attached letter from the Mayor to the Department of Energy.

If the Council does decide to respond to the EIS, the Council could express concerns similar to those addressed in the letter from the Mayor to the Department of Energy. Alternatively, the Council could take a position either in support or in opposition to the Department of Energy proposal.

A staff member from the Department of Energy will be present at the June 6 City Council meeting to address relevant issues.

**Fiscal Impact**

There are no known direct and significant fiscal impacts to the federal proposal.

**Public Contact**

This item was announced to the public at the Department of Energy public information meeting of May 22. Posting of the Council agenda.

**Alternative Courses of Action**

1. Submit a letter to the Department of Energy in opposition to the proposed policy due to the concerns mentioned in the attached letter. Stress the inadequacy of the EIS and potential impacts to the community.

2. Take no position but submit a letter to the Department of Energy addressing the City's concerns about the proposed policy.

3. Submit a letter to the Department of Energy supporting the proposed policy.

4. Take no position.

## RESPONSE TO COMMENT
## COMMENTOR NO. 113: CITY OF CONCORD (CONT'D.)

U. S. Department of Energy's Draft EIS on a Proposed Nuclear Nonproliferation
Policy Concerning Foreign Research Reactor Spent Nuclear Fuel
June 6, 1995
Page 3

**Recommendation for Action**

1. Alternative #1 or #2 above.

Prepared by David Golick
Chief of Planning

Bill Reeds
Director of Community Development

Edward R. James
City Manager

Enclosure: Letter to U. S. Department of Energy from Mayor Helen Allen dated May 22, 1995.

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## COMMENTOR NO. 158:
## WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL

recycled paper

**City of Pleasant Hill**

June 8, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
United States Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The City Council of the City of Pleasant Hill strongly opposes the "preferred alternative" in the Environmental Impact Statement (EIS) that proposes the transport of spent nuclear fuel through the Concord Naval Weapons Station. Pleasant Hill is located immediately adjacent to the City of Concord, and any potential adverse impacts of this proposal would affect our City, as well as other surrounding communities. 158-1

We understand that the proposal identifies Concord as a site for accepting spent nuclear fuel from reactors around the world, and then shipping the hazardous material out by truck or rail to processing sites elsewhere in the country. We object because Concord is part of a densely populated area, and shipments to and from Concord would pass by several oil refineries, chemical plants and oil tankers in the area. Moreover, the area is located on an earthquake fault, which adds to the possible risks. An accident or natural disaster occurring during the transportation of the hazardous materials could be catastrophic for our community. 158-2

We understand that the EIS does not address where the shipments will go when they leave Concord, which streets will be used, what railroads will be used, what police services might be necessary, what disaster preparedness and emergency response training would be necessary, or other ways that local jurisdictions would be affected. In this regard, we join in the specific comments and concerns directed to you by the June 7, 1995 letter from the City of Martinez City Council, a copy of which is attached. 158-3

100 Gregory Lane - Pleasant Hill - California 94523-3323 - (510) 671-5270 - FAX 256-8190

## RESPONSE TO COMMENT
## COMMENTOR NO. 158:
## WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL

### *Response to Comment No. 158-1*

DOE did not specify a preferred alternative in the draft EIS. DOE's preferred alternative is specified in Sections 2.9 and 4.7 of the final EIS. The commentor's opposition to the use of Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 158-2*

The port selection process that determined that Concord NWS was an acceptable port considered the population of the port and surrounding areas (Appendix D, Section D.1.9.5 of the EIS). Additionally, all population within a fifty mile radius of Concord NWS was considered when analyzing the potential impact of a range of hypothetical port accidents. The risks were found to be low (Appendix D, Section D.5 of the EIS).

The passage from San Francisco Bay to Concord meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS). The port selection criteria do not consider the existence of land-based facilities such as refineries because the addition of some mishap at a land-based facility would not add to the severity of the worst plausible accident, which is considered to be the collision of the ship carrying the foreign research reactor spent nuclear fuel with a petroleum tanker. While local hazards, such as earthquakes, may slightly increase the probability of an accident, they would not increase the consequences of the accident, which were found to be very minor.

### *Response to Comment No. 158-3*

The EIS actually does address all the subjects raised by the commentor. Section 2.2.1.8 discusses the shipments' destinations, Section 2.6.4 discusses truck and rail route selection, and Section 2.7. discusses police services, disaster preparedness, etc.,

In addition, to further address this issue, individual Transportation Plans would be prepared for any shipments actually scheduled for acceptance through the Concord NWS (or any other port of entry). These Transportation Plans would be prepared in consultation with appropriate State and/or local officials to ensure that details of the transportation process are understood, that the individuals or organizations who would perform all required activities are specified and that these individuals and parties know what is expected of them (Section 2.7.5 and Appendix H of the EIS).

## COMMENTOR NO. 158:
## WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL (CONT'D.)

June 8, 1995 Letter to U.S.Dept. of Energy
Page 2

We further object to the short time which has been made available for public comment. The June 20, 1995 deadline for responses should be extended to allow thorough evaluation and consideration of this proposal which has serious consequences to our community. 158-4

Very truly yours,

William D. Landis, Mayor
City of Pleasant Hill

Enclosure: June 7, 1995 Letter from City of Martinez City Council

cc: City Council Members, Pleasant Hill
Mayor and City Council, Martinez
Contra Costa County Board of Supervisors
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman Bill Baker
Congressman George Miller

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## RESPONSE TO COMMENT
## COMMENTOR NO. 158: WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL (CONT'D.)

*Response to Comment No. 158-4*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 160: CITY OF MILTON

RESOLUTION NO. 1234

A RESOLUTION OF THE MILTON CITY COUNCIL EXPRESSING STRONG OPPOSITION TO THE UNITED STATES DEPARTMENT OF ENERGY AND UNITED STATES DEPARTMENT OF STATE TO JOINTLY ADOPT A POLICY TO ACCEPT AND MANAGE SPENT NUCLEAR FUEL FROM FOREIGN RESEARCH REACTORS BY SHIPMENT THROUGH THE PORT OF TACOMA, WASHINGTON, AND TO SUPPORT THE PORT OF TACOMA IN THIER REFUSAL TO ACCEPT ANY SHIPMENTS OF SPENT NUCLEAR FUEL THROUGH ANY FACILITIES OF THE PORT OF TACOMA, WASHINGTON.

**WHEREAS**, the United States Department of Energy and the United State Department of State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors, and

**WHEREAS**, nuclear fuel containing uranium enriched in the United States of America would be covered by this policy, and

**WHEREAS**, the purpose of this policy is to promote US nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce, and

**WHEREAS**, the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy are assessed, and

**WHEREAS**, alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States, and

**WHEREAS**, under alternative number one, the spent nuclear fuel would be shopped by ocean bearing vessels from foreign countries to the United States of America, and

**WHEREAS**, the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur, and

**WHEREAS**, the Draft Environmental Impact Statement (DEIS) was prepared to address the Propposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, and

A. The DEIS has used outdated information about the Port of Tacoma, its terminals and its operations and the surrounding **160-1**

## RESPONSE TO COMMENT
## COMMENTOR NO. 160: CITY OF MILTON

***Response to Comment No. 160-1***

Updated information on the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS.

## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

area,

B. Did not consider the deep water depth in the Puget Sound Area, which will cause substantial problems in recovery of nuclear fuel shipping containers in case of an accident. 160-2

C. Fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating Puget Sound, 160-3

D. Not recognized the status of Commencement Bay as a superfund site, the stigma attached to this designation and the expansion of this stigma by alternative number one, 160-4

E. Ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma and the industries in Commencement Bay, and the associated crippling business interruption issues, 160-5

F. States that part of this material would be of interest to unfriendly nations and/or terrorists, and yet did not provide adequate risks and consequences information of a complete, explosive breach of the nuclear fuel by disgruntled persons or terrorists, 160-6

G. Did not consider the security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County and the State of Washington. 160-7

H. Did not adequately address life cycle costs, benefits and risks of the proposed alternatives. 160-8

I. Fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential, and 160-9

**WHEREAS**, the record for the safe operation and handling of nuclear materials in US Department of Energy regulated facilities is less than satisfactory, and there are facilities owned and operated by the US Government capable of receiving and handling this nuclear material, and 160-10

**WHEREAS**, the US House Budget Resolution eliminates the US Department of Energy thereby creating funding uncertainties, and 160-11

**WHEREAS**, the US Department of Energy is failing to provide adequate procedural due process in that is is not making a record of its hearings thereby foreclosing individuals abilities to challenge the adequacy of the EIS, and 160-12

## RESPONSE TO COMMENT
## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

### *Response to Comment No. 160-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters. The impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in coastal and deep waters are estimated in the EIS (Appendix C, Section C.5). The results of this analysis show that both the consequences and the risk of these accidents are low (Appendix C, Sections C.5.4 and C.5.5).

### *Response to Comment No. 160-3*

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire during the marine transport, including accidents close to land as would be the case in Puget Sound. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5). Although the non-radiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 160-4*

The acceptance of foreign research reactor spent nuclear fuel through the Port of Tacoma would neither affect the activities being conducted in Commencement Bay as a result of being a Superfund Site, nor would it add any additional burden to this designation. The transport of the spent nuclear fuel on the Bay would not add any hazardous material to the Bay or the environment. DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS recognizing the designation of the Commencement Bay as a Superfund Site. The notion that the spent nuclear fuel shipments, but not other more hazardous material shipments, passing through the Port of Tacoma would create a stigma is an unjustified fear. The analysis of impacts, as documented in Section 4 of the EIS, shows that there would be no significant adverse impacts on the port, people, or natural environment from shipments of foreign research reactor spent nuclear fuel through any of the ports of entry. Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

WHEREAS, the US Department of Energy has failed to properly answer a question in a meeting conducted by the Port of Tacoma, in Tacoma on the 22nd of May, 1995 pertaining to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, and

WHEREAS, the US Department of Energy has not responded in writing as promised to a question relating to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, and

NOW, THEREFORE

The City Council of the City of Milton do resolve as follows:

Section 1. The City Council of the City of Milton, Washington supports the Port of Tacoma's refusal to accept any shipments of spent nuclear fuel through any facilities of the Port of Tacoma, Washington.

Section 2. That copies of this resolution be transmitted to the US Department of Energy, the US Department of State, the Congressional Delegation of Washington State Legislature, the Office of the Governor, Pierce County, King county and all Cities and Towns in Pierce County.

Passed at a regularly scheduled Council meeting of the City of Milton the 8th June 1995 by a vote of six for, zero against.

CITY OF MILTON

Mayor Leonard E. Sanderson

ATTEST:

Deborah M. Crosier, City Clerk-Treasurer

*160-13*

## RESPONSE TO COMMENT
## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

### *Response to Comment No. 160-5*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years experience with shipping spent fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway analyzed in the EIS would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. Similarly, DOE considers that based on the experience of ports that have received spent nuclear fuel in the past, there would be no significant adverse impacts to any businesses or industry in the Commencement Bay/Port of Tacoma area from shipments of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 160-6*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all the security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments, to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 160-7*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

***Response to Comment No. 160-8***

Section 4.9 and Appendix F, Section F.7 of the EIS fully address the life cycle costs, risks, and benefits of the proposed action. The use of a net present value approach reflects the life cycle costs. Benefits would be primarily in the form of reduced risks of the proliferation of nuclear weapons to countries who might use them on us or our allies, as well as, income and employment to the management sites and regions conducting the programs and to the nation from reducing the commerce in certain types of nuclear materials. Health and safety risks would be low, as discussed fully Section 4 of the EIS and Appendices C, D, E, and F. Economic risks are described in detail in Appendix F, Section F.7. Particular attention is paid to major cost uncertainties (e.g., waste acceptance criteria, geologic disposal). Economic impacts relating to ports are minor in all respects.

***Response to Comment No. 160-9***

As demonstrated by the analyses in the EIS, the risk associated with accepting spent nuclear fuel from foreign research reactors through any of the ports analyzed would be low. This result is borne out by the experience gained in over 30 years of shipments of foreign research reactor spent nuclear fuel to the United States. Accordingly, DOE considers that there is no fairness or equity issue to be resolved.

***Response to Comment No. 160-10***

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

***Response to Comment No. 160-11***

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 160: CITY OF MILTON (CONT'D.)

***Response to Comment No. 160-12***

DOE did request that comments be submitted in writing, however, all oral comments presented at each hearing were summarized and have been addressed along with the written comments in Volume 3 of the final EIS. All comments, written and oral, are part of the public record.

***Response to Comment No. 160-13***

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no transportation cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst case analysis in an EIS. For the purpose of analysis in the EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions.

## COMMENTOR NO. 195: CITY OF FEDERAL WAY

CITY OF FEDERAL WAY
33530 1ST WAY SOUTH

(206) 661-4000
FEDERAL WAY, WA 98003-6210

June 9, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue SW
Washington, D. C. 20585

Dear Mr. Head:

The City of Federal Way is a municipality of 73,500 persons north of and adjacent to the City of Tacoma. Our municipal boundary is only one mile from the Port of Tacoma. In a comment letter on the Draft Environmental Impact Statement (DEIS) dated May 26, 1995, I stated the growing concerns of the City of Federal Way over the proposed transportation of spent nuclear fuel through the Port of Tacoma and the inadequacy of the DEIS.

Since then, the Federal Way City Council has passed Resolution 95-205 which strongly opposes the shipment of spent nuclear materials through the Port of Tacoma. The Council also believes that the DEIS is incomplete in its findings regarding security, catastrophic mishap and economic impact on the entire area around the Port, including the City of Federal Way.

You can contact me at (206) 661-4106 if you have any questions.

Sincerely,

Greg Moore

Gregory D. Moore, AICP
Director of Community Development Services

attachment
c: United States Representative Randy Tate
United States Senator Patty Murray
United States Senator Slade Gorton
State Representative Ray Schow
State Representative Tim Hickel
State Representative Maryann Mitchell
Patrick O'Malley, President, Port of Tacoma, and Commissioners
Harold G. Moss, Mayor, City of Tacoma, and Council
Mic Dinsmore, Executive Director, Port of Seattle, and Commissioners

## RESPONSE TO COMMENT
## COMMENTOR NO. 195: CITY OF FEDERAL WAY

## COMMENTOR NO. 195: CITY OF FEDERAL WAY (CONT'D.)

RESOLUTION NO. 95-205

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FEDERAL WAY, WASHINGTON, OPPOSING THE SHIPMENT OF SPENT NUCLEAR MATERIALS THROUGH THE PORT OF TACOMA

WHEREAS, the Port of Tacoma is one of ten possible ports of entry listed in a Department of Energy March 1995 draft Environmental Impact Statement to receive spent nuclear fuel shipments and that such shipments would be trucked to nuclear fuel sites around the country; and

WHEREAS, the draft Environmental Impact Statement is inadequate in several respects, including that it fails to adequately address security issues at the port and in transit, it fails to adequately identify emergency response in the event of a catastrophic mishap and it fails to adequately address the socio-economic impacts associated with the stigma of being within the proximity of a port of entry of spent nuclear wastes, 195-1 195-2 195-3 195-4

WHEREAS, the City of Federal Way is a major municipality of 73,500 persons located only one mile from the Port of Tacoma; and

WHEREAS, the stigma and inherent risk of having the Port of Tacoma as a port of entry for the shipment of spent nuclear materials would throw a pall over the entire area around the port, including Federal Way; NOW, THEREFORE,

Res.# 95-205 Page# 1

## RESPONSE TO COMMENT
## COMMENTOR NO. 195: CITY OF FEDERAL WAY (CONT'D.)

### *Response to Comment No. 195-1*

The security provided for the foreign research reactor spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk of such actions. The security provisions are discussed in Section 2.8 of the EIS and are summarized in the Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

### *Response to Comment No. 195-2*

Security in transit is discussed in Sections 2.7.5 and 5.4.2 of the EIS.

### *Response to Comment No. 195-3*

Several accident scenarios including a breach of the cask and fire sufficient to oxidize the contents were analyzed during preparation of this EIS. Results of the accident analysis at the ports are given in Section 4.2.2 of the EIS with supporting detail in Appendix D, Section D.5 of the EIS. No catastrophic effects were found to result from severe accidents involving foreign research reactor spent nuclear fuel. Emergency response and management are discussed in Section 2.7 of the EIS.

### *Response to Comment No. 195-4*

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified would not be greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving

## COMMENTOR NO. 195: CITY OF FEDERAL WAY (CONT'D.)

THE CITY COUNCIL OF THE CITY OF FEDERAL WAY HEREBY RESOLVES AS FOLLOWS:

Section 1. Statement of Opposition. The Federal Way City Council strongly opposes the shipment of spent nuclear materials through the Port of Tacoma and encourages the Department of Energy to choose a more suitable site to receive these shipments. 195-5

Section 2. Severability. If any section, sentence, clause or phrase of this resolution should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this resolution.

Section 3. Ratification. Any act consistent with the authority and prior to the effective date of the resolution is hereby ratified and affirmed.

Section 4. Effective Date. This resolution shall be effective immediately upon passage by the Federal Way City Council.

RESOLVED BY THE CITY COUNCIL OF THE CITY OF FEDERAL WAY, WASHINGTON, this 6th day of June, 1995.

CITY OF FEDERAL WAY

Mary E. Gates

MAYOR, MARY E. GATES

ATTEST:

N. Christine Green

CITY CLERK, N. CHRISTINE GREEN, CMC

Res.# 95-205, Page# 2

## RESPONSE TO COMMENT
## COMMENTOR NO. 195: CITY OF FEDERAL WAY (CONT'D.)

foreign research reactor spent nuclear fuel. Based on this past experience, DOE considers that shipping foreign research reactor spent nuclear fuel through the Port of Tacoma would have no adverse economic impacts on business within the port or the surrounding communities.

### *Response to Comment No. 195-5*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 210: THE PORT OF LONG BEACH

The Port of Long Beach

"America's most Modern Port"

P.O. BOX 570 · LONG BEACH, CA 90801-0570 · TELEPHONE: (310) 437-0041 · FAX: (310) 437-3231 · TELEX: 65-6452 PORTOBEACH LGB

June 8, 1995

Mr. Charles Head, Program Manager
Office of Spent Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: Comments on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (DOE/EIS-0218D)

Dear Mr. Head:

We have reviewed the Draft EIS on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel (DOE/EIS-0218D). We are in agreement with the document's position that the Port of Long Beach should not be considered as a port of entry due to the Port's location in a high-population-density area consisting of the Long Beach/Los Angeles and Orange County Metropolitan Areas.

Additionally, the Port of Long Beach was the busiest container port in the nation last year moving 2,573,827 twenty-foot equivalent units (T.E.U.'s). Forty percent of this cargo is either coming from or destined for areas east of the Rocky Mountains. Disruptions to cargo movement through the port facility would have lasting impacts on goods movement throughout the nation. Lastly, the Port of Long Beach is located in the same vicinity as the Port of Los Angeles and similar discussions regarding sensitive environmental habitats should be addressed for both ports. 210-1

If you have any questions regarding our comments or the general operations within the Port of Long Beach, please contact Mr. Ron Everett, Planner, at (310) 590-4158.

Sincerely,

Geraldine Knatz, Ph.D.
Director of Planning

RLE:s

cc: G. Felgemaker, City of Long Beach

PRESIDENT'S "E" AND "E-STAR" AWARDS FOR EXCELLENCE IN EXPORT

## RESPONSE TO COMMENT
## COMMENTOR NO. 210: THE PORT OF LONG BEACH

### *Response to Comment No. 210-1*

The commentor's agreement with the EIS in regard to Long Beach not being one of the selected ports is noted.

## COMMENTOR NO. 236: PORT OF GALVESTON

**PORT of GALVESTON**

123 Rosenberg
P.O. Box 328
Galveston, Texas 77553

Galveston (409) 766-6103
Houston (713) 286-2484
Fax (409) 766-6171

June 9, 1995

Ernest Connor
General Manager

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Mr. Head:

The Port of Galveston is still in the process of assimilating the data required to formulate our response to the EIS on the potential transhipment of spent nuclear fuel thorough Galveston. 236-1

It is anticipated that our reply will reach your office on or about June 27, 1995 and therefore we request that it be made a part of the public comment record on this important issue and further to be used in reaching your decision.

Sincerely,

Ernest Connor
General Manager

EC:JE

## RESPONSE TO COMMENT
## COMMENTOR NO. 236: PORT OF GALVESTON

***Response to Comment No. 236-1***

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 day total) to be sufficient for public comment.

## COMMENTOR NO. 262: HAMPTON ROADS/PLANNING DISTRICT COMMISSION

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

CHESAPEAKE
Dr. Alan P. Krasnoff, City Councilman
W. Joe Newman, City Councilman
James W. Rein, City Manager

FRANKLIN
Robert E. Harrell, City Councilman
John J. Jackson, City Manager

GLOUCESTER COUNTY
Benjamin F. Sawyer, Jr., County Supervisor
William H. Whitley, County Administrator

HAMPTON
James L. Eason, Mayor
Robert J. O'Neill, Jr., City Manager
Joseph H. Spencer, II, City Councilman

ISLE OF WIGHT COUNTY
W. Douglas Caskey, County Administrator
O.A. Sparly, Chairman

JAMES CITY COUNTY
Robert A. Magoon, Jr., County Supervisor
David B. Norman, County Administrator

NEWPORT NEWS
Charles C. Allen, City Councilman
Joe B. Frank, City Councilman
Edgar L. Maroney, City Manager

NORFOLK
Mason C. Andrews, M.D., City Councilman
Herbert M. Collins, Sr., City Councilman
Paul D. Fraim, Mayor
James B. Oliver, Jr., City Manager
B. Conoly Phillips, City Councilman

POQUOSON
L. Carroll Rumber, Mayor
Robert M. Murphy, City Manager

PORTSMOUTH
Johnny M. Clemons, City Councilman
V. Wayne Orton, City Manager
P. Ward Robbett, Jr., City Councilman

SOUTHAMPTON COUNTY
Rowland L. Taylor, County Administrator
O. Harrell Turner, County Supervisor

SUFFOLK
Myles F. Standish, City Manager
Marian B. Rogers, City Councilman

VIRGINIA BEACH
John A. Baum, City Councilman
Robert K. Dean, City Councilman
W. W. Harrison, Jr., City Councilman
Lewis R. Jones, City Councilman
Meyera E. Oberndorf, Mayor
Nancy R. Parker, City Councilwoman
James K. Spore, City Manager

WILLIAMSBURG
Jackson C. Tuttle, II, City Manager
Jeanne Zeidler, City Councilwoman

YORK COUNTY
Paul W. Garman, Chairman
Daniel M. Stark, County Administrator

Rec'd. by Dept. of Environmental Quality

DR. ALAN P. KRASNOFF, CHAIRMAN • [illegible], VICE CHAIRMAN • V. WAYNE ORTON, TREASURER
ARTHUR L. COLLINS, EXECUTIVE DIRECTOR/SECRETARY

June 5, 1995

Mr. Michael Murphy
Department of Environmental Quality
629 E. Main Street
Richmond, Virginia 23219

Re: Nonproliferation Policy EIS
(ENV:NUKE)

Dear Mr. Murphy:

Pursuant to the April 11, 1995 request from the Department of Environmental Quality, the staff of the Hampton Roads Planning District Commission has reviewed the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. The HRPDC and its member local governments have previously reviewed and commented on the Environmental documents for a variety of related projects.

Based on its review of this document as well as of the earlier related projects, the staff of the HRPDC has the following comments:

1. It is recognized that the Port of Hampton Roads has been utilized as the port of entry for Spent Nuclear Fuel associated with a number of projects in the past. Although past shipments have occurred without incident, the HRPDC continues to believe that use of ports located in areas of lower population density would be preferable. 262-1

2. If the Port of Hampton Roads is selected as the port of entry for this material, the Department of Energy should notify the affected localities in the port area and subsequent transportation route in advance of the shipments so that adequate safety precautions may be taken. In all cases, the localities should be notified directly in advance of any notification to the news media. 262-2

HEADQUARTERS • THE REGIONAL BUILDING • 723 WOODLAKE DRIVE • CHESAPEAKE, VIRGINIA 23320 • (804) 479-2550
PENINSULA OFFICE • HARBOUR CENTRE, 9 EATON STREET • SUITE 502 • HAMPTON, VIRGINIA 23669 • (804) 729-2067

## RESPONSE TO COMMENT COMMENTOR NO. 262: HAMPTON ROADS/PLANNING DISTRICT COMMISSION

### *Response to Comment No. 262-1*

The commentor's preference for ports with low population density is noted. This is one of the criteria for selecting ports, as discussed in Section 2.6.3.1 and Appendix D of the EIS.

### *Response to Comment No. 262-2*

DOE is required under 10 CFR Part 73 to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route seven days in advance of the shipment of hazardous cargos, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

## COMMENTOR NO. 262:
## HAMPTON ROADS/PLANNING DISTRICT COMMISSION (CONT'D.)

Mr. Michael Murphy 2 June 5, 1995

3. If the Port of Hampton Roads is selected as the port of entry, all highway transportation of the material through the metropolitan area should be restricted to Interstate facilities. Movement of this material should be restricted to off-peak hours. 262-3

We appreciate the opportunity to participate in the review of this project. If you have questions or need further information, please do not hesitate to call.

Sincerely,

Arthur L. Collins
Executive Director/Secretary

JMC:fh

cc: Mr. Paul Miller, NN
Mr. Lee Rosenberg, NO
Ms. Marilee Hawkins, PO

## RESPONSE TO COMMENT
## COMMENTOR NO. 262:
## HAMPTON ROADS/PLANNING DISTRICT COMMISSION (CONT'D.)

*Response to Comment No. 262-3*

The commentor's preference for the use of Interstate highways and off-peak hours is noted. Route selection would follow Department of Transportation regulations. DOE's policy on the truck's departure time is for the trucks to leave the port as soon as they are ready. This would minimize the time the radioactive material is in the port. These subjects are discussed in detail in Section 2.6.4.2 and Appendix E of the EIS.

## COMMENTOR NO. 274: PORT OF TACOMA

PORT of TACOMA U.S.A.

June 12, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Mr. Head:

Re: 1) Questions Pertaining to the DEIS on a "Proposed Nuclear Weapons Non-proliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel"

2) Request for One Week Delay (June 27) in Getting Final Comments to DOE

The Commissioners of the Port of Tacoma have requested and have been promised written answers to a question raised at the Port-DOE Fact-Finding and Public Comment Meeting held May 22, 1995 (6:00 PM at Tacoma Community College). We restate the question below for DOE and formally request that this question be answered in writing before the final Public Comment Meeting on the DEIS in Tacoma on June 19. In addition, we have identified nine other questions as a result of our review and reflection on the documents and the May 22 meeting. We would appreciate answers to these questions as well prior to the June 19 meeting in Tacoma.

**Question Raised, Not Answered, and Promised in Writing by DOE at May 22 Tacoma Fact-Finding and Public Comment Meeting:**

***"What is the estimated effect of released radiation on humans and the environment should a shipping cask and the spent fuel rods contained therein be severely breached* in the vicinity of the Port of Tacoma?"***

* Discussion at the meeting covered a range of "breaching" mechanisms including shipboard, storage or transportation fires in the vicinity of the harbor, dock or Tacoma transportation routes that substantially exceeded the design limits of the shipping casks; explosions resulting from hazardous cargo transported to/from the Port or handled at the Port, and acts of terrorism or revenge by terrorists or disgruntled persons, respectively.

274-1

Notwithstanding all of the assumptions, data, and calculations that DOE and/or its contractors used in determining the maximum credible accident, the Port Commissioners and the public want to know what the environmental and human health and safety impacts will be from an accident that does severely, even explosively, breach the cask and spent nuclear fuel while at the Port of Tacoma or in the general vicinity of Tacoma proper. For estimating purposes, the following can be used to estimate the impacts: the worst of 1a) a fire substantially in excess of cask design limits, or 1b) an explosion on the order of the Oklahoma bomb, 2) next to a standard shipment of spent fuel in the worst of one of the following three locations: 3a) in

P.O. Box 1837 • Tacoma, Washington 98401-1837 • Telephone: (206) 383-5841
*Commissioners:* Stephen R. Anderson • Jack A. Fabulich • Mike Fletcher • Patrick O'Malley • Jerry M. Thorpe
*Executive Director:* John J. Terpstra

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA

### *Response to Comment No. 274-1*

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst case analysis of accidents in an EIS. For the purpose of analysis in this EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

PORT OF TACOMA

Mr. Charles Head
June 12, 1995
Page 2

the harbor, 3b) at the Port's loading/unloading/storage dock, or 3c) early in the transportation route nearest the most populated part of greater Tacoma.

If DOE or its contractors have any generalized data or other estimates that could be used to provide an estimate of the environmental and human health and safety impacts resulting from a severe breach of such spent nuclear fuel in any populated area like Tacoma, these estimates would suffice. In this instance, however, we would like a qualitative statement by DOE as to whether or not its generalized estimate results from assumptions that are more or less severe than the above three criteria. *274-1 (Cont'd.)*

In any event, we were promised an answer to our question, in writing, and we expect to have such answer before the June 19 public comment meeting.

Due to the lack of this promised answer and the need for our citizens to have several days to reflect on the June 19 meeting before they provide DOE with their definitive comments, we hereby request a one week extension until midnight, June 27, 1995 for the final deadline for public comments. We understand time is of the essence in this EIS process, but we feel that a decision as important as this requires a reasonable comment time by an informed citizenry. *274-2*

Very truly yours,

PATRICK O'MALLEY
President
Port Commission

w/attachment -- Nine additional questions

cc: Port of Tacoma Commissioners
Mayor, City of Tacoma
Washington State Congressional Delegation
Mr. Patrick J. Wells, DOE-HQ (EM-37)
Mr. Edward T. Fei, DOE-HQ (NN-42)

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 274-2*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

**Nine Other Questions Pertaining to the Draft Environmental Impact Statement**

1. *There is inadequate information in the Draft EIS to judge the non-proliferation benefits of the proposed action. Please furnish information that allows us to determine if the U.S., together with formal agreements with its pro-nonproliferation partners and allies, has a sound, comprehensive, funded, world-wide HEU nonproliferation policy that warrants the costs you estimate in the DEIS. Specific questions that would be helpful to assess this include, but are not limited to, the following:*

   a. *How many countries possess enrichment capabilities to produce HEU including those with known programs to do so in the future? What HEU total production capacity is/will be available in MTHM/year at whatever reference enrichment you would like to select?* 274-3

   b. *Of the countries identified in 1.a, how many have already agreed with and are implementing the proposed U.S. policy to eliminate commerce in HEU for research reactor purposes? What fraction of the world-wide HEU capacity does this represent?* 274-4

   c. *Of the remaining, if any, how many does the U.S. expect to adopt the U.S. policy at a later date? What fraction of the world-wide HEU capacity does this represent?* 274-5

   d. *Of the remaining, if any, how many does the U.S. expect to not adopt the U.S. policy? What fraction of the world-wide HEU capacity does this represent?* 274-6

   e. *Over the same 10 year period proposed for the Draft EIS, please provide a summary HEU mass balance, irrespective of the country of origin of the HEU, that i) will be eliminated by existing agreements today, ii) is expected to be eliminated by future agreements, and iii) is not expected to be eliminated because of technical conversion difficulties or lack of interest in participating in the HEU conversion program.* 274-7

   f. *Of the countries identified in 1.a, what restrictions, if any, are placed on the purchase and/or use of HEU for purposes other than bona fide research reactor purposes?* 274-8

2. *Of the 41 countries identified in the Draft EIS as potentially coming under the influence of this proposed policy, please identify which ones:*

   a. *Are already members in good standing in the IAEA Nuclear Nonproliferation and Safeguards program?* 274-9

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 274-3*

Argentina, France, Germany, Japan, Netherlands, Pakistan, South Africa, and United Kingdom possess enrichment capability. Brazil has proposed building an enrichment facility. China, Russia, and the United States also have enrichment capability, so the total number of countries is twelve. (World Nuclear Industry Handbook, 1995).

Enrichment capacity is measured in Separative Work Units per year (SWU/yr), not in MTHM/yr. Any enrichment plant could theoretically produce HEU, but the conversion from SWU/yr to MTHM/yr would depend on the amount of uranium feedstock the starting enrichment level, as well as the final enrichment level. Due to the number of the unknowns it is not possible to perform the calculation. Also, it is outside the scope of this EIS.

### *Response to Comment No. 274-4*

Of the twelve countries listed above, ten, including the United States, are covered under the proposed action and have participated in the RERTR Program in some fashion. Not all of the research reactors in those countries, however, have converted or are able to convert to LEU.

The fraction of worldwide enrichment capacity is not relevant because, if the research reactor operators demand fresh supplies of HEU fuel, then several nations have the enrichment capacity necessary to supply it. As stated above and in Section 1.1 of the EIS, Russia or China are potential suppliers of HEU.

### *Response to Comment No. 274-5*

The United States is pursuing discussions with Russia and China, the remaining countries, to encourage them to follow the United States lead and adopt an RERTR-type program which would encourage their client states to convert to LEU fuels. The RERTR program has enjoyed wide support from the international community (Section 1.1 of the EIS).

### *Response to Comment No. 274-6*

There are no remaining countries. All countries listed in 274-3 above are participants in the RERTR Program with the exception of Russia and China.

### *Response to Comment No. 274-7*

There are no existing agreements that would force research reactor operators to stop using HEU fuel. Future agreements that might occur as a result of this EIS would remove up to approximately 4.6 MTHM of HEU from international commerce. If Russia agrees to follow the U.S. lead and start its own RERTR Program, then all the reactors that were supplied by the former U.S.S.R. would also be converted to LEU fuel.

## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

b. Are known or believed to already have nuclear weapons capability? 274-10

c. Are known to have nuclear reactors operating in their country? 274-11

d. Are known to have spent fuel storage capability? 274-12

e. Are known to have spent fuel disposal programs functioning? 274-13

f. Are known to have or expected to have during the life (10 years) of this Draft EIS an i) enrichment capability or ii) spent fuel reprocessing capability? 274-14

3. At the Fact-finding and Public Meeting in Tacoma on May 22, one of the DOE participants responded "small impact" regarding a question about the nonproliferation impact of this proposed action relative to the total nonproliferation problem. Why? Just how significant of a nonproliferation step is this proposed policy on a world-wide basis? 274-15

4. Notwithstanding the current low prices for uranium which tend to reduce the cost incentives for reprocessing, doesn't the substantial world-wide commerce in plutonium and uranium from commercial spent fuel processing substantially negate or diminish the importance of this proposed U.S. policy? 274-16

Your comments in the DEIS were especially weak in addressing this issue. Please provide documentation of more substance to demonstrate the U.S. should incur the costs and potential risks implicit in implementing this proposed policy, especially the way you propose. For example, you appear to be treating nuclear weapons countries, commercial nuclear reactor countries, lesser developed countries, etc., all the same, i.e. in Alternative 1, the U.S. becomes the custodian of everyone's spent research reactor (U.S. origin) fuel irrespective of each countries' own storage and eventual disposal capabilities.

5. Since over 70% of the spent fuel under the proposed policy resides in seven countries having major commercial nuclear reactor programs, all having major spent fuel storage capability, three having spent fuel reprocessing capability, and all participating in the IAEA Nuclear Safeguards program, why not eliminate Germany, Sweden, Switzerland, France, Canada, Japan and the United Kingdom from consideration in Alternative #1, consider them as allies for implementing Alternatives #2 and #3 and focus more on the remaining 30% of the problem? 274-17

In section S.2.9 of the Summary, you dismiss accepting foreign research reactor spent nuclear fuel from selected countries, e.g., those posing an actual nuclear weapons nonproliferation risk. You however did not consider a more rational basis (see question #5) for selecting certain countries for foreign storage and disposal. If necessary, financial incentives could be provided these seven commercial nuclear reactor countries to help complete their HEU to LEU research reactor conversions and to help

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

Tables B-3 through B-5 in Appendix B, Section B.1.1.3 of the EIS present all the research reactors involved in this EIS and their conversion status. There are three research reactors (one in Belgium and two in France) that cannot be converted from HEU to LEU fuel with current technology. The technology necessary to convert these three research reactors is expected to be available by the end of the 10-year period, however, so none of the existing research reactors would need to continue on the HEU fuel cycle for technical reasons.

This EIS cannot speculate about the amount of HEU that might not be eliminated due to lack of interest.

### *Response to Comment No. 274-8*

The Energy Policy Act of 1992 placed strict limitations on the export of HEU by the United States (Section 1.1 of the EIS). Since passage of this act, no new export licences for HEU have been issued by the United States.

### *Response to Comment No. 274-9*

All 41 countries except Israel and Pakistan are parties to the Treaty on the Nonproliferation of Nuclear Weapons and participate in the safeguards program.

### *Response to Comment No. 274-10*

Under the Treaty on the Non-Proliferation of Nuclear Weapons (the NPT), nuclear weapons states and nonnuclear weapons states are treated differently. In the NPT, the following five countries are recognized as nuclear weapons states: Russia, China, the United Kingdom, France and the United States. The United Kingdom and France would be covered by any new foreign research reactor spent nuclear fuel policy. Information available from the U.S. Government regarding which other countries, if any, are believed to have a nuclear weapons capability is classified. In any case, the names of any such countries are not pertinent to the decisions to be made after completion of this EIS since removal of spent nuclear fuel from such countries would still support overall U.S. nuclear weapons nonproliferation policy seeking to reduce, and eventually eliminate, the use of highly enriched (weapon-grade) uranium in civil programs worldwide (Section 1.2 of the EIS).

### *Response to Comment No. 274-11*

Of the 41 countries involved in the proposed action, over 20 have operating power reactors. Several of these have announced plans to end operation of these facilities and not to construct any more nuclear power plants. Power reactors and research reactors are distinctly different, however, in that all power reactors run on either low enriched or natural uranium. This material cannot be used to construct nuclear weapons.

## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

solve the storage and/or reprocessing problem of the remaining 34 countries. This would greatly lessen the environmental impact on the U.S. while achieving the nonproliferation objectives. 274-17 (Cont'd.)

Note: less than 9% of all of the spent fuel covered in this proposed policy comes from the higher risk "developing countries".

6. ***What makes the DOE believe that this policy and costs are only for the proposed 10 year period? Aren't both the time estimates (10 years) and cost estimates grossly understated based on historical evidence in the U.S. for similar programs? Please explain the specific steps that the U.S. will take to ensure that this program only last 10 years plus the 3 years of cooling for the fuel discharged from the various research reactors in the 8th through 10th years. Where bilateral or tri-party agreements are required to implement this 10 year termination, please furnish evidence that the other parties will agree to such a termination. What are the anticipated foreign costs to the U.S. after termination of this policy assuming that Alternative 1 was adopted?*** 274-18 274-19

There is substantial historical evidence to suggest that the cost and time estimates are grossly understated for the proposed policy, especially for Alternative #1 (see comments dealing with question #6 below). The U.S. in particular is a model for large cost and time over-runs dealing with its spent nuclear fuel storage and disposal programs.

7. ***Why isn't Alternative #2 (Facilitate Overseas Management of the Spent Nuclear Fuel) DOE's preferred alternative for this Draft EIS?***

On page 2-24 of Volume 1, next to the last paragraph, DOE makes an excellent case for using existing commercial spent fuel reprocessors to implement the proposed nuclear nonproliferation policy.

Managing research reactor fuel inputs and outputs is a long term proposition that is best left to normal market pressures for routine control. There are no geologic disposal sites on the horizon for the foreseeable future. Consequently, if the U.S. were to take this fuel back into the U.S. for storage, treatment and disposal., we would only drive up the U.S. taxpayer's costs while subsidizing the research reactor operators. 274-20

Foreign reprocessors want this fuels business and are willing to modify plants to provide the necessary reprocessing services that are needed. Transitioning the 41 research reactor countries into the practical realities of storage, treatment and disposal costs would help facilitate sincere moves to become self sufficient.

Unfortunately, some of these same foreign research reactor operators that we are proposing to subsidize are competing with the U.S.'s medical radioisotopes industry -- all but driving it bankrupt.

8. ***Do the time and cost estimates to implement Alternative #1 include a prudent set of lawsuits and court cases objecting to the acceptance of*** 274-21

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 274-12*

All reactors have spent nuclear fuel storage pools onsite, but these are only appropriate for short-term storage of limited amounts of spent nuclear fuel. Finland, France, Germany, Japan, Sweden, and the United Kingdom have larger scale interim storage facilities in operation (World Nuclear Industry Handbook, 1995).

### *Response to Comment No. 274-13*

Belgium, Canada, Finland, France, Germany, Japan, Sweden, Switzerland, and the United Kingdom have spent nuclear fuel and/or high-level waste disposal programs. No country has a spent nuclear fuel geologic repository site in operation yet.

### *Response to Comment No. 274-14*

i) Argentina, France, Germany, Japan, Netherlands, Pakistan, South Africa, and United Kingdom have enrichment capability. Brazil has proposed building a facility. (World Nuclear Industry Handbook, 1995).

ii) France, Italy, Japan, and United Kingdom have spent nuclear fuel reprocessing capability. Brazil has a facility under construction. (World Nuclear Industry Handbook, 1995).

### *Response to Comment No. 274-15*

The United States and the foreign research reactors have a combined inventory of approximately two thousand tons of HEU. About four hundred to five hundred tons of this uranium is scheduled for blending down to LEU in order to reduce the risk of nuclear weapons proliferation. As discussed in Section 2.2.1.3 of the EIS, the inventory of HEU in foreign research reactors is nearly five tons - an amount sufficient to make about two hundred bombs comparable in size to those dropped on Hiroshima and Nagasaki near the end of the Second World War. While the total amount of HEU subject to the proposed action is relatively small in comparison to the total inventory, it is nevertheless a significant amount in terms of the risk of diversion to a weapons program. Efforts by the United States to reduce the availability of plutonium are complementary to efforts to reduce the availability of HEU. Differences in policies and approaches for reduction of plutonium and HEU arise from the different physical properties and applications for these materials.

### *Response to Comment No. 274-16*

Chemical separation value is not based on the market price of the recovered uranium but on the conversion of the spent nuclear fuel to a more stable waste form. If all the uranium and separative work in the spent nuclear fuel were recovered via chemical separation, the

*foreign spent fuel, and its subsequent transportation, treatment, and storage in the U.S. especially when the U.S. has not demonstrated the ability to manage its own defense and commercial spent fuel wastes in a timely or cost effective manner?*

Why would the U.S. seriously consider any alternative of increasing its spent nuclear fuel problems at a time in the U.S. when managing the cleanup of the defense nuclear wastes is in a turmoil (see "Train Wreck Along the River of Money - An Evaluation of the Hanford Cleanup" March 1995 by Steve Blush and Tom Heilman under contract to the U.S. Senate Committee on Energy and Natural Resources)? 274-21 (Cont'd.)

Why would the U.S. seriously consider any alternative of increasing its spent nuclear fuel problems at a time in the U.S. when the cost of disposing of highly radioactive wastes, e.g., storage, treatment and disposal of the U.S.'s commercial spent nuclear fuel, is at least $10 billion overrun and 10 years late, without substantial increases in funding, compared to the initial estimates (see GAO's report to Congress "Nuclear Waste - Comprehensive Review of the Disposal Program is Needed" September 1994 GAO/RCED-94-299)?

In a floor statement submitted to the Senate Record on May 26, 1995, Senator Frank Murkowski, Chair of the Senate Committee on Energy and National Resources, reported that:

- 30,000 tons of spent nuclear fuel is being temporarily stored at power plants at 75 sites.
- In less than three years, 23 reactors will run out of space in their spent fuel storage pools.
- By 2010, a total 78 reactors will have run out of space
- We've already spent 12 years and $4.2 billion to find a permanent high-level repository and conduct site characterization at Yucca Mountain

9. *What independent, third party entities performed/will perform the risk assessments, cost/benefit and nonproliferation assessments for DOE and its Contractors?* 274-22

Congress, the GAO, and others have been calling for independent, third party, peer reviewed risk assessments performed in accordance with a standardized methodology. The same is true for cost/benefit analyses. Traditional, long term contractors to DOE do not qualify as an "independent, third party". How does DOE propose to establish the necessary mutual trust and credibility with the public unless it helps to facilitate such third party reviews?



undiscounted value would be roughly $60 million. Even if the price of uranium and the cost of separative work were to double, the relative costs of a chemical separation option and a storage option would not change enough to affect the policy decision one way or the other. The substantial commerce in commercial spent nuclear fuel is not in HEU; it is in LEU, which is not suitable for weapons. Separated plutonium (which is suitable for weapons) is not a substantial commercial product. Plutonium is either retained at the reprocessing facility (e.g., Dounreay) or, in a very few cases, shipped to the country of origin for use in breeder reactor or mixed oxide fuels. In these latter cases, such as the one from France to Japan earlier in 1995, the shipments are guarded. As a practical matter, the commercial shipment of material suitable for weapons is limited and controlled. Diversion of commercial spent fuel for the purpose of separation by a country or group without advanced commercial or military nuclear technology is unrealistic because the material is too radioactive to handle and too difficult to separate.

### *Response to Comment No. 274-17*

The commentor is suggesting an alternative under which foreign research reactor spent nuclear fuel from seven commercial nuclear reactor countries (Germany, Sweden,...etc) would be excluded from the policy, would manage their own spent nuclear reactor fuel with or without U.S. incentives, and the United States would include only the remaining developing countries under the policy.

DOE considers that, in terms of environmental impacts, this alternative is one of many hybrid alternatives covered under Management Alternative 3, as discussed in Section 2.4 of the EIS. In terms of policy considerations, however, the suggested exclusion of certain countries from the proposed action introduces implications detrimental to the U.S. nuclear weapons nonproliferation policy. The United States has played in the past, and continues to play, a leadership role within the world community in matters of nuclear weapons nonproliferation. In this role, it initiated programs such as the Reduced Enrichment for Research and Test Reactors (RERTR) program and encouraged other nations to support it. Some of the nations which have supported RERTR, such as Britain, France, Japan, Sweden and others, may not currently present the nuclear weapons proliferation risk as others. The reasons for considering these nations under this policy are presented in Section 1.3 of the EIS.

### *Response to Comment No. 274-18*

As discussed in Section 2.2.1.1 the policy duration for the basic implementation of Management Alternative 1 is proposed to be 10 years. Section 4.9 discusses the cost associated with all management alternatives, including the basic implementation of Management Alternative 1. Other policy periods, shorter and longer, have also been evaluated (Section 2.2.2.2 of the EIS). The cost analysis is based on best available information and engineering judgement. It includes appropriate contingencies to account

## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 274: PORT OF TACOMA (CONT'D.)

for the uncertainty associated with a program of this duration and size. No bilateral or tri-party agreements are required for the policy implementation. The policy duration for each eligible foreign research reactor operator would be dictated by DOE. The number of elements eligible under the policy are those that would be discharged from the reactor by the end of the policy period. It should be noted that the number of elements considered in the EIS to be discharged by the end of the policy period (Tables 2-1 and 2-2) has been estimated conservatively.

***Response to Comment No. 274-19***

There would be no anticipated foreign costs to the United States after termination of the policy, assuming Management Alternative 1 is implemented.

***Response to Comment No. 274-20***

The advantages and disadvantages of Management Alternative 2 are discussed in Sections 2.3 and 4.4 of the EIS. The overseas reprocessors have refused to take responsibility for ultimate disposal of the reprocessed wastes, so either the 41 countries with research reactors or the United States would have to provide disposal. In addition, in the past the reprocessors have returned separated HEU as HEU. This would not be consistent with U.S. nuclear weapons nonproliferation policy.

As discussed in Section 4.3.1.3 of the EIS, nearly all of the medical radioisotopes used in the U.S. come from the NRU reactor in Canada. The United States does not have any reactor that is competing in this business area.

***Response to Comment No. 274-21***

The minimum program cost estimates do not include either direct or indirect costs for lawsuits or court cases. The costs for shipping do include administrative costs far in excess of those for conventional commercial shipments. The final EIS includes a risk factor for logistics and program management that recognizes the cost impacts on the program from lawsuits.

The ability of the United States to manage its own defense and commercial nuclear waste is an important issue in the development of contingencies and uncertainties, especially the costs associated with long-term disposal. Although legal costs, per se, are not included, the cost risks reported for such options as meeting strict waste acceptance criteria include the costs associated with delays, public opposition, and similar factors. The basis for these cost estimates is the U.S. experience in these fields — an experience that includes delays, public opposition, etc.

The United States is seriously considering the proposed action because it would greatly reduce the civilian commerce in highly dangerous materials. The amount of spent nuclear fuel included in this program is less than 1 percent of the total mass of heavy metal that DOE currently manages. Any approach that addresses the defense and commercial waste disposal problem also addresses the foreign research reactor spent nuclear fuel disposal problem for a small incremental cost, probably on the order of 1-2 percent. The foreign research reactor spent nuclear fuel program cannot address issues such as the status of the high-level waste repository. It can, and does, address the cost risks associated with delays in the repository, stringent waste acceptance criteria, etc.

***Response to Comment No. 274-22***

Independent, third party peer reviews of risk assessments and cost/benefit analyses are not required under NEPA or DOE's environmental regulation. However, the public is able to comment, throughout the NEPA process, on the analyses presented in the EIS, including the risk assessment component(s) of NEPA documentation pertaining to the proposed action.

## COMMENTOR NO. 304: CITY OF TACOMA, ENVIRONMENTAL COMMISSION

City of Tacoma
Environmental Commission

June 19, 1995

Office of Spent Fuel Management (EM-37)
Office of Environmental Management
United States Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Sirs:

The Tacoma Environmental Commission has reviewed the United States Department of Energy's proposed policy to manage spent fuel from foreign research reactors and the accompanying environmental analysis. The Commission raises the following environmental concerns which have not been adequately addressed:

(1) Information about the Port of Tacoma, its terminals, its operations, and the surrounding area contained in the environmental analysis is outdated and does not accurately reflect existing conditions; 304-1
(2) The deep water depth of Puget Sound will cause substantial problems in the recovery of nuclear fuel shipping containers in case of an accident; 304-2
(3) An explosion and fire aboard a vessel navigating Puget Sound would pose considerable harm to the surrounding population and environment; 304-3
(4) Commencement Bay is currently designated a federal Superfund site and considerable cleanup effort has already been undertaken by the Port of Tacoma the City of Tacoma, and the industries of Commencement Bay to address contamination issues; 304-4
(5) The Port of Tacoma is in close proximity to residential neighborhoods surrounding Commencement Bay; 304-5
(6) Operational procedures regarding handling of these shipments are inadequate; 304-6
(7) Permanent disposal of this spent nuclear fuel has not been determined; and 304-7
(8) The security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County, and State of Washington has not been addressed. 304-8

The citizens of Tacoma have determined to live in a clean environment and have undertaken to restore to the City the highest standards of clean air, clean water and clean land. High-level radioactive waste presents a threat of the most catastrophic injury to Tacoma residents and environmental pollution and degradation. The potential release of radiation from high-level radioactive waste presents unacceptable risks to the citizens of Tacoma. 304-9

747 Market Street, Room 900 ▪ Tacoma, Washington 98402-3793 ▪ (206) 591-5310

## RESPONSE TO COMMENT COMMENTOR NO. 304: CITY OF TACOMA, ENVIRONMENTAL COMMISSION

### *Response to Comment No. 304-1*

Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS.

### *Response to Comment No. 304-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters. The impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in coastal and deep waters are estimated in the EIS (Appendix C, Section C.5). The results of this analysis show that both the consequences and the risk of these accidents are low (Appendix C, Sections C.5.4 and C.5.5).

### *Response to Comment No. 304-3*

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire during the marine transport, including accidents close to land as would be the case in Puget Sound. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5). Although the non-radiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 304-4*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years experience shipping spent nuclear fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway would not release their radioactive contents, and thus would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

## COMMENTOR NO. 304:
## CITY OF TACOMA, ENVIRONMENTAL COMMISSION (CONT'D.)

Based upon the information provided by the Department of Energy, the Environmental Commission recognizes the importance of managing spent fuel from foreign research reactors. We believe the appropriate option is to utilize the capability and expertise of the United States Navy at Concord, California, and therefore, recommend Concord as the port of entry for such materials. Furthermore, the City of Tacoma's Environmental Commission does not believe that the Hanford, Washington site is appropriate for disposal of additional spent fuel. The Nevada test site appears to be far preferable based upon its environmental conditions and geological setting, as well as its proximity to Concord, California. 304-10 304-11 304-12 304-13

Therefore, the Tacoma Environmental Commission strongly opposes the introduction, storage, or transshipment of high-level radioactive waste through Tacoma's Port, rail lines, or highways. We further urge the Department of Energy to remove Tacoma as a possible United States entry site for these shipments. 304-14

Respectfully submitted,

Albert Eggers, Ph.D., Co-Chair

Rens Verburg, Ph.D., Co-Chair

For the Members of the Environmental Commission

Dick Bartells
Bill Baarsma, Ph.D.
Om Bhatia
Tu Ho
Carol MacKinnon, J.D.
Dan Meyer
Anita Preston
Frederick Wolf

AE:RV:ms

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## RESPONSE TO COMMENT
## COMMENTOR NO. 304:
## CITY OF TACOMA, ENVIRONMENTAL COMMISSION (CONT'D.)

### *Response to Comment No. 304-5*

The population residing near candidate ports and along transportation routes were an important factor that was considered in port selection and in the evaluation of environmental effects of the proposed action (Section 4, Appendix D, and Appendix E of the EIS).

### *Response to Comment No. 304-6*

Foreign research reactor spent nuclear fuel has been accepted at ports in the United States without incident for over 30 years (Sections 1.1 and 1.2 of the EIS). If a policy to accept foreign research reactor spent nuclear fuel is adopted, this spent nuclear fuel would be shipped in standard shipping containers which are routinely handled at all of the candidate ports (Section 2.6.3.2 of the EIS).

### *Response to Comment No. 304-7*

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

### *Response to Comment No. 304-8*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk of such actions. The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

## COMMENTOR NO. 304:
## CITY OF TACOMA, ENVIRONMENTAL COMMISSION (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 304:
## CITY OF TACOMA, ENVIRONMENTAL COMMISSION (CONT'D.)

***Response to Comment No. 304-9***

The commentor's opinion that the risks are unacceptable is noted. DOE considers the risk estimates presented in Section 4 to be accurate.

***Response to Comment No. 304-10***

The Environmental Commission's recognition of the importance of the proposed action is noted. The proposed policy is an important part of the overall United States campaign to promote worldwide nonproliferation of nuclear weapons.

***Response to Comment No. 304-11***

The commentor's preference for Concord NWS as a port of entry for foreign research reactor spent nuclear fuel is noted. Results of the environmental analyses given in Section 4 of the EIS indicate that there is no environmental basis for preference among the candidate ports. If any foreign research reactor spent nuclear fuel is to be accepted into the United States, the selection of the actual port(s) of entry to be used will be in the Record of Decision, subsequent to completion of this final EIS.

***Response to Comment No. 304-12***

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

***Response to Comment No. 304-13***

The commentor's preference for the Nevada Test Site as the site for managing foreign research reactor spent nuclear fuel in the United States is noted. As discussed in the response to Comment 304-11, based on the Record of Decision issued for the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement, the Nevada Test Site would not be used as a management site.

***Response to Comment No. 304-14***

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## *Commentor No. 305: Seattle City Council Member Jane Noland*

Seattle City Council

JIM STREET
Council President
Chair
Planning & Regional Affairs Committee
684-8808

MARTHA CHOE
Chair
Transportation & Economic Development Committee
684-8802

CHERYL CHOW
Chair
Health, Human Services, Education & Libraries Committee
684-8804

SUE DONALDSON
Chair
Parks, Public Grounds & Recreation Committee
684-8806

JAN DRAGO
Chair
Business & Labor Committee
684-8801

SHERRY HARRIS
Chair
Housing, Community Development & Urban Environment Committee
684-8800

JANE NOLAND
Chair
Utilities & Environmental Management Committee
684-8803

MARGARET PAGELER
Chair
Public Safety Committee
684-8807

TOM WEEKS
Chair
Finance, Budget, Management & Personnel Committee
684-8805

June 14, 1995

Hazel O'Leary
Secretary of Energy
Department of Energy
Washington D.C. 20585

Dear Ms. O'Leary:

The City of Seattle remains adamantly opposed to any proposal to bring shipments of High-Level Nuclear Waste through the Puget Sound area by water or land transportation. Such proposals have been floated by the Department of Energy on various occasions over the last several years and, in response, the Seattle City Council has passed a series of resolutions in opposition (latest resolution is attached). We continue to believe that it is unnecessary and inappropriate to expose large population centers to the risks that will necessarily accompany the transportation of nuclear materials.

We stand with Tacoma in opposition to the transport of nuclear waste through the Port of Tacoma. Such a proposal would not only endanger the lives of Tacoma residents but all residents along the proposed route which includes the City of Seattle and its environs. Keeping Tacoma on the list of proposed routes because it is not a population center does not make sense. It is a population center which stretches from Tacoma to Seattle to Everett. Furthermore, nuclear waste shipments to Tacoma would be shipped north on rail or truck through the heart of Seattle. *305-1*

We were informed by Gerald Pollet, Heart of America Northwest, that public testimony at the DOE hearing on May 24 was not made part of the official record. Participants at the hearing were told there was "no record". All written comments and statements made at the hearing and any future hearings must be made part of an official public record. *305-2*

It is Seattle's position that no shipments of high level nuclear waste, from any source to any destination requiring transport through the State of Washington, shall be moved through the Seattle metropolitan area (which includes Tacoma and Everett) by land or water transportation without complete site-specific EIS's for each port and *305-3*

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## *Response to Comment Commentor No. 305: Seattle City Council Member Jane Noland*

### *Response to Comment No. 305-1*

The commentor's opposition to the use of the Ports of Seattle and Tacoma for receipt of foreign research reactor spent nuclear fuel is noted. The Port of Seattle is not among the ten candidate ports listed in Section 2.2.1.6 of the EIS. Based on the port selection process described in Appendix D of the EIS, however, the Port of Tacoma is a candidate port which could receive foreign research reactor spent nuclear fuel under Management Alternative 1 or 3. As discussed in Section 4 of the EIS, the analyses determined that there would be no significant environmental benefits or risks at candidate ports of entry, due to the receipt of this spent nuclear fuel. Populations residing near candidate ports and along transportation routes were important factors in the evaluation of environmental effects of the proposed action (Appendices D and E of the EIS).

### *Response to Comment No. 305-2*

DOE did request that comments be submitted in writing, however, all oral comments presented at each hearing were summarized and have been addressed along with the written comments in Volume 3 of the final EIS. All comments, written and oral, are part of the public record.

### *Response to Comment No. 305-3*

During preparation of this EIS, environmental effects of the proposed action were evaluated for each candidate port, transportation route, and interim management site. (Sections 4.2.2, 4.2.3, and 4.2.4) No significant environmental benefits or adverse impacts were found to result from implementation of the proposed action. There is no need to develop separate environmental documents for each candidate port and transportation route because the potential environmental effects have already been evaluated and presented in this document.

## COMMENTOR NO. 305:
## SEATTLE CITY COUNCIL MEMBER JANE NOLAND (CONT'D.)

O'Leary
June 15, 1995
Page 2

each transportation corridor involved, which conclusively establish that shipments will not pose risks to the health or safety of residents. Until we are satisfied with the EIS process and the results, the City of Seattle will continue, by all legal means available, to oppose such a plan. 305-3 (Cont'd.)

Sincerely,

Jane Noland
Seattle City Council

cc: Washington State Congressional Delegation
Nick Schultz, Port of Tacoma
Gerry Pollet, Heart of America NW

## RESPONSE TO COMMENT
## COMMENTOR NO. 305:
## SEATTLE CITY COUNCIL MEMBER JANE NOLAND (CONT'D.)

## *Commentor No. 319: Tacoma-Pierce County Visitor and Convention Bureau*

Public Testimony - from Nancy Watkins, Executive Director of the Tacoma-Pierce County Visitor and Convention Bureau

Provided to the United States Department of Energy at the Public Hearing on Monday, June 19, 1995

GOOD EVENING

MY NAME IS NANCY WATKINS, AND I AM HERE TONIGHT ON BEHALF OF THE TACOMA-PIERCE COUNTY VISITOR AND CONVENTION BUREAU, AN ORGANIZATION THAT REPRESENTS PIERCE COUNTY'S TOURISM INDUSTRY AND ITS INTERESTS.

WE ARE IN THE IMAGE BUILDING BUSINESS. THE VISITOR AND CONVENTION BUREAU PROMOTES OUR COMMUNITIES TO TOURISTS, TOUR COMPANIES, MEETING PLANNERS AND THEIR CONVENTION DELEGATES, AND TRAVEL WRITERS. WE NOT ONLY PROMOTE OUR AREA'S ATTRACTIONS, FACILITIES AND VISITOR SERVICES, WE PROMOTE PIERCE COUNTY AS A SAFE, FRIENDLY AND ATTRACTIVE PLACE TO VISIT.

TACOMA-PIERCE COUNTY

906 BROADWAY, PO BOX 1754, TACOMA, WA 98401
206-627-2836 FAX 206 627 8783

## *Response to Comment Commentor No. 319: Tacoma-Pierce County Visitor and Convention Bureau*

## COMMENTOR NO. 319: TACOMA-PIERCE COUNTY VISITOR AND CONVENTION BUREAU (CONT'D.)

Public Testimony from Nancy Watkins
June 19, 1995
page 2

TRANSPORTING SPENT NUCLEAR WASTE THROUGH THE PORT OF TACOMA WILL HARM PIERCE COUNTY'S PUBLIC IMAGE. IT WILL DESTROY THE VISITORS' IMAGE OF A SAFE DESTINATION AND IT WILL DESTROY THE RECOGNITION THAT PIERCE COUNTY HAS WON FROM TRAVEL WRITERS AND THEIR READERS IN THIS PAST YEAR.

IF SPENT NUCLEAR FUEL IS TRANSPORTED THROUGH THE PORT OF TACOMA, TRAVEL WRITERS WILL HAVE A NEW STORY. INSTEAD OF WRITING ABOUT TACOMA'S NEW HISTORY MUSEUM, AND THE FUTURE DEVELOPMENT OF GLASS AND MARITIME MUSEUMS, THE STORY WILL BE A WARNING TO VISITORS. INSTEAD OF PRAISING OUR WATERFRONT DEVELOPMENT EFFORTS, OUR CUSTOMERS WILL READ ABOUT THE DANGERS OF RADIATION TACOMA RESIDENTS MUST PREPARE FOR IN THE EVENT OF A NUCLEAR ACCIDENT ON OUR WATERFRONT.

THE VISITOR INDUSTRY IS A $365 MILLION DOLLAR INDUSTRY IN PIERCE COUNTY. IT DIRECTLY EMPLOYS 5,350 PEOPLE. PIERCE COUNTY'S VISITOR INDUSTRY HAS A BRIGHT FUTURE AND WE DO NOT WANT IT DESTROYED WITH A NEGATIVE BLOW SUCH AS THIS.

THE DEPARTMENT OF ENERGY SHOULD DROP THE PORT OF TACOMA FROM ITS LIST OF PUBLIC PORTS CONSIDERED AS ENTRY POINTS FOR THE WORLD'S SPENT NUCLEAR FUEL. 319-1

## RESPONSE TO COMMENT COMMENTOR NO. 319: TACOMA-PIERCE COUNTY VISITOR AND CONVENTION BUREAU (CONT'D.)

### *Response to Comment No. 319-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

In evaluating and selecting acceptable ports of entry, DOE has developed evaluation criteria. DOE considers that the port selection criteria successfully identify ports that can safely handle foreign research reactor spent nuclear fuel. DOE further considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel or the population near the port. The analysis in the EIS indicates that the risks associated with an accident are low (Sections 4.2.2.3 and 4.5 of the EIS) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel casks are also low (Sections 4.2.2.2 and 4.5 of the EIS).

## COMMENTOR NO. 319: TACOMA-PIERCE COUNTY VISITOR AND CONVENTION BUREAU (CONT'D.)

Public Testimony from Nancy Watkins
June 19, 1995
page 3

IF IT IS UNSAFE TO TRANSPORT THE SPENT NUCLEAR FUEL THROUGH LARGER POPULATION CENTERS, SUCH AS SEATTLE, THEN IT IS UNSAFE FOR TACOMA AND ITS NEIGHBORING COMMUNITIES. WE ARE NO MORE WILLING TO COPE WITH THE DEVASTATION OF A NUCLEAR ACCIDENT THAN ANY OTHER COMMUNITY. *319-1 (Cont'd.)*

I URGE THE DEPT. OF ENERGY TO RE THINK ITS USE OF THE PORT OF TACOMA AND ALL OTHER PUBLIC PORT FACILITIES AND ENCOURAGE THE DEPARTMENT TO USE A MILITARY PORT OR TO WORK WITH OTHER NATIONS TO SAFELY STORE THEIR OWN NUCLEAR WASTE WITHIN THEIR OWN COUNTRY. *319-2*

## RESPONSE TO COMMENT COMMENTOR NO. 319: TACOMA-PIERCE COUNTY VISITOR AND CONVENTION BUREAU (CONT'D.)

### *Response to Comment No. 319-2*

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

The commentor's preference for the overseas storage alternative is noted. This is evaluated as Management Alternative 2, Subalternative 1a, which is discussed in Section 4.4.1 of the EIS.

## COMMENTOR NO. 337: SEATTLE CITY COUNCIL

12/08/93
JN:ssj

RESOLUTION 28848

A RESOLUTION stating the City's position that high level nuclear wastes should not be moved through Seattle or the Puget Sound area by water or land transportation.

WHEREAS, in response to a proposal from the Federal Department of Energy in 1986 to ship high-level nuclear waste from Asia through Puget Sound and Seattle to inland destinations, the Mayor and all Councilmembers signed letters to the Secretary of Energy requesting a site-specific EIS before undertaking such shipments; and

WHEREAS, in 1990 the City Council again, this time by resolution, opposed a Department of Energy proposal to ship high-level radioactive wastes from the Hanford Nuclear Reservation to West Germany through the City and Port of Seattle; and

WHEREAS, this proposal was also withdrawn; and

WHEREAS, in 1991, the Department of Energy made another policy proposal for a ten-year program to transport from 100-352 cask-shipments of high-level nuclear waste from research reactors in foreign countries to DOE facilities in South Carolina and Idaho through Puget Sound ports without a complete EIS and again, the Council, through Resolution 28433, opposed such shipment; and

WHEREAS, the Department of Energy on October 21, 1993 began a public comment period on the scope of an EIS for a proposed policy which would permit acceptance through the Port of Seattle of spent nuclear fuel containing enriched uranium of U.S. origin from foreign research reactors; and this EIS will evaluate the impact of such shipments on marine ports of entry, overland transportation routes and storage at its Hanford or the Idaho National Engineering Laboratory (INEL) site, until a means for permanent disposition is available; and

WHEREAS, the DOE press release of October 21, 1993 appears to suggest that it wishes to return up to 700 spent fuel elements from foreign research reactor while the EIS on the acceptance policy is being prepared; and

WHEREAS, the City Council, the Port of Seattle, and the Longshoremen's Union in Seattle continue to oppose these nuclear shipments through Seattle without adequate safeguards, procedures and risk assessments in place, in advance of any such shipments; NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEATTLE, THE MAYOR CONCURRING, THAT

337-1

## RESPONSE TO COMMENT
## COMMENTOR NO. 337: SEATTLE CITY COUNCIL

### *Response to Comment No. 337-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Seattle or the Puget Sound area is noted. The Port of Seattle is not among the candidate ports listed in Section 2.2.1.6 of the EIS. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk of bringing spent nuclear fuel through the Puget Sound area and the Port of Tacoma is low.

## COMMENTOR NO. 337: SEATTLE CITY COUNCIL (CONT'D.)

RESOLUTION

I. It is the City's position that no shipments of high level nuclear waste, from any source and to any destination requiring transport through the State of Washington, shall be moved through Seattle by land or water transportation without complete site-specific EIS's for each port and each transportation corridor involved, which conclusively establish that shipments will not pose risk to the health or safety of Seattle's residents.

II. It is the City's position that the EIS which is being prepared for the proposed policy should be as thorough and detailed as possible, addressing all potential risks to human health and the environment. The EIS should explore a range of alternatives including leaving the nuclear waste in situ until a strategy for disposal is resolved upon; having DOE take title to the material at the point of its generation, rather than when it arrives at the storage facility; using less-populated locations than the Port of Seattle for transfer from ship to land transport; and using a less congested and dangerous transportation corridor than through Seattle and over the Cascades. It should fully evaluate accidents or events which might result in breakage or leaking from the transport casks, as well as the resulting risks of harm from such leaks and the existance and availability of appropriate emergency equipment and facilities.

III. It is further the City of Seattle's position that if it is not completely satisfied with the EIS, and Seattle is chosen as a Port of Entry, the City will continue, by all means available, to oppose such a plan.

## RESPONSE TO COMMENT
## COMMENTOR NO. 337: SEATTLE CITY COUNCIL (CONT'D.)

Page 3
RESOLUTION

IV. This resolution shall be transmitted by the City Clerk to the Secretary of the U.S. Department of Energy and the Congressional delegation from the State of Washington.

ADOPTED by the City Council of the City of Seattle the 6th day of December, 1993, and signed by me in open session in authentication of its adoption this 6th day of December, 1993.

Jim Benson
President of the City Council

Filed by me this 9th day of December, 1993.

BY:
Margaret Carter
Deputy Clerk

THE MAYOR CONCURRING:
Norman B. Rice 12/8/93
Norman B. Rice, Mayor

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG

Civic Center • P.O. Box 1518 • Pittsburg, California 94565

**OFFICE OF THE MAYOR**

June 20, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-0001

**RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL**

Dear Mr. Head:

The attached resolution opposing the designation of the Concord Naval Weapons Station (CNWS) as a potential Port of Entry for the subject project was passed 4-0 by the Pittsburg City Council at its meeting on June 19, 1995. In addition to the considerations identified in the resolution, the City of Pittsburg has the following comments and questions related to the Draft EIS on the proposed project.

The City appreciates the Department of Energy's effort to reduce the amount of spent nuclear fuel available globally for illicit use and as a potential environmental contaminant, and understands the foreign policy implications of the proposed project. While the City does not routinely involve itself in matters of federal foreign policy, we do have a responsibility to protect the health and safety of our community. It is within this context that the City is compelled to comment on what we perceive to be a vague and wholly inadequate analysis of the possible local environmental impacts associated with the proposed project as it affects the CNWS and the surrounding environment. These comments and questions should not be construed as an opposition to the proposed policy, but rather our strong opposition to the consideration of the CNWS as a proposed Port of Entry

We were surprised to learn about the proposed project through published news reports in the local newspaper, and would have preferred to receive some sort of advanced notification from the Department of Energy. As a local jurisdiction located within 10-miles of the CNWS, we believe that it would have been entirely appropriate to provide Pittsburg and other affected public agencies with an Administrative Draft of the subject document for advance review. 439-1

*California Healthy Cities Project*
*National Center for Public Productivity Exemplary Award - 1993*

City of New Horizons

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG

### *Response to Comment No. 439-1*

DOE acted in full compliance with NEPA by publishing in the Federal Register an Advance Notice of Proposed Rulemaking (ANPR), which announced DOE's intention to conduct scoping meetings related to the proposed policy of managing foreign research reactor spent nuclear fuel. The ANPR constitutes DOE notice, under NEPA, that a major federal action is being proposed. Further notice of the proposed policy came with the publication in the Federal Register (60 FR 19899, April 21, 1995) of the availability of the draft EIS and the notification of the public hearings on the draft EIS. In addition, advertisements of the public hearings were placed in local papers prior to their occurrence.

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

Mr. Charles Head; EIS Letter
June 20, 1995
Page Two

and comment. Had this occurred, there may have been time to identify and correct the errors (i.e., San Suison Bay [sic], draft EIS, page 3-26) and technical omissions that are inherent in the Draft EIS. *439-1 (Cont'd.)*

When coupled with the magnitude of the proposed project, the review period that the public and local agencies were given to comment on the Draft EIS appears insufficient. This issue is compounded by the revelation that the CNWS was an apparent "last minute" substitution for the Port of Oakland as a proposed Port of Entry. In addition, considerable local and regional attention has been focused on this project, as indicated in part by the approximately 235 citizens that attended the DOE's public information meeting hearing held in the City of Concord on May 22, 1995. In light of these factors, we ask that the DOE extend the comment period for the Draft EIS and consider holding at least one additional public meeting within the area. *439-2*

While we understand that the Department perceives the timeline for completion of the EIS to be relatively short, time constraints should not be a justification for flawed and incomplete environmental review. If the project's time constraints do not allow for an extended comment period, or an adequate response to the issues raised by Pittsburg, other jurisdictions, and the public, we would appreciate DOE considering the preparation of a subsequent EIS detailing the potential impacts specific to the Concord region and greater Bay Area should the CNWS be selected as an ultimate Port of Entry.

Although we believe that, to date, the environmental review process for this project has been flawed – at least on the regional level – we are nevertheless in receipt of the Draft EIS and appreciate the opportunity to offer the following comments and questions.

I. Selection of CNWS As A Potential Port of Entry

1) During the May 22, 1995, public hearing held in Concord, DOE staff stated that every port in the country was evaluated as a potential Port of Entry for the proposed project using established criteria, and that this process resulted in the selection of the 10 ports identified in the subject document. Unfortunately, this analysis is absent in the Draft EIS. Please include a complete copy of this evaluation as an appendix to the Final EIS for the proposed project in order to clarify the ultimate selection of the CNWS as a potential Port of Entry. *439-3*

In addition to providing a copy of the evaluation, please separately detail the reasons why the Concord site was selected over other military ports located on the West Coast such as those located in the Los Angeles area and in the state of Washington. *439-4*

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

### *Response to Comment No. 439-2*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment. A total of seventeen public hearings, were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition to accepting comments from the public during these hearings, written comments were also welcomed, and encouraged. DOE considers that these actions have provided ample opportunity for the public to comment on the draft EIS.

### *Response to Comment No. 439-3*

Concord was one of 161 ports (153 commercial and eight military ports) considered. These ports were evaluated against selection criteria, resulting in 10 ports that met all of the criteria. Appendix D, Sections D.1.8 and D.1.9 present a detailed discussion of the process and results.

### *Response to Comment No. 439-4*

As recommended by the Military Traffic Management Command, a total of eight military ports were evaluated as candidates given their experience with dry containerized cargoes. From the eight military ports and 153 candidate commercial ports, Concord NWS was one of ten ports that has been determined to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted by the United States. In addition to Concord NWS, other West Coast military ports, located in Oakland, CA and Port Hueneme, CA, were considered but found to be unacceptable. The Port Hueneme facility was determined to have inappropriate experience with transshipping containerized dry cargoes (Appendix D, Section D.1.9.1 of the EIS), while the Oakland facility did not meet the criterion for low population (Section D.1.9.5). Appendix D, Sections D.1.8 and D.1.9 present a detailed discussion of the process and results.

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

Mr. Charles Head; EIS Letter
June 20, 1995
Page Three

2) During the May 22, 1995, public meeting in Concord, DOE staff revealed that the proposed storage sites for the spent nuclear fuel had been the subject of a previous EIS (SNF & INEL Programmatic EIS). Did this EIS analyze the potential Ports of Entry and possible transportation routes that would be used to transport the spent fuel to these storage sites? If not, why? And if so, why were the jurisdictions surrounding the possible Ports of Entry and potential transportation routes not provided with a draft copy of this previous EIS? *439-5*

3) DOE staff has consistently stressed that the project poses no threat to the public health and safety, yet the City has repeatedly heard that the CNWS supplanted the Port of Oakland as a potential Port of Entry due to the region's relatively lower population density. Please address this issue, and in doing so, please specify the reasons for the apparent late selection of the CNWS as a possible Port of Entry. Likewise, please clarify the apparent contradiction between DOE statements that the CNWS was selected (over Oakland) because of lower population density and DOE statements that the CNWS was selected to satisfy the need for the possible use of a military port on the West Coast. *439-6*

II. Reliance on Local Agency Support

1) In the event of an accident, DOE has indicated that local emergency service agencies would provide the initial response. Yet, the Draft EIS does not indicate whether or not the DOE has contacted the agencies listed below, or assessed their capability to respond to a worse case scenario involving the proposed project. Nor does the Draft EIS identify what sort of advance coordination will occur between these agencies and the DOE, or what training (and funding) will be provided to these agencies if necessary. The Final EIS should address the issues stated above for each of the following agencies: Contra Costa Emergency Services, Contra Costa Consolidated Fire District, County Sheriff's Department, Concord Police Department, Pittsburg Police Department, Antioch Police Department, Martinez Police Department, Mt. Diablo Hospital, John Muir Hospital, Kaiser Hospitals, and local ambulance companies. *439-7*

2) In the past, the CNWS has been the site of numerous, large scale protests and demonstrations. Should the CNWS be selected as an actual Port of Entry, it seems reasonable to expect that similar protests and demonstrations may occur. What resources will DOE be capable of providing in the event of civil unrest? Do procedures for handling potential protests involve local agencies such as police and fire departments? If so, have their capabilities to provide assistance been addressed? What sort of advanced coordination will occur between the DOE and these agencies? *439-8*

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

### *Response to Comment No. 439-5*

The programmatic document addresses interim management for the overall spent nuclear fuel inventory including domestic and foreign research reactor spent nuclear fuel. As a programmatic document, it does not include port evaluation or port selection for the acceptance of spent nuclear fuel from foreign research reactors since no decisions relating to potential ports of entry were to be made pursuant to the programmatic document. Port evaluation and selection for foreign research reactor spent nuclear fuel is discussed in detail in Appendix D of this EIS.

### *Response to Comment No. 439-6*

DOE's analyses indicate that the risks associated with receipt of foreign research reactor spent nuclear fuel, even through the most heavily populated ports in the United States, would be low (Section 4.2.2.3 of the EIS). Nevertheless, in the National Defense Authorization Act for the Fiscal Year 1994, Congress indicated that low port population should be a criterion for use in port selection, where economically feasible (Appendix D, Section D.1.6 of the EIS). Please note that even the National Defense Authorization Act for Fiscal Year 1994 did not make low port population an absolute requirement. Oakland was discussed as a possible port of entry during the scoping process for this EIS. However, as a result of the National Defense Authorization Act for Fiscal Year 1994 requirement, which was established after the scoping process for this EIS had been completed, DOE included population density as one of the factors to be considered in selecting ports of entry. This change in the port selection criteria after completion of scoping resulted in Oakland being screened out.

Concord NWS was identified for consideration at the same time as all the other potential ports of entry discussed in the draft EIS, as a result of the detailed evaluation of available ports that was accomplished for the EIS and documented in Appendix D. This port evaluation process resulted in the addition of three other potential ports of entry that had also not been identified at the time scoping was conducted, namely Galveston, TX; Jacksonville, FL; and Wilmington, NC.

All of the criteria that resulted in selection of Concord NWS as a potential port of entry are specified in Appendix D. The location of this port on the West Coast is certainly a desirable characteristic, but is not specified in the criteria and was not a factor in its selection.

### *Response to Comment No. 439-7*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

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III. Accident Potential

1) The possibility of a worst case scenario accident occurring is downplayed in the Draft EIS. However, this analysis seems to be based on DOE's previous experience in transporting spent nuclear fuel casks, which we understand has occurred less than 400 times during the past 40 years. Does the DOE's rather limited experience in cask transportation provide sufficient statistical data to support the risk analysis contained in the Draft EIS? *439-9*

2) The EIS does not address the potential consequences of shipboard fires or other heat/explosion-based incidents. In light of the number of petroleum and chemical industries concentrated in the region, this omission causes considerable concern and should be addressed in the Final EIS. *439-10*

3) The Draft EIS does not identify known earthquake faults that are located in the Concord-area, nor does the risk assessment analyze potential impacts associated with seismic activity on these faults. *439-11*

4) The EIS needs to address potential impacts to the area's waterways, including: the San Francisco Bay, the Sacramento-San Joaquin River Delta, the Contra Costa Water District, the Contra Costa Canal, and the Mokelumne Aqueduct. *439-12*

5) In the event of an accident, including a worst case scenario event, what resources will the federal government provide local jurisdictions and residents to compensate for both short and long-term impacts, including but not limited to those involving health, property, and economic vitality? *439-13*

6) In the event of a major incident, what public notification mechanisms and emergency warning systems will be used to alert the public of the potential danger? Is any sort of public education and information campaign planned to educate the public as to what safety precautions should be undertaken in the event of a worse case scenario incident?

IV. Transportation Routes

1) Please include copies of all pertinent Department of Transportation regulations pertaining to the transport of cask-sized loads (ranging from 25 to 125 tons) over roads, highways, and railroads. In addition, please discuss how the proposed project will comply with these regulations. *439-14*

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 439-8*

Dealing with demonstrations is the responsibility of the local and State governments, as well as the military if such demonstrations occur on military bases. However, if the demonstrations were the result of the receipt of foreign research reactor spent nuclear fuel, DOE would support local, State, or military organizations in dealing with demonstrations.

See also the 2nd paragraph to the response to Comment 439-7, above.

### *Response to Comment No. 439-9*

The analyses that were performed to evaluate the impact of various accidents divided all plausible accidents into six categories (Appendix D, Section D.5.3.1.1 of the EIS). The most severe accident category, release category 6, assumes that the ship carrying the foreign research reactor spent nuclear fuel transportation cask is in a collision with a tanker and that a fire occurs that engulfs the damaged transportation cask. The consequences of accidents, including category six accidents (the worst case scenario), are discussed in Appendix D, Section D.5.4.2.2. The probability associated with these accidents were developed by using statistical data on collisions obtained from Lloyd's Maritime Information Services, Inc. and are not dependent on previous experience shipping transportation casks containing spent nuclear fuel.

### *Response to Comment No. 439-10*

Sections 4.2.1 and 4.2.2 of the EIS provide an evaluation of consequences and risks of on-board ship fires. Supporting details are given in Appendix D. If a policy to accept foreign research reactor spent nuclear fuel is adopted, spent nuclear fuel elements would

## COMMENTOR NO. 439: TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

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2) While the Draft EIS does identify major highways and railroads that may be used in the transport of spent nuclear fuel, potential local roads and arterials that could be used to transport the casks are not identified. In order to properly analyze the impacts to these local transportation routes, each possible route needs to identified, and analyzed with regard to weight capacities and possible traffic impacts. This analysis should include a discussion of local bridge capacities and possible effects on local infrastructure systems, as well as proposed mitigations measures.

3) The Draft EIS does not analyze potential traffic impacts along major arterials and highway systems. It seems likely that the transport of even one, 125-ton cask over one of the region's highways will create major traffic congestion. How will such impacts be mitigated? Will casks only be transported during non-peak hours? If so, please reconcile such a mitigation measure with DOE statements that casks would remain at the CNWS no longer than four-hours after they arrive. If casks are stored in excess of four hours at the CNWS, this would appear to a be a significant change in the project description which may necessitate recirculation of the Draft EIS. *439-15*

V. Environmental Justice Analysis

1) The conclusion of the Environmental Justice Analysis contained in Appendix A of the Draft EIS appears to rely on the assumption that the DOE does not expect a major incident to occur, rather than being based on the potential impacts associated with a worse case scenario event. Please revise the Environmental Justice Analysis to reflect the proposed project's potential to disproportionatly affect minority and low income populations (including the City of Pittsburg) in the event of a worse case scenario event pursuant to Executive Order 12898. *439-16*

2) Appendix A of the Draft EIS appears to severely underestimate the population within ten (10) miles of the project's proposed Ports of Entry by failing to analyze a full ten (10) mile radius from the sites for both its general and minority population calculations. For example, the 10-mile radius that is supposedly measured in Figure A-6 (Distribution of the Minority Population Residing within 16 km of the Port of NWS Concord, California) does not correspond to the accompanying scale. A correction of this underestimation of impact would cause the City of Pittsburg and other Contra Costa communities to be included in the sphere of special consideration for the project. *439-17*

## RESPONSE TO COMMENT COMMENTOR NO. 439: TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

be shipped in transportation casks which are resistant to destruction by collision and fire (Section 2.6.2 of the EIS). In the unlikely event that a cask is breached by collision and/ or fire, the radiological consequences would be low and the associated risks would also be low (Section 4 of the EIS).

### *Response to Comment No. 439-11*

Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents, however, the number of earthquake-induced ship and road accidents is small compared to other causes.

### *Response to Comment No. 439-12*

The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports, bays, or waterways that the foreign research reactor spent nuclear fuel might pass through or near. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. As stated in Section 2.6.2 of the EIS, to date no spent nuclear fuel transportation cask has ever released any of its contents (radioactive material), even in actual accidents. Spent nuclear fuel transportation casks passing through Concord NWS, or any other port or waterway, cannot leak because the metal fuel is transported dry, thus it would not affect water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and emphasize the no-impact nature of these shipments on water quality.

### *Response to Comment No. 439-13*

See response to comment 439-7 above.

### *Response to Comment No. 439-14*

The casks that would be used to transport foreign research reactor spent nuclear fuel in the Concord area would weigh up to 25.5 metric tons (28.1 tons). (See next response.) The U.S. Department of Transportation regulations are published in 10 CFR Part 73. DOE and its shipping contractor would review and comply with all Federal and State laws and regulations involving ground transport. How to comply with these laws and regulations is an implementation detail and thus outside the scope of this EIS.

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

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Page Six

VI. Other

1) The Draft EIS does not discuss what disposal methods will be employed to handle residual waste (i.e., gloves, coveralls, strapping, etc., which may be contaminated with trace radiation) that may be generated from handling the cargo in question. What assurances will be provided that such waste products are not disposed of at local landfills such as Keller Canyon Landfill which is prohibited from receiving radioactive wastes, and is located on the border of Pittsburg (a minority community)? Will all incidental waste be transported with the casks to the proposed storage sites? *439-18*

This concludes our comments on the Draft EIS on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. However, the City reserves the right to submit additional comments should the public comment period be extended as requested above.

Thank you once again for the opportunity to comment on the draft document. We appreciate your consideration and will look forward to reviewing responses to the comments and questions raised here in the Final EIS. If you desire clarification of any of the issues that we have raised, please contact the City Manager's Office at (510) 439-4850.

Sincerely,

Taylor Davis
Mayor

cc: City Council
Michael Woods, Interim-City Manager/City Attorney

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

### *Response to Comment No. 439-15*

For possible local routes near Concord NWS, see the response to Comment 22-11. For restrictions on weight capacities, see the response to Comment 485-15. For possible traffic impacts, see the response to Comment 455-4. See the response to Comment 22-9 for DOE's role in emergency response and management activities. DOE expects that no radiological material would be released from the spent nuclear fuel transportation cask during a truck accident, so no mitigation measures would be necessary.

As shown in Table B-14 in Appendix B, Section B.2.2.1 of the EIS, the heaviest marine transport cask that would be involved in the proposed action weighs only 25.5 metric tons. There are spent nuclear fuel transportation casks that weigh more, but these would be used only for rail transport from one management site to another management site. These heavy casks would not be used near the Concord NWS.

The trucks would not be restricted to driving only during off-peak hours. DOE's policy is for the trucks to leave port as soon as they are ready to go in order to minimize the time in port.

### *Response to Comment No. 439-16*

Conclusions regarding environmental justice given in Appendix A and Section 4.2 of the EIS are based on analyses of radiological and non-radiological effects of the proposed action as described in Section 4 and Appendices B through F of the EIS. These analyses include normal operations and severe accidents (See Tables 4-6 and 4-7 of the EIS). It is not feasible to define a worst case scenario because for every accident scenario, one can always imagine a scenario that is worse. Severe accidents analyzed in this EIS include breach of the cask and immersion of the contents in an intense fire. As shown in Section 4.2.2 of the EIS, acceptance of foreign research reactor spent nuclear fuel would result in no significant benefits or risks to the population, including minority and low-income populations, residing in the area surrounding Concord NWS. As a result, there are no disproportionately high and adverse effects resulting from the proposed action.

### *Response to Comment No. 439-17*

Population data shown in Appendix A for Concord NWS were obtained using a circle of 10 miles (16 km) radius centered at the port. These population data are correct. The scale shown at the bottom of Figure A-6 (and the other figures in Appendix A) of the draft EIS was incorrect and has been corrected in final EIS. As discussed in Appendix A, demographic data for the analysis was obtained from 1990 census data published by the United States Bureau of the Census. In presenting the 1990 census data, the Census Bureau divided the City of Pittsburg into fifty-seven block groups (a block group usually contains from 250 to 550 housing units). Forty-nine of these block groups lie completely

## *Commentor No. 439: Taylor Davis, Mayor, City of Pittsburg (Cont'd.)*

**BEFORE THE CITY COUNCIL OF THE CITY OF PITTSBURG**

In The Matter Of: Resolution No. 95- 8188

Opposing the Designation of the Concord Naval Weapons Station as a Potential Port of Entry for Spent Nuclear Fuel as Described in the United States Department of Energy Environmental Impact Statement DOE/EIS-0218D )

WHEREAS, the United States Department of Energy ("DOE") has proposed that the Concord Naval Weapons Station ("CNWS") be designated as a Potential Port of Entry for spent nuclear fuel as detailed in the DOE's Environmental Impact Statement ("EIS") #0218D; and

WHEREAS, this proposal calls for approximately twelve (12) arrivals a year of spent nuclear fuel from approximately forty (40) world nations for a projected thirteen (13) year period; and

WHEREAS, the City of Pittsburg understands the benefit of the Department of Energy's effort to reduce the amount of spent nuclear fuel which is available for illicit use and as an environmental contaminant; and

WHEREAS, given the City's understanding of the benefits of the project it must take a position opposing CNWS as a Potential Port of Entry due to the following considerations:

1. Approximately 6.5 million people live in the nine (9) county Bay Area and over 500,000 persons leave within a ten (10) mile radius of the Concord Naval Weapons Station.

2. The Project's EIS severely underestimated the population within ten (10) miles of all of the project's proposed Ports of Entry by analyzing a five (5) mile rather than a ten (10) mile radius from the sites for both its general and minority population calculations. A correction of this underestimation of impact would cause the City of Pittsburg, and other Contra Costa communities to be included in the sphere of special consideration for the project; and 439-19

Page One of Two

## *Response to Comment Commentor No. 439: Taylor Davis, Mayor, City of Pittsburg (Cont'd.)*

within 10 miles (16 km) of the port, and two of these block groups lie partly within a 10 - mile radius centered at the port. As discussed in Appendix A, populations within each block group are assumed in the analysis to be uniformly distributed throughout the geographical area of the block group. Data for Concord NWS shown in the figures and tables of Appendix A includes eighty-eight percent of the population of the City of Pittsburg according to the 1990 census data.

### *Response to Comment No. 439-18*

No contamination of clothing or equipment from trace radiation would occur during handling of containerized foreign research reactor spent nuclear fuel in port. Appendix D, Section D.4.5 of the EIS discusses worker radiation doses resulting from off-loading a spent nuclear fuel transportation cask from a vessel; no radioactive particles are generated in this process which could cause worker contamination. Therefore, no waste disposal methods or waste storage sites would be necessary.

### *Response to Comment No. 439-19*

See the response to Comment 439-17, above.

## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

3. The probability of a transportation accident involving spent nuclear fuel in the Bay Area is significantly increased by the water and ground based transportation of significant amounts of refinery and chemical industry products in the region. 439-20

4. The EIS does not adequately identify and analyze emergency response preparedness, environmental justice issues, and economic impacts related to the proposed project. 439-21

5. There has been an inadequate period of time for the communities affected by the proposal to use CNWS as a Potential Port of Entry to review potential impacts.

6. The Cities of Concord and Martinez, and the County of Contra Costa have formally taken positions opposing the designation of CNWS as a Potential Port of Entry for the Spent Fuel project.

NOW THEREFORE, BE IT RESOLVED, that the Pittsburg City Council opposes the selection of the Concord Naval Weapons Station as a Potential Port of Entry of spent nuclear fuel due to the proximity of major population centers and the potential for a transportation accident which could impact the City of Pittsburg and other local communities. This resolution requests that the proposal review for this project be extended and directs City staff to prepare comments on DOE/EIS-0218D which detail the City's concerns. 439-22

PASSED AND ADOPTED, by the City Council of the City of Pittsburg, at a regular meeting duly held thereof, on the 19th day of June, 1995 by the following vote:

AYES:

NAYS:

ABSENT:

ABSTAINED:

Taylor Davis, Mayor

ATTEST:

Lillian J. Pride, City Clerk

Page Two Reso. No. 95-8188

## RESPONSE TO COMMENT
## COMMENTOR NO. 439:
## TAYLOR DAVIS, MAYOR, CITY OF PITTSBURG (CONT'D.)

### *Response to Comment No. 439-20*

The methodology for determining the probability of a transportation accident in port is discussed in Appendix D and Section 4.2.2.3 of the EIS and the probability was found to be low. The probability of a ground transport accident is discussed in Appendix E and Section 4.2.3.3 of the EIS and it was also found to be low.

### *Response to Comment No. 439-21*

Section 2.7 of the EIS describes in general, the emergency preparedness issues associated with the transportation of foreign research reactor spent nuclear fuel through the proposed ports and along the ground transportation routes. Details of the process would be included in the Transportation Plan that would be prepared for any individual spent nuclear fuel shipment and coordinated with State and local officials. Environmental justice issues are included in Appendix A of the EIS. The cost associated with the proposed policy, under all management alternatives, is detailed in Section 4.9.

See also the 2nd paragraph to the response to Comment 439-7, above.

### *Response to Comment No. 439-22*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low. Not only is the risk low, but the analysis of impacts associated with an accident involving foreign research reactor spent nuclear fuel determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 2nd Appendix D, Section D.5 of the EIS). Regarding the commentor's concern about the population of the area, the port selection process that determined that Concord NWS was an acceptable port considered the population of the port and surrounding areas. Appendix D, Section D.1.9.5 of the EIS presents an explanation of the population criterion.

## COMMENTOR NO. 440: GREATER CONCORD CHAMBER OF COMMERCE

The Chamber
Greater Concord Chamber of Commerce
Contra Costa's Leading Business Association

Fax: 202-586-5256
June 16, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

Dear Mr. Head:

RE: **Draft EIS for Transfer Facility for Foreign Research Reactor Spent Nuclear Fuel Rods**

The Greater Concord Chamber of Commerce opposes the use of the Concord Naval Weapons Station port as a transfer facility for foreign research reactor spent nuclear fuel rods.

The Chamber sides with concerns and issues raised by the City of Concord, other cities within Contra Costa County and the Contra Costa Board of Supervisors. We agree that there are too many unanswered questions, i.e., particular hazards in this area which might increase risk of accidents, such as earthquake faults; the port's capacity or equipment to off-load spent nuclear fuel rods; additional public personnel or military personnel needed to secure the port area and temporary storage area; additional role placed on City, County and State law enforcement agencies; and what to do if an accident resulted in health hazards, contaminated water supply, closed major roads and caused localized panic. 440-1

Because the three western storage sites (Hanford, Washington, Idaho National Engineering Laboratory and the Nevada Test Site near Las Vegas) are far away and not easily reached from Concord due to significant amounts of traffic and road closures due to snow storms, the Chamber feels assurances of error and fail-safe procedures are not possible.

While the Chamber recognizes the Concord Naval Weapons Station as a good neighbor and long-standing and contributing member of the Chamber of Commerce and the greater Concord community, the Naval Weapons Station port is situated in a well-populated and very seismically active area, not an appropriate site through which nuclear waste should be shipped.

We trust the D.O.E. will hear the testified reasoning offered here and not move forward with a federal government plan to ship nuclear waste through the Concord Naval Weapons Station.

Sincerely,

Larry Azevedo
President

cc: City of Concord, Board of Supervisors, Senators Diane Feinstein and Barbara Boxer, Congressmen George Miller and Bill Baker, Secretary of the Navy, Captain Roger B. Lanning

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## RESPONSE TO COMMENT COMMENTOR NO. 440: GREATER CONCORD CHAMBER OF COMMERCE

### *Response to Comment No. 440-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to Concord NWS, or to any of the ports analyzed in the EIS, is low.

With respect to the commentor's question regarding increased risk of accidents due to local hazards such as earthquakes, see the response to Comment 22-7 for a discussion of this topic.

The commentor questions Concord NWS's capacity or equipment to off-load spent nuclear fuel, see the response to Comment 22-2 for a discussion of this topic.

The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

In response to emergencies involving foreign research reactor spent nuclear fuel, see the response to Comment 22-6 for a discussion of this topic.

In response to the commentor's concern over shipment from Concord to the management site(s), the EIS evaluates the access to intermodal transportation and distance from the port to the management site in selecting ports of entry for the foreign research reactor spent nuclear fuel. Appendix D, Section D.1.9 presents details of the port selection process. The EIS accident risk assessment uses route-specific information to assess the consequences of accidents during overland transportation. Appendix E, Section E.5.2 discusses the accident assessment methodology for overland transportation. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.3.3) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel transportation casks are also low (Section 4.2.3.2).

## COMMENTOR NO. 455: CITY OF ANTIOCH

ANTIOCH CA 94509
CITY HALL THIRD AND H PO 130

(510) 779-7035

June 16, 1995

United States Department of Energy
Office of Environmental Management
Attn: Mr. Charles Head
1000 Independence Avenue, S.W.
Washington, DC 20585-0001

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL (DOE/EIS-0218d)

Dear Mr. Head:

Thank you for forwarding a copy of the above document for our review. While the need to properly manage the spent nuclear fuel elements received from foreign reactors is appreciated, we are concerned that the Draft EIS does not truly analyze the potential impacts of nuclear waste transport through the San Francisco Bay Area. It is also apparent that NWS Concord is not the optimal port-of-entry for these materials due to evidence cited in the Draft EIS. The following are our comments on this document:

1. Pages D-11 to D-13 of Volume 2 - One of the criterion for port selection is a favorable ship transit route from the open ocean to the dock. Although the route to NWS Concord is listed as "favorable" in Table D-4, the last paragraph on Page D-11 states that "[l]ess desirable were ports that could only be reached by traversing long, narrow and/or winding or crowded ship channels...[such as] the combined long transit from San Francisco Bay through two small bays connected by the narrow Strait of Carquinez, and a narrow ship channel on the San Joaquin River to Stockton, CA." 455-1

   Although a trip to NWS Concord would not include the latter passage via the "narrow ship channel" to Stockton, it would nonetheless be a circuitous one and not fit the cited definition of "favorable". Furthermore, the San Francisco Bay Area is a heavily populated metropolitan area and the shipment of spent nuclear fuel elements through such a region is

## RESPONSE TO COMMENT
## COMMENTOR NO. 455: CITY OF ANTIOCH

### *Response to Comment No. 455-1*

The physical constraints of the passage from San Francisco Bay to Concord NWS were considered as part of the port selection process. The passage does meet the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2). As discussed in Appendix D, Section D.1.9 of the EIS, other considerations such as port population, population along the route to the management site, port experience with handling containers, and port facilities have also been considered in making the final selection of ports of entry. Regarding the commentor's concern about the population of the San Francisco Bay area, the port selection process that determined that Concord NWS was an acceptable port considered the population of the port and surrounding areas. Appendix D, Section D.1.9.5 of the EIS provides an explanation of the population criterion.

## COMMENTOR NO. 455: CITY OF ANTIOCH (CONT'D.)

questionable. The inclusion of NWS Concord as a potential port-of-entry therefore is inappropriate.

2. Page D-34 of Volume 2 - Table D-6 lists NWS Concord as a site which has no relative usefulness to SRS or to foreign research reactor spent nuclear fuel shippers. Why then is it still under consideration as a potential port of entry? 455-2

3. Pages D-36 and D-38 of Volume 2 - NWS Concord is listed as having serious environmental concerns (i.e. the presence of wetlands and Tule Elk near the port). It is also within an area of high seismic activity. These critical concerns do not receive adequate analysis in the Draft EIS. 455-3

4. The overall consequences of truck or rail transport accidents on local communities are not adequately analyzed in the Draft EIS. No mention is made of the impacts that such an event would have on area traffic conditions, local public safety resources, or the communities' physical and social environments. We are greatly concerned that in this present time of limited financial resources, such an event would overly stress our ability to provide an emergency response and to otherwise recover from a transport accident. 455-4

In closing, we maintain that the Draft EIS does not completely assess the impacts of the proposal on local communities that would be affected by the proposal. Furthermore, we maintain that NWS Concord would not be a viable port-of-entry for the project and should be removed from the list of candidate ports.

I thank you for your attention and if you should like to discuss this matter further, please feel free to contact me at (510) 779-7035.

Sincerely,

Victor Carniglia
Deputy Director

VC/rb

cc: City Councilmembers
City Planning Commissioners
David Rowlands, City Manager
William Galstan, City Attorney
Senator Barbara Boxer
Senator Dianne Feinstein
Representative Bill Baker

## RESPONSE TO COMMENT
## COMMENTOR NO. 455: CITY OF ANTIOCH (CONT'D.)

### *Response to Comment No. 455-2*

As a part of the port selection process, the EIS examines desirable port attributes as one of the criteria used in selecting ports acceptable for the receipt and handling of foreign research reactor spent nuclear fuel. The port selection process is described in detail in Appendix D, Section D.1.9 with desirable port attributes discussed in Section D.1.9.6. Included among the desirable port attributes, DOE examined the likely usefulness of ports for shipment of foreign research reactor spent nuclear fuel to any of the five DOE management sites and the usefulness of ports for conventional shippers of foreign research reactor spent nuclear fuel. While Concord NWS was one of ten ports that has been determined to be acceptable to receive and handle foreign research reactor spent nuclear fuel, Concord NWS is not considered useful for transshipment to DOE's Savannah River Site near Aiken, SC because of the distance. Similarly, the Concord NWS is not considered useful for shipment by conventional shippers because of the military status and security requirements of the port. If foreign research reactor spent nuclear fuel is accepted into the United States, the Concord NWS would remain an acceptable port of entry for a variety of shipment options to the Idaho National Engineering Laboratory. The decision as to which port to use for each shipment would include consideration of the land route to the designated DOE management site and whether shipment were being made by conventional shipper.

### *Response to Comment No. 455-3*

As a part of the port selection process, the EIS examines desirable port attributes as one of the criteria used in selecting ports acceptable for the receipt and handling of foreign research reactor spent nuclear fuel. The port selection process is described in detail in Appendix D, Section D.1.9 with desirable port attributes discussed in Section D.1.9.6 of the EIS. Included among the desirable port attributes, DOE examined the environmental concerns near the ports and the environmental concerns from severe natural phenomena, such as earthquakes.

Although ports are not generally environmentally sensitive areas within the context of NEPA, the EIS identifies the presence of wetlands and Tule Elk near Concord NWS as an environmental concern. If foreign research reactor spent nuclear fuel is accepted into the United States, environmental concerns may be considered in the decision as to which port to use for each shipment of foreign research reactor spent nuclear fuel. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk to humans as well as wildlife associated with bringing spent nuclear fuel to Concord NWS, or to any of the ports analyzed in the EIS, is low.

The risk of releasing radioactive material from a spent nuclear fuel transportation cask as the result of a seismic event is low. Transportation casks are designed and built to withstand significant punishment without releasing their contents (Section 2.6.2 of the EIS). Therefore, a seismic event, even if it caused structures at Concord NWS to fail, is not expected to compromise the transportation cask. Further, the analyses of impacts associated with accidents involving foreign research reactor spent nuclear fuel presented in Section 4.2.2.3 demonstrates that the use of any of the selected ports would not pose any significant risk to the port personnel or the population near the ports.

***Response to Comment No. 455-4***

The addition of up to 186 truck shipments to the routes near Concord spread out over a period of 13 years would have an insignificant impact on the traffic congestion or the traffic accident rate because tens of thousands of truck shipments will travel the same roads during those 13 years. As discussed in Appendix E and Section 4.2.3.3 of the EIS, the potential for fatal traffic accidents caused by the proposed action would be very low.

See the response to Comment 22-9 for DOE's role in emergency response and management activities, which would include assistance to local public safety authorities. Based on over 40 years of experience, DOE expects that no radioactive material would be released from the spent nuclear fuel transportation cask during a truck accident, so there would be no radiological damage to the community's physical and social environment.

## *Commentor No. 456: Ben Tarver, Mayor, City of Pleasanton*

# CITY OF PLEASANTON

OFFICE OF THE MAYOR
BEN C. TARVER

June 12, 1995

Charles Head
Program Manager
Office of Spent Nuclear Fuel Management
U.S. Department of Energy
1000 Independence Avenue
Washington D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head,

The City of Pleasanton requests that the Department of Energy extend the public notice and comment period on the Department's Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel for not less than 90 additional days, to September 20, 1995. This extension is necessary to permit our Planning Department, Staff, and City Council a full opportunity to evaluate the impacts associated with DOE's proposal to ship spent nuclear fuel from foreign reactors through the Concord Naval Weapons Station and along the California highways and rails to various sites across the United States. We further request that DOE conduct one or more additional hearings to provide affected communities the opportunity to provide input on the proposed action. *456-1*

Since any community along a major highway route leading from the Bay Area is potentially affected by the proposed action, we believe that DOE should provide more extensive notice and opportunity to comment through hearings and written comments. Although two major interstate highways (580 & 680) intersect in Pleasanton, we did not receive any formal notice of the EIS.

The shipment of spent nuclear fuel rods presents health and safety concerns to local communities, and potentially imposes additional costs to emergency planning and services departments. For this reason, we request that DOE establish a representative working group to assist potentially affected cities, counties, and local agencies involved in emergency services in evaluating and anticipating the proposed federal action. *456-2*

123 MAIN STREET • P.O. BOX 520 • PLEASANTON, CA 94566-0802 • (510) 484-8001 • FAX (510) 484-8236

## *Response to Comment Commentor No. 456: Ben Tarver, Mayor, City of Pleasanton*

### *Response to Comment No. 456-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comments. It would not be feasible, nor is it required by NEPA, to conduct public hearings in every community along potential transportation routes for the foreign research reactor spent nuclear fuel. As such, seventeen public hearings were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition to accepting comments from the public during these hearings, written comments were also welcomed, and encouraged. DOE considers that these actions have provided ample opportunity for the public to comment on the draft EIS.

### *Response to Comment No. 456-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 456:
## BEN TARVER, MAYOR, CITY OF PLEASANTON (CONT'D.)

Thank you for your consideration.

Sincerely,

Ben Tarver
Mayor

cc: Senators Feinstein and Boxer
Representative Bill Baker
City Council
City of Concord
City of Martinez

## RESPONSE TO COMMENT
## COMMENTOR NO. 456:
## BEN TARVER, MAYOR, CITY OF PLEASANTON (CONT'D.)

## COMMENTOR NO. 459: THE CHAMBER OF EASTERN PIERCE COUNTY

The Chamber of Eastern Pierce County
322 - 2nd St. S.W. • P.O. Box 1298 • Puyallup, WA 98371 • (206) 845-6755 • FAX (206) 848-6164
1-800-634-2334

June 13, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Mngmt.
US Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Mr. Head:

The Chamber of Eastern Pierce County opposes the importation of spent nuclear fuel through the Port of Tacoma, as not in the best interest of the region or this community. Social, safety and economic impacts must be weighed by the U.S. Department of Energy.

The following liabilities are of concern to any operation at the Port of Tacoma. The ILWU Local #23 has declared they will not handle this cargo. As these shipments will come by regular commercial carrier, other cargo will be affected. Potentially, cargos of adjacent berthed ships might be impacted, thereby hampering the movement of commercial cargos. *459-1*

Almost all civilian commerce of nuclear materials is anonymous, which greatly increases its security. However, the result of this environmental impact statement's conclusion will identify the trans-shipment point for nuclear materials, thereby compromising security and may attract the attention of terrorist groups. *459-2*

There are no provisions or funding for safety planning or training or exercises for local respondents or adjacent worksites or populations. *459-3*

People's unreasoning fears associated with nuclear energy is expected to produce a stigma for whichever port's community is announced as the trans-shipment point. Pierce County has had it's share of unreasoned fears.

The Chamber of Eastern Pierce County would like to see the Port of Tacoma removed from the Department of Energy's list of potential sites for shipments of spent nuclear fuel.

Sincerely,

Gerry Moody

Gerry Moody, President
The Chamber of Eastern Pierce County

CC State and Federal Representatives
Port of Tacoma Commissioners

## RESPONSE TO COMMENT COMMENTOR NO. 459: THE CHAMBER OF EASTERN PIERCE COUNTY

### *Response to Comment No. 459-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted.

Candidate ports were chosen from among commercial and military ports along the eastern seaboard, western seaboard, and the Gulf of Mexico. The selection process is described in Appendix D, Section D.1 of the EIS. No significant human health, safety, or environmental risks were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS). Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS). The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

The possibility of a longshoremen strike was not considered in the ports selection process (Appendix D, Section D.1.9 of the EIS) since that factor does not impact on the capability to safely receive containers carrying foreign research reactor spent nuclear fuel. The decision as to which port or ports would be used, in the case that foreign research reactor spent nuclear fuel is accepted by the United States, will be made in the Record of Decision. In either case, the possibility of strikes is one of the many factors that must be considered in determining which ports to use.

### *Response to Comment No. 459-2*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk of such actions. Security would be provided for all shipments of foreign research reactor spent nuclear fuel, as required by the Code of Federal Regulations (10 CFR Part 73). The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

### *Response to Comment No. 459-3*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is

## COMMENTOR NO. 459:
## THE CHAMBER OF EASTERN PIERCE COUNTY (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 459:
## THE CHAMBER OF EASTERN PIERCE COUNTY (CONT'D.)

discussed in Section 2.7.1. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H of the EIS.

## COMMENTOR NO. 472:
## GLORIA O.WEBB, MAYOR, CITY OF PORTSMOUTH

City of Portsmouth, Virginia
Office of the Mayor
P. O. Box 820
Portsmouth, Virginia 23705-0820
Established 1752
(804)-393-8746

June 16, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Head:

Thank you for the opportunity to again comment on the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. The Draft Environmental Impact Statement issued in March of this year answers many of the questions raised in my letter to John J. Jicha, Jr. of November 23, 1993.

Specifically, Management Alternative 1 proposes that D.O.E. take title to this material when the fuel enters U.S. territorial waters. Other options listed include much later time frames. We support the earliest time possible, but in no case should D.O.E. not have title when the material enters our ports. Additionally, Alternative 1 references the Savannah River Site or INEL as the only available sites with storage capacity for the 10 years of this plan. Given the current court injunction, Idaho would appear to be unavailable. It remains of concern to us what would happen if material were taken into our ports and the only available storage site, Savannah River were also made unavailable. 472-1 472-2

The Draft E.I.S. provides more information on the safety and transportation standards to be followed. If Hampton Roads is included as a port of entry we wish to be given advance notice of any shipments. 472-3

The listing of potential ports has been modified from the original six referenced in the November, 1993 Fact Sheet. Five possible ports of entry have been added and two localities have been deleted from the list. The deletions of 472-4

## RESPONSE TO COMMENT
## COMMENTOR NO. 472:
## GLORIA O.WEBB, MAYOR, CITY OF PORTSMOUTH

### *Response to Comment No. 472-1*

The commentor's support for taking title of the foreign research reactor spent nuclear fuel as early on its route as possible and not later than its entry into U.S. territorial waters is noted. The options associated with taking title are described in Sections 2.2.1 and 2.2.2.4 of the EIS.

### *Response to Comment No. 472-2*

It is expected that the availability of the site(s) where the foreign research reactor spent nuclear fuel would be managed would be cleared prior to the unloading of the spent nuclear fuel in any of the proposed ports. Under normal circumstances, it would remain at a port for only a few hours. In the event of a major disruption of ground transportation systems due to adverse weather, seismic activity, or other situation, DOE's goal is to minimize holding times at the ports and to provide safe transport of the spent nuclear fuel to its destination as quickly as possible.

### *Response to Comment No. 472-3*

DOE is required to inform the Governor of each State and any Tribal chair,or their designee, along a transportation route at least seven days in advance of the shipment of hazardous cargos, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 472-4*

Appendix D, Section D.1.9 of the EIS provides details on the evaluation criteria used to identify candidate ports for potential receipt of foreign research reactor spent nuclear

## COMMENTOR NO. 472:
## GLORIA O.WEBB, MAYOR, CITY OF PORTSMOUTH (CONT'D.)

Mr. Charles Head
June 16, 1995
page 2

Seattle, Washington and Oakland, California may be reflective of D.O.E.'s desire to avoid large population centers. We contend that this criteria should also preclude further consideration of Hampton Roads as a port of entry. 472-4 (Cont'd.)

Hampton Roads is a community of over one million people. We believe D.O.E. should give strong consideration to the use of ports located in areas of lower population density. We appreciate D.O.E. adding such ports to the Draft E.I.S. and request that in the final E.I.S. this matter be given even more emphasis.

Thank you again for the opportunity to comment on this Draft Environmental Impact Statement.

Sincerely,

Gloria O. Webb
Mayor

GOW:tmr

cc: V. Wayne Orton, City Manager
Members of Council
Marilee A. Hawkins

## RESPONSE TO COMMENT
## COMMENTOR NO. 472:
## GLORIA O.WEBB, MAYOR, CITY OF PORTSMOUTH (CONT'D.)

fuel. One of the criteria is population of the port and along the route to the management sites, and is described in detail in Appendix D, Section D.1.9.5 of the EIS. After applying all of the evaluation criteria, the Port of Hampton Roads was identified as a potential port of entry, but the Port of Oakland and the Port of Seattle were excluded.

The port selection process and results presented in Appendix D, Sections D.1.8 and D.1.9 of the EIS, only indicate ports that are acceptable for the receipt and handling of foreign research reactor spent nuclear fuel, not which port(s) is best.

## COMMENTOR NO. 474:
## PETER MURRAY, MAYOR, CITY OF PINOLE

**Pinole California**
2131 Pear Street Pinole, CA 94564 (510) 724-9000

June 15, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL

Dear Mr. Head:

As Mayor of the City of Pinole, I formally request that the United States Department of Energy (DOE) extend the period for public notice and comment for not less than ninety (90) additional days to September 20, 1995. This extension is necessary to permit our Planning Department, staff and Council a full opportunity to evaluate the impacts associated with DOE's proposal to ship spent nuclear fuel from foreign reactors through the Concord Naval Weapons Station (NWS) and along California highways and rails to various sites across the United States. Ordinarily, actions of this magnitude require months of planning study before any local agency or government is prepared to make a decision to approve or disapprove such a proposal. 474-1

I further request that DOE conduct one or more additional hearings to provide affected communities the opportunity to provide input on the proposed action. Since any community along a major highway route leading from the Bay Area is potentially affected by the proposed action, I believe that more extensive notice and opportunity to comment through hearings and written comments should be provided by DOE.

The shipment of spent nuclear fuel rods presents health and safety concerns to local communities, and potentially imposes additional costs to emergency planning and services departments. For this reason, I request that DOE establish a representative working group 474-2

-1-

## RESPONSE TO COMMENT
## COMMENTOR NO. 474:
## PETER MURRAY, MAYOR, CITY OF PINOLE

### *Response to Comment No. 474-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comments. It would not be feasible, nor is it required by NEPA, to conduct public hearings in every community along potential transportation routes for the foreign research reactor spent nuclear fuel. As such, seventeen public hearings were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition to accepting comments from the public during these hearings, written comments were also welcomed, and encouraged. DOE considers that these actions provided ample opportunity for the public to comment on the draft EIS.

### *Response to Comment No. 474-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 474:
## PETER MURRAY, MAYOR, CITY OF PINOLE (CONT'D.)

CHARLES HEAD
June 15, 1995

to assist potentially affected cities, counties, and local agencies involved in emergency services in evaluating and anticipating the proposed federal action.

I look forward to your prompt response to the foregoing matters.

Sincerely,

Peter Murray
Mayor of Pinole

PM:se

-2-

## RESPONSE TO COMMENT
## COMMENTOR NO. 474:
## PETER MURRAY, MAYOR, CITY OF PINOLE (CONT'D.)

## COMMENTOR NO. 494: BETH BARTKE, MAYOR, CITY OF HERCULES

CITY OF HERCULES
111 CIVIC DRIVE, HERCULES, CA 94547
PHONE: 510 • 799 • 8200

June 6, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

RE: *Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel*

Dear Mr. Head:

On behalf of the City of Hercules, we formally request that the United States Department of Energy (DOE) extend the period for public notice and comment for not less than ninety (90) additional days to September 20, 1995. This extension is necessary to permit our Planning Department, Staff and Council a full opportunity to evaluate the impacts associated with DOE's proposal to ship spent nuclear fuel from foreign reactors through the Concord Naval Weapons Station (NWS) and along California highways and rails to various sites across the United States. Ordinarily, actions of this magnitude require months of planning study before any local agency or government is prepared to make a decision to approve or disapprove such a proposal. 494-1

We further request that DOE conduct one or more additional hearings to provide affected communities the opportunity to provide input on the proposed action. Since any community along a major highway route leading from the Bay Area is potentially affected by the proposed action, we believe that more extensive notice and opportunity to comment through hearings and written comments should be provided by DOE.

The shipment of spent nuclear fuel rods presents health and safety concerns to local communities, and potentially imposes additional costs to emergency planning and services departments. For this reason, we request that DOE establish a representative working group to assist potentially affected cities, counties, and local agencies involved in emergency services in evaluating and anticipating the proposed federal action. 494-2

We look forward to your prompt response to the foregoing matters.

Sincerely,

Beth Bartke

BETH BARTKE
Mayor

BB:mh
head.bb

cc: Hercules City Council

## RESPONSE TO COMMENT COMMENTOR NO. 494: BETH BARTKE, MAYOR, CITY OF HERCULES

### *Response to Comment No. 494-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comments. It would not be feasible, nor is it required by NEPA, to conduct public hearings in every community along potential transportation routes for the foreign research reactor spent nuclear fuel. As such, seventeen public hearings were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition to accepting comments from the public during these hearings, written comments were also welcomed, and encouraged. DOE considers that these actions provided ample opportunity for the public to comment on the draft EIS.

### *Response to Comment No. 494-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 495:
## NORMAN LA FORCE, MAYOR, CITY OF EL CERRITO

OFFICE OF THE MAYOR
(510) 215-4300

June 14, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

As Mayor of El Cerrito, I formally request that the United States Department of Energy (DOE) extend the period for public notice and comment for the above referenced project for not less than ninety (90) additional days to September 20, 1995. This extension is necessary to permit our planning department, staff and council a full opportunity to evaluate the impacts associated with DOE's proposal to ship spent nuclear fuel from foreign reactors through the Concord Naval Weapons Station (NWS) and along California highways and rail lines to various sites across the United States. Ordinarily, actions of this magnitude require months of planing study before any local agency or government is prepared to make a decision to approve or disapprove such a proposal. 495-1

We further request that DOE conduct one or more additional hearings to provide affected communities the opportunity to provide input on the proposed action. Since any community along a major highway route leading from the Bay Area is potentially affected by the proposed action, we believe that more extensive notice and opportunity to comment through hearings and written comments should be provided by DOE.

The shipment of spent nuclear fuel rods presents health and safety concerns to local communities and potentially imposes additional costs to emergency planning and public safety services departments. For this reason, we request that DOE establish a representative working group to assist potentially affected cities, counties, and local agencies involved in emergency services in evaluating and anticipating the proposed federal action. 495-2

CITY HALL 10890 San Pablo Avenue El Cerrito, California 94530 Fax (415) 233-5401
PRINTED ON RECYCLED PAPER

## RESPONSE TO COMMENT
## COMMENTOR NO. 495:
## NORMAN LA FORCE, MAYOR, CITY OF EL CERRITO

### *Response to Comment No. 495-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comments. It would not be feasible, nor is it required by NEPA, to conduct public hearings in every community along potential transportation routes for the foreign research reactor spent nuclear fuel. As such, seventeen public hearings were held on the draft EIS in the locations determined most likely to be directly affected by the EIS alternatives, specifically in the ports of entry and at the potential management sites. In addition to accepting comments from the public during these hearings, written comments were also welcomed, and encouraged. DOE considers that these actions provided ample opportunity for the public to comment on the draft EIS.

### *Response to Comment No. 495-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## *Commentor No. 495:*
## *Norman La Force, Mayor, City of El Cerrito (Cont'd.)*

Charles Head, Program Manager
June 14, 1995
Page Two

Among the concerns and reasons for requesting the extension of the study and comment period are such concerns as detailed by the City of Concord in their letter of May 22 to you, and the City of Martinez in their letters of June 6 to you and to Hazel O'Leary, Director of your Department, (copies of all three enclosed). Rather than repeat these concerns, I wish, by reference, to indicate that we join in their concerns and comments and offer them as reasons why the study period should be extended until September 20, 1995.

We look forward to your prompt response to the foregoing matters.

Sincerely,

Norman La Force

Norman La Force,
Mayor

NLF:lg

cc: City Council
City Manager

## *Response to Comment*
## *Commentor No. 495:*
## *Norman La Force, Mayor, City of El Cerrito (Cont'd.)*

## COMMENTOR NO. 496:
## CITY OF MARTINEZ - CITY COUNCIL

City of Martinez
525 Henrietta Street, Martinez, CA 94553-2394
(510) 372-3505
FAX: (510) 372-0257

June 6, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

We appreciate this opportunity to comment on the Draft EIS on the Policy On Return of Spent Nuclear Fuel. The proposed project involves federal actions and analysis which are not subject to our local decision making, but may have an impact on our community. We have attempted to address the local impacts of the proposed action and in particular that element of the preferred alternative that proposes the transport of spent nuclear fuel through the Concord Naval Weapons Station (NWS). Based on our review of the documents we have the following comments and questions:

1. The Draft EIS does not evaluate if local agencies can assume the increased burden of providing emergency response. What additional local services will be required as a consequence of the increased activity to the Concord NWS? What provisions have been made for coordination and assistance to local emergency response services for the proposed action? What economic assistance is DOE prepared to extend to assure these services are available? *496-1*

2. Will local governments and other emergency service agencies be notified of ship, rail, and truck shipments in advance? Have these agencies been notified of this and have they been provided an opportunity to comment?

3. What secondary actions are being contemplated as a consequence of this project, i.e., road closures, etc.? *496-2*

4. Please clarify the accident analysis in the Draft EIS. In addressing local risks, did the Draft EIS consider local traffic and traffic surveys, rail and ship patterns? Did the Draft EIS review documentation of local ship accidents? *496-3*

CITY COUNCIL — CITY MANAGER
Michael M. Menesini, Mayor — Hartnett Hall — Timothy J. Farley — Julian M. Pickett — Frank(ie) J. Woodhum — James Iakel

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## RESPONSE TO COMMENT
## COMMENTOR NO. 496:
## CITY OF MARTINEZ - CITY COUNCIL

### *Response to Comment No. 496-1*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is discussed in Section 2.7.1. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, to be prepared prior to the implementation of the policy. The general provisions of the Transportation Plan are included in Appendix H of the EIS.

### *Response to Comment No. 496-2*

No secondary actions, such as road closures, would be required for the safe and uneventful transportation of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 496-3*

In response to the commentor's concern over local risks associated with the shipment from Concord NWS to the management site(s), the commentor should note that the EIS evaluates the access to intermodal transportation and distance from the port to the management site in selecting ports of entry for the foreign research reactor spent nuclear fuel. Appendix D, Section D.1.9 of the EIS presents details of the port selection process. The EIS accident risk assessment uses route-specific information to assess the consequences of accidents during overland transportation. Appendix E, Section E.5.2 of the EIS discusses the accident assessment methodology for overland transportation. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.3.3) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel casks are also low (Section 4.2.3.2).

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated

## COMMENTOR NO. 496: CITY OF MARTINEZ - CITY COUNCIL (CONT'D.)

Charles Head
June 6, 1995
Page 2

5. Are there alternative risk analyses which have been conducted regarding the shipment of nuclear materials such as spent nuclear fuel? Were these considered in preparing the Draft EIS? *496-3 (Cont'd.)*

6. We are concerned that the preparation of a document covering such a large area does not address local concerns and impacts including the impacts on local street and roads, for example, routes proposed to be used may include Waterfront Road in Martinez, since it is the most direct route from the Concord NWS to the 680 Freeway. In addition, the Contra Costa Canal, which is the main water supply for much of Contra Costa County, passes through the Naval Weapons Station. How will accidents and other local impacts such as this be addressed? *496-4*

The present deadline for responses to the Draft EIS (June 20) provides insufficient time for local agencies and members of the public to respond to a federal proposal of such local significance. Normally, project proposals that are presented to our City require months of consideration and discussion before a decision is made. I request that DOE extend the comment period for at least 60 additional days (until August 20, 1995), and respond to these concerns in writing at your earliest opportunity. *496-5*

Without further analysis of safety issues specific to the immediate Bay Area communities, and a fuller opportunity to comment on the issues, the City must oppose the proposed project because of safety concerns of our residents due to the transport of hazardous materials on our freeways, rail lines and on ships throughout the City and adjacent to the City. The proposal doesn't adequately address, at this time, the potential for accidents and emergency services, nor does it propose to provide assistance to our local agencies in case of emergencies.

Sincerely,

Michael M. Menesini
Mayor

Harriett Burt
Vice Mayor

Timothy J. Farley
Councilmember

Julian M. Frazer
Councilmember

Barbara J. Woodburn
Barbara J. Woodburn
Councilmember

cc: Mayor and City Council, Martinez
Community Development Department, Martinez
Association of Bay Area Governments (ABAG)
Contra Costa County Board Supervisors
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman Bill Baker
Congressman George Miller

## RESPONSE TO COMMENT COMMENTOR NO. 496: CITY OF MARTINEZ - CITY COUNCIL (CONT'D.)

with navigational hazards and distances from the port to the open ocean or a large bay ( Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS.

Numerous other risk analyses were used in the preparation of the EIS, some of then involving the shipment of spent nuclear fuel. See the list of references at the end of Volume 1 of the EIS.

### *Response to Comment No. 496-4*

DOE has not yet selected ports of entry, ground transportation routes, or transport modes for the foreign research reactor spent nuclear fuel. If the Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, and/ or Waterfront Road. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 40 years of spent fuel shipments, no radioactive contents have ever been released from a transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as the result of an accident. Based on this experience, DOE does not expect that spent nuclear fuel transportation casks passing through the Concord NWS would release radioactive materials or affect the quality of the water supply for Contra Costa Water District via Mallard reservoir or any other path. Analysis of a severe accident involving a ship at Concord NWS (Section 4.2.2.3 of the EIS) indicates that the resultant contamination would be so small that no cleanup would be required, other than possibly in the immediate vicinity of an accident. This means that contamination of Mallard Reservoir would be minimal. To insure this was the case, if such a severe accident were to occur, all water supplies in the area, as well as food and air, would be tested for contamination.

### *Response to Comment No. 496-5*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 500:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD

CITY OF CONCORD
1950 Parkside Drive, MS/01
Concord, California 94519-2578
FAX: (510) 798-0636

OFFICE OF THE MAYOR
Telephone: (510) 671-3158

Concord

CITY COUNCIL
Helen M. Allen, Mayor
Lou Rosas, Vice Mayor
Colleen Coll
Bill McManigal
Michael A. Pastrick

Lynnet Keihl, City Clerk
Thomas Wentling, City Treasurer

Edward R. James, City Manager

June 15, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The Port of Concord, located in the Concord Naval Weapons Station, is one of ten seaports being considered by the Department of Energy to receive spent nuclear fuel from foreign research reactors. The City of Concord is in a unique position relative to this proposal by your Department. The Port of Concord is within the sphere of influence of the City of Concord and is part of the Concord planning area. The administrative center of the Weapons Station and the inland storage area are within the City limits of the City of Concord. The proposal to use the Port of Concord could have major impacts on our City of about 115,000 people as well as the entire region.

The proposed policy regarding spent nuclear fuel shipments is a major concern to our residents. About 235 people attended the public information hearing held by the Department of Energy at Centre Concord on May 22, 1995. The Concord City Council held a hearing on the proposal on June 6, 1995. Speakers were asked to limit their comments to three minutes. Nevertheless, the hearing lasted for about four hours.

At the conclusion of the June 6, 1995 hearing, the City Council unanimously voted to send this letter to the Department of Energy in opposition to the proposed use of the Port of Concord for shipment of spent nuclear fuel rods and to find that the draft Environmental Impact Statement is inadequate and incomplete. The proposal raises potential community health and safety issues which are our paramount concerns. 500-1

Please note that the City of Concord did not take a position regarding the merits of the proposed federal nuclear nonproliferation policy. Our objective was not to formulate a stance on a proposed federal foreign policy. Our expertise is on local issues—the impacts of proposed land uses on our community. Thus, this letter will focus on the identification of impacts to Concord of using the Port of Concord as a transfer facility for fuel rods.

## RESPONSE TO COMMENT
## COMMENTOR NO. 500:
## HELEN M. ALLEN, MAYOR, CITY OF CONCORD

### *Response to Comment No. 500-1*

The draft and final versions of this EIS provide an evaluation of the environmental effects which would occur under implementation for all reasonable management alternatives. Section 2 of the EIS describes the proposed action and management alternatives, and results of the environmental evaluation are given in Section 4 of the EIS. Appendices of the EIS provide detailed supporting data and information for the evaluation. Human health and safety were primary concerns included in the environmental evaluation. As discussed in Sections 4.2.2 and 4.5 of the EIS, the risk associated with bringing spent nuclear fuel to Concord NWS, or any port analyzed in the EIS, is low.

Environmental impacts of a proposed action are one factor in an agency's decision process. Since management of spent nuclear fuel from foreign research reactors would have no significant environmental effects, decisions regarding management of spent nuclear fuel from foreign research reactors would be based on non-environmental considerations.

## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Mr. Charles Head
June 15, 1995
Page 2

This letter should not be construed as questioning the role and mission of the Concord Naval Weapons Station. The City of Concord and the Naval Weapons Station have been good neighbors for over fifty years. The Station and Station personnel are part of our community and have been actively involved with the community.

As stated above, it is the opinion of the Concord City Council that the Draft EIS is flawed. Although the document is lengthy, it contains little information regarding each proposed port of entry. Information regarding the Port of Concord and the Weapons Station is very general. The EIS does not contain enough information to assess possible impacts. For example, there is no discussion of port operations, the impact on the Navy, local streets to be used to haul the fuel rods, and impacts on emergency service personnel and facilities. We believe that the EIS is inadequate and incomplete.

Our concerns regarding the impacts to Concord of he proposed federal policy are listed below.

1. Accident Potential

- The Department of Energy has stated that the chance of an accident is minimal. We question this statement and are very concerned because a D.O.E. spokesperson stated that one reason the Port of Oakland was dropped from consideration in favor of the Port of Concord was that Concord had a smaller population than the Oakland area. *500-2*

- At our teleconference meeting on May 3, 1995, you stated that some operators and customers of commercial ports believe that spent fuel rods should only be off-loaded at military ports. Also, you stated that the Port of Concord was preferred over the Port of Oakland because Concord was a secure military base. These statements are inconsistent with other statements you made that the threat of accidents and terrorism was minimal.

- The San Francisco Bay Area is one of the largest metropolitan regions in the country. Even though the danger of nuclear accident may be low, we question bringing the rods through the Golden Gate to Concord. The Bay Area has over six million people. *500-3*

- In case of an accident, D.O.E. has stated that local emergency services agencies would be expected to handle the situation. The emergency services agencies that we contacted do not believe they are trained and equipped to deal with radiation accidents. Has D.O.E. contacted agencies such as those listed below to assess their capabilities to help in accident situations? *500-4*

| | |
|---|---|
| Contra Costa County Emergency Services | Mt. Diablo Hospital |
| Contra Costa County Consolidated Fire District | John Muir Hospital |
| County Sheriff's Department | Kaiser Hospitals |
| Concord Police Department | Ambulance companies |
| | Toxic waste companies |

## RESPONSE TO COMMENT
## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

### *Response to Comment No. 500-2*

Concord NWS was one of ten ports that has been determined to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted into the United States. Population of the port and surrounding areas is one of the considerations of the port selection criteria, and one of the reasons the Port of Oakland was not included in the final list of ports. The population criterion for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS. Other considerations such as port experience with handling containers, access to the open ocean, and port facilities have also been considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process. (Also see the response to Comment 439-5.)

The chances of an accident releasing radioactive material from foreign research reactor spent nuclear fuel are indeed low. Appendix D, Section D.5.3.1 of the EIS presents a detailed discussion of the probability of marine accidents.

Mr. Head's comments to the effect that some operators of commercial ports believed that spent nuclear fuel should only be off-loaded at military ports merely reported the nature of some of the comments DOE had received, not DOE's position regarding the need to use military ports.

### *Response to Comment No. 500-3*

The consequences and risk associated with an accident in San Francisco Bay were calculated (Section 4.2.2.3 of the EIS) and found to be low, in spite of the large population of the Bay Area, indicating that it would be safe to use Concord NWS as a receipt port for the foreign research reactor spent nuclear fuel.

### *Response to Comment No. 500-4*

As discussed in Section 2.7.4, each port considered in the EIS has developed an Area Contingency Plan under the Oil Spill Prevention Act of 1990. This plan outlines response capabilities, procedures and authorities for responding to and recovering from hazardous material incidents. As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Mr. Charles Head
June 15, 1995
Page 3

- What resources are being provided by D.O.E. to deal with the long-term impacts of an accident to the surrounding area? What would we do if an accident situation resulted in health hazards, contaminated the water supply, closed major roads, or caused localized panic? *500-4 (Cont'd.)*

- The D.O.E. risk assessment does not include hazards particular to this area such as earthquakes and tsunamis.

- The EIS should assess the potential impacts of the project on the Contra Costa Water District, the Contra Costa Canal, and the Mokelumne Aqueduct. *500-5*

2. Port of Concord Facilities

- The Port of Concord is a very specialized facility built and operated solely for the loading and off-loading of munitions. Would the D.O.E. proposal affect military operations? Does the port have the capacity and equipment to off-load spent nuclear fuel rods? *500-6*

3. Security Impacts

- We are very concerned about potential impacts on our Police Department. Are additional police personnel needed to secure the port area and temporary on-base storage areas? What additional role would be placed on City, County, and State law enforcement agencies? Would implementation of this project constitute another unfunded federal mandate on local government?

- The entry to the Concord Naval Weapons Station has been the scene of demonstrations by people opposed to various federal policies. Concord police personnel have been involved in the past in providing support to military personnel during these demonstrations. What resources will D.O.E. provide to deal with large demonstrations? *500-7*

- It has been stated by D.O.E. officials that spent nuclear fuel rods are not attractive to terrorist organizations because of the high amount of technical expertise as well as money needed to extract materials to make nuclear bombs. However, it has come to our attention that fuel rods could be added to conventional bombs to create a radioactive bomb scene. This potential use of nuclear fuel rods is very disturbing and should be discussed in the EIS.

4. Transportation Routes

- Concord is far away from all of the storage sites including the three western storage sites in Washington, Idaho and Nevada. These inland storage areas are not easily reached from Concord, routes carry significant amounts of civilian traffic, and mountain routes are often closed due to frequent snow storms. *500-8*

## RESPONSE TO COMMENT
## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Appendix H, which was added to the EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 500-5*

The EIS considered severe natural phenomena (i.e., seiches, earthquakes, volcanism, etc.) as part of the port selection process (Appendix D, Section D.1.9.6). The probability of severe natural phenomena impacting foreign research reactor spent nuclear fuel shipments is vanishingly small since there is an extremely short period of risk (typically less than 24 hours).

Any ship that would be used to transport foreign research reactor spent nuclear fuel would be equipped with long range communication equipment and remain in contact with weather and ocean condition advisory services. Even if the ship were to experience a collision or sink as the result of a severe storm or other cause (i.e., tsunamis), the analysis in the EIS indicates that the risk to people nearby is low. Appendix D, Section D.5 of the EIS presents details on the calculation of consequences and risk associated with accidents in port and their approaches.

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 30 years of experience shipping spent nuclear fuel, no radioactive contents have ever been released from a transportation cask even as the result of an accident (Section 2.6.2 of the EIS). Based on this experience, DOE considers that transportation casks passing through the Concord NWS would not release it contents, and would thus not affect the quality of the water supply for Contra Costa Water District via Mallard Reservoir or any other path. Analysis of a severe accident involving a ship at Concord NWS (Section 4.2.2.3 of the EIS) indicates that the resultant contamination is so small that no cleanup would be required other than possibly in the immediate vicinity of the accident. In the event of any such severe accident, DOE would provide the capability and resources for testing of food, air, and water to ensure that no radioactive contamination occurs.

### *Response to Comment No. 500-6*

DOE understands that Concord NWS's primary mission is to support the military through handling munitions and that no handling of the foreign research reactor spent nuclear fuel could occur concurrently with handling explosives. These facts have been incorporated

## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

Mr. Charles Head
June 15, 1995
Page 4

- Local residents and property owners wanted to know traffic routes fuel rod trucks would take from the Weapons Station to the highway system. At the May 22 public information meeting, a D.O.E. transportation engineer refused to respond to this issue.
- Will fuel rod trucks have armed escorts? Will local emergency service providers be told about planned shipments?
- We believe D.O.E. should only ship spent fuel rods during early morning hours because of safety and security issues. We see no assessment of this issue in the draft EIS.
- The draft EIS should assess the capability of existing railroad structures to transport fuel rods.
- Routes pass by and through major cities in the Western states. What would they do in case of accident? Have they even been informed about this proposal?
- Considering the long distance between Concord and the storage areas, would not one anticipate the possibility of more traffic accidents and terrorist activity?
- It is not sufficient to state in your EIS that mitigation measures are not needed because the Department of Transportation has not adopted standards or requirements. The EIS should assess impacts and develop appropriate mitigation measures.

500-8 (Cont'd.)

Thank you for the opportunity to comment on your draft EIS. If you would like further information regarding our position and our concerns, please contact David Golick, Chief of Planning, at (510) 671-3166.

Sincerely yours,

Helen M. Allen

Helen M. Allen
Mayor

AO6899.HA5

cc: City Council
City Manager
Governor Pete Wilson
Senator Barbara Boxer
Senator Dianne Feinstein
Representative Bill Baker
Representative George Miller
State Senator Daniel Boatwright
Assemblyman Robert Campbell
Assemblyman Richard Rainey
Contra Costa County Board of Supervisors
Martinez City Council
Antioch City Council
Pittsburg City Council
Pleasanton City Council
Berkeley City Council
Walnut Creek City Council
San Francisco Mayor and Board of Supervisors
Contra Costa Water District
Association of Bay Area Governments
Contra Costa Times
Concord Transcript

## RESPONSE TO COMMENT COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

into Appendix D, Section D.2.1.6 of the EIS. The Concord NWS has the experience and facilities necessary to handle the containers in which the foreign research reactor spent nuclear fuel would be shipped. Currently the Concord NWS has a floating crane that routinely handles containers. Also, Concord NWS is scheduled to add two container cranes to increase the container handling capacity of the facility.

### *Response to Comment No. 500-7*

DOE considers that the impact of the receipt of foreign research reactor spent nuclear fuel on local police departments should be low. The requirements for physical protection of spent nuclear fuel shipments are specified in 10 CFR Part 73.37. The principal points are (1) cooperation with local law enforcement agencies, (2) armed escorts, and (3) communications with a communications center that is staffed 24 hours per day. (Section 5.4.2 of the EIS.)

For truck shipments in heavily populated areas, one escort vehicle containing an armed guard would lead the truck and another escort vehicle containing another armed guard would follow the truck. In less populated areas, there would be only one escort vehicle instead of two. For rail shipments, the escort would ride on the train in a location that permits observation of the shipment car while the train is in motion. (Section 2.7.5 and Appendix H of the EIS.)

In addition, to further address this issue, individual Transportation Plans would be prepared for any shipments actually scheduled for acceptance through the Concord NWS (or any other port of entry). These Transportation Plans would be prepared in consultation with appropriate State and/or local officials to ensure that details of the transportation process are understood, that the individuals or organizations who would perform all required activities are specified and that these individuals and parties know what would be expected of them (Section 2.7.5 and Appendix H of the EIS).

Dealing with demonstrations is the responsibility of the local and State governments, as well as the military if such demonstrations occur on military bases. However, if the demonstrations were the result of the receipt of foreign research reactor spent nuclear fuel, DOE would work with local, State, or military organizations in dealing with demonstrations.

Section D.5.9 has been added to Appendix D of the EIS to address the issue of potential terrorist incidents.

## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 500: HELEN M. ALLEN, MAYOR, CITY OF CONCORD (CONT'D.)

***Response to Comment No. 500-8***

The distance between Concord and the management sites was taken into account in the ground transport risk calculations in Appendix E and Section 4.2.3 in the EIS. Terrorist activity may not necessarily increase with greater travel distance; this activity is impossible to calculate with confidence.

For routes the trucks might take, see the response to Comment 22-11. The hours for trucking the foreign research reactor spent nuclear fuel shipments would be determined by its arrival time in port. DOE's policy is for the trucks to leave port as soon as they are ready to go in order to minimize the time in port.

As listed in Table B-14 of Appendix B, a fully loaded spent nuclear fuel transportation cask could weigh up to 25.5 metric tons and the existing railroad structures are strong enough to carry this load.

For the subjects of physical protection and advance notification, see the responses to Comments 78-2 and 135-2, respectively.

The EIS does not state that mitigation measures are not needed due to the absence of standards or requirements. In fact, appropriate mitigation measures are presented in Sections 4.2.1.5, 4.2.2.5, 4.2.3.5, and 4.2.4.4.

## COMMENTOR NO. 506:
## WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL

recycled paper

**City of Pleasant Hill**

June 8, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
United States Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The City Council of the City of Pleasant Hill strongly opposes the "preferred alternative" in the Environmental Impact Statement (EIS) that proposes the transport of spent nuclear fuel through the Concord Naval Weapons Station. Pleasant Hill is located immediately adjacent to the City of Concord, and any potential adverse impacts of this proposal would affect our City, as well as other surrounding communities.

We understand that the proposal identifies Concord as a site for accepting spent nuclear fuel from reactors around the world, and then shipping the hazardous material out by truck or rail to processing sites elsewhere in the country. We object because Concord is part of a densely populated area, and shipments to and from Concord would pass by several oil refineries, chemical plants and oil tankers in the area. Moreover, the area is located on an earthquake fault, which adds to the possible risks. An accident or natural disaster occurring during the transportation of the hazardous materials could be catastrophic for our community. 506-1

We understand that the EIS does not address where the shipments will go when they leave Concord, which streets will be used, what railroads will be used, what police services might be necessary, what disaster preparedness and emergency response training would be necessary, or other ways that local jurisdictions would be affected. In this regard, we join in the specific comments and concerns directed to you by the June 7, 1995 letter from the City of Martinez City Council, a copy of which is attached. 506-2

100 Gregory Lane - Pleasant Hill - California 94523-3323 - (510) 671-5270 - FAX 256-8190

## RESPONSE TO COMMENT
## COMMENTOR NO. 506:
## WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL

### *Response to Comment No. 506-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

In regard to Concord being a highly populated area, the population of the areas surrounding Concord NWS to a radius of ten miles, and the population along the transportation routes is one of the considerations of the port selection criteria. The population around Concord and on the routes to the management site(s) was low enough to qualify Concord NWS as an acceptable port. The population criteria for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS.

The topic of heavy marine traffic and potentially hazardous land facilities near the waterway are discussed in the response to Comment 79-1.

The topic of impacts of seismic events is discussed in the response to Comment 452-1.

### *Response to Comment No. 506-2*

As discussed in Section 2.2.1.8, five potential management sites were identified for management of the foreign research reactor spent nuclear fuel. These are: the Savannah River Site, the Idaho National Engineering Laboratory, the Hanford Site, the Oak Ridge Reservation, and the Nevada Test Site. See the response to Comment 266-3 for more information on management site selection.

For the streets that might be used, see the response to Comment 22-11. Representative rail routes from Concord to the five potential management sites are shown in Figure E1-12 in Appendix E of the EIS.

The police services and emergency response training that might be necessary are discussed in Section 2.7 of the EIS.

## COMMENTOR NO. 506: WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL (CONT'D.)

June 8, 1995 Letter to U.S.Dept. of Energy
Page 2

We further object to the short time which has been made available for public comment. The June 20, 1995 deadline for responses should be extended to allow thorough evaluation and consideration of this proposal which has serious consequences to our community. 506-3

Very truly yours,

William D. Landis, Mayor
City of Pleasant Hill

Enclosure: June 7, 1995 Letter from City of Martinez City Council

cc: City Council Members, Pleasant Hill
Mayor and City Council, Martinez
Contra Costa County Board of Supervisors
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman Bill Baker
Congressman George Miller

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## RESPONSE TO COMMENT
## COMMENTOR NO. 506: WILLIAM D. LANDIS, MAYOR, CITY OF PLEASANT HILL (CONT'D.)

***Response to Comment No. 506-3***

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

## COMMENTOR NO. 514: CONTRA COSTA COUNTY

Community Development Department
County Administration Building
651 Pine Street
4th Floor, North Wing
Martinez, California 94553-0095

Phone: (510) 646-2096

Contra Costa County

Harvey E. Bragdon
Director of Community Development

June 19, 1995

Secretary Hazel R. O'Leary
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: USE OF THE CONCORD NAVAL WEAPONS STATION AS A PROPOSED PORT OF ENTRY FOR FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL

Dear Madam Secretary:

The Contra Costa County, California, Board of Supervisors, on June 6, 1995, unanimously voted to strongly oppose the use of the Concord Naval Weapons Station (located in Contra Costa County) as a port of entry for foreign research reactor spent nuclear fuel. The Concord Naval Weapons Station is one of three West Coast ports which are currently under review as ports of entry in the U.S. Department of Energy's **Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.**

The Contra Costa County Board of Supervisors' opposition to the use of the Concord Naval Weapons Station for the intake and trans-shipment of spent nuclear fuel is based on concerns for the cumulative impacts of the proposed program on Contra Costa County and the Bay Area which are already affected by military installations, nuclear research facilities, petroleum refineries, and chemical industries. The Board's position of opposition also reflects concerns over the handling of accidents and security. 514-1

The Contra Costa County Board of Supervisors also has concluded that the **Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel** is inadequate for evaluating the potential impacts of the use of the Concord Naval Weapons Station on the County and the Bay Area. The Board, in this respect, adopted the attached Board Order in which County staff reported deficiencies in spent nuclear fuel logistics and transportation corridor analyses. It further noted the absence of comparative impact analyses for the candidate West Coast ports.

## RESPONSE TO COMMENT
## COMMENTOR NO. 514: CONTRA COSTA COUNTY

### *Response to Comment No. 514-1*

The Contra Costa County Board of Supervisors' opposition to the use of Concord NWS for the shipment of foreign research reactor spent nuclear fuel is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with accepting the spent nuclear fuel would present no significant health, safety, or environmental risk to Concord or any of the candidate commercial or military ports selected. Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS).

The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. The security provisions are summarized in the new Appendix H that has been added to the final EIS in response to public comments. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

Responses to the detailed comments included in the staff report to the Contra Costa County Board of Supervisors can be found in response to Comments 514-2 through 514-5. In regard to the comment that there are no comparative impact analyses for candidate West Coast ports, Section 4.2.2 of the EIS provides just such comparative analyses. The impacts calculated were low for all ten candidate ports.

Secretary Hazel R. O'Leary
June 19, 1995
- Page 2 -

Finally, the Board of Supervisors designated the County Health Officer, William B. Walker, M.D., as County's staff contact on the matter of the proposed use of the Concord Naval Weapons Station as a port of entry for spent nuclear reactor fuel. Dr. Walker's address is Contra Costa County, Health Services Department, 20 Allen Street, Martinez, CA 94553, and his telephone number is (510) 370-5010.

Sincerely,

Charles A. Zahn
Assistant Director

Attachment: Board Order 6/6/95

c.c.: Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-39)
U.S. Department of Energy

CAZ:rw
BCZ4:nuclear.ltr

## COMMENTOR NO. 514: CONTRA COSTA COUNTY (CONT'D.)

Contra Costa County

TO: BOARD OF SUPERVISORS

FROM: HARVEY E. BRADDON
DIRECTOR OF COMMUNITY DEVELOPMENT

DATE: June 6, 1995

SUBJECT: U.S. DEPARTMENT OF ENERGY'S DRAFT ENVIRONMENTAL IMPACT STATEMENT ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATION POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL (DOE EIS)

SPECIFIC REQUEST(S) OR RECOMMENDATION(S) & BACKGROUND AND JUSTIFICATION

RECOMMENDATION:

1. Concur with County staff's recommendation that the Final DOE EIS should include a comprehensive and realistic project description element covering the potential use of the Concord Naval Weapons Station as a port of entry for the spent nuclear fuel. Such an all-in-one-place element should include:

   - The origins/destinations characteristics, amounts and numbers of loads of spent fuel, the characteristics of containers anticipated to be used, and the means of transportation for both incoming and outgoing shipments.

   - A description and impact analysis of the use of the transportation route proposed to be used for incoming shipments (presumably by ship via the San Francisco Bay - Sacramento/San Joaquin Delta Estuary).

514-2

CONTINUED ON ATTACHMENT: _X_ YES SIGNATURE:

___ RECOMMENDATION OF COUNTY ADMINISTRATOR ___ RECOMMENDATION OF BOARD COMMITTEE
___ APPROVE ___ OTHER

SIGNATURE(S):

ACTION OF BOARD ON _____ APPROVED AS RECOMMENDED _____ OTHER _____

VOTE OF SUPERVISORS

_____ UNANIMOUS (ABSENT _____
AYES: _____ NOES: _____
ABSENT: _____ ABSTAIN: _____

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF AN ACTION TAKEN AND ENTERED ON THE MINUTES OF THE BOARD OF SUPERVISORS ON THE DATE SHOWN.

Attachment: Communication from Dr. William Walker: County Health Officer

Contact: Charles A. Zahn (510) 646-2000

cc: Community Development Department (CDD)
County Administrator
County Counsel
County Health Services Department
County Office of Emergency Services
County Growth Management & Economic Development Agency
County Public Works Department
City Point Municipal Advisory Council
City of Oakland
City of Martinez
City of Pittsburg

ATTESTED _____
PHIL BATCHELOR, CLERK OF THE BOARD OF SUPERVISORS AND COUNTY ADMINISTRATOR

BY: _____, DEPUTY

## RESPONSE TO COMMENT
## COMMENTOR NO. 514: CONTRA COSTA COUNTY (CONT'D.)

### *Response to Comment No. 514-2*

If foreign research reactor spent nuclear fuel is accepted into the United States, the detailed shipping arrangements would then be initiated. Since the shipping program could extend over 13 years, some of the details would not be available in the near term. A Transportation Plan would be developed prior to the first shipment to provide specific details. Appendix H to the EIS provides the general provisions of the Transportation Plan. The EIS cannot include the detailed information requested because it is not yet available. Much of the information requested is in the EIS, such as origins of the spent nuclear fuel, amounts and numbers of spent nuclear fuel shipments (Section 2.2.1.3), characteristics of the shipping containers (Appendix B, Section B.2), the means of transportation (Sections 2.6.3 and 2.6.4), and the health and safety impacts of shipping the spent nuclear fuel (Section 4.2 for marine and Section 4.3 for land). Appendix D, Section D.2.1.6 discusses transportation routes and access at Concord NWS. The conclusion of all these analyses is that the impacts of using Concord NWS, or any other of the candidate ports, are low.

## COMMENTOR NO. 514: CONTRA COSTA COUNTY (CONT'D.)

Board Order
Department of Energy's EIS
June 6, 1995
- Page 2 -

RECOMMENDATIONS (CONT'D):

- A description and impact analysis of the use of the local and Bay Area transportation routes (presumably, entirely local arterial road and freeways) anticipated to be used to convey the spent fuel to processing and storage facilities. 514-2 (Cont'd.)

- A description and analysis of the local and Bay Area health and safety impacts that would result from the use of the Concord Naval Weapons Station.

- A description and analysis of how the proposed use of the Concord Naval Weapons Station would relate to the County's Emergency Response Plan and Hazardous Materials Response Program. 514-3

2. Recommend to the U.S. Department of Energy that the Final DOE EIS address a security program for safeguarding the spent nuclear fuel while it is being transported and transferred (as well as being processed and stored at its ultimate destination).

3. Recommend that the U.S. Department of Energy including a cumulative impact analysis addressing the added effects of using the Concord Naval Weapons Station as a port-of-entry for spent nuclear fuels to the military and industrial environmental impacts already present in the Bay Area in the Final DOE EIS (See attached communication from Dr. William Walker, County Health Officer). 514-4

4. Recommend that the U.S. Department of Energy include in the Final DOE EIS a comparative analysis of using the alternative West Coast ports of entry identified in the Draft DOE EIS: the Concord Naval Weapons Station; Oakland, California; Portland, Oregon; and Tacoma, Washington. 514-5

5. Authorize the Director of Community Development in cooperation with the Office of Emergency Services and Health Services Department, to prepare and transmit a comments letter on the DOE EIS to the U.S. Department of Energy by June 22, 1995, reflecting the Board of Supervisors' direction following the public hearing.

6. Direct that when the Final DOE EIS is available, the Director of Community Development shall, in cooperation with the Office of Emergency Services and Health Services Department, prepare a report on the proposed project and arrange for the Board of Supervisors to consider a recommendation on the project to the U.S. Department of Energy.

FISCAL IMPACT

No local economic impacts are identified in the Draft DOE EIS. A local accident involving spent nuclear fuel probably would require the services of County and other local emergency response services.

BACKGROUND

The U.S. Department of Energy has distributed its Draft Environmental Impact Statement on a Proposed Nuclear Weapons Non-proliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel for public review and comment. The DOE EIS was prepared to enable the DOE to decide whether to resume the importation of spent nuclear fuel that the U.S. originally provided to foreign countries for use in their research reactors. (These research reactors are now mainly used for medical, agricultural and industrial purposes.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 514: CONTRA COSTA COUNTY (CONT'D.)

### *Response to Comment No. 514-3*

Foreign research reactor spent nuclear fuel shipments are subject to the same types of potential hazards as those of other ships carrying nonradiological hazardous materials.

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 514-4*

Candidate ports were chosen from among commercial and military ports along the eastern seaboard, western seaboard, and the Gulf of Mexico. The selection process is described in Appendix D, Section D.1 of the EIS. No significant health, safety, or environmental risks were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS) which would warrant a cumulative impact analysis in the EIS addressing the effect of receiving spent nuclear fuel on existing commercial and military environments at the various ports, including the Concord NWS. Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS). The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

### *Response to Comment No. 514-5*

Section 4.2.2.3 of the EIS provides the results of analyses on the impacts of port activities at all of the candidate ports. These impacts are presented in text and in table form for comparison purposes. The impacts are low at all of the candidate ports.

## COMMENTOR NO. 517: PORT OF OAKLAND

PORT OF OAKLAND

June 19, 1995

Attention: Mr. Charles Head
U.S. Department of Energy
Office of Environmental Management (EM-37)
1000 Independence Ave., S.W.
Washington, DC 20585-0001

Subject: Comments on Draft EIS, Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The Port of Oakland acknowledges that the Department of Energy considered our objections and is no longer proposing Oakland as a Port of Entry for the receipt of foreign research reactor spent nuclear fuel. Reference is made to the March 1995 Summary report, Item S.2.2.1.6, Port(s) of Entry, page 13, "Draft EIS, Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel."

This letter is to reemphasize that the Port of Oakland will continue to object to any future policy change(s) by the Department of Energy which propose that the Port of Oakland be an entry and/ or transfer point for spent nuclear waste. 517-1

The Port of Oakland position is supported by the Port's past objections to the Department's proposal to consider Oakland as a port of entry/ transfer for spent nuclear fuel. Refer to the Port letter of 9/29/94 to Thomas Wichmann, Idaho Operations Office of DOE. Refer to Port letter, 3/2/94, to Ms. Brenda Fleming, U.S. DOE, EM-37, Washington, D.C., regarding Federal Register Reference, Vol. 3.8, No.202, 20/21/93, page 54336.

The Port of Oakland ranks within the top 5 containerized ports in the nation. The Port is a public agency responsible for the operation and maintenance of Oakland harbor facilities. These Port facilities, which accommodate over 90 % of containerized cargo in the San Francisco Bay Area, include four major marine terminal areas covering almost 640 acres. The Port is also responsible for providing efficient and uninterrupted cargo.

530 Water Street ▪ Jack London's Waterfront ▪ P.O. Box 2064 ▪ Oakland, California 94604-2064
Telephone (510) 272-1100 ▪ Fax (510) 272-1172 ▪ TDD (510) 763-5703 ▪ Cable address, PORTOFOAK, Oakland

## RESPONSE TO COMMENT
## COMMENTOR NO. 517: PORT OF OAKLAND

*Response to Comment No. 517-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Oakland is noted. As described in Appendix D of the EIS, the Port of Oakland did not meet all of the screening criteria for identification of candidate ports of entry. Thus, it is not considered a candidate port of entry for receipt of foreign research reactor spent nuclear fuel.

throughput services from the harbor to the adjacent transportation network, via truck or rail.

In Resolution No. 29577, 6/3/86, the Board of Port Commissioners declared that spent fuel rods be banned from moving by ocean going vessel to the Port of Oakland and overland through the City of Oakland by motor carrier. Pursuant to that resolution, the ban was incorporated into the Port of Oakland Tariff No 2-A.

By Motion of the Port of Oakland also acted To Appear As Amicus Curiae in U.S. District Court and the June 12, 1986 Affidavit of Robert W. Crandall In Support Of Motion of Port of Oakland To Appear As Amicus Curiae in a suit brought by the Northwest Inland Waters Coalition against the U.S. Department of Energy in 1986.

The Port of Oakland requests that DOE put our organization on the mailing list for notice of any public hearings and for transmittal of SNF and INEL EIS documents on the Spent Nuclear Fuel Management program. We also request to be placed on the mailing list for notification of the Foreign Research Reactor SNF EIS which will evaluate ocean going shipments and port activities.

I may be reached at 510-272-1175.

Sincerely,

James McGrath

James McGrath
Manager, Environmental Department

## *Commentor No. 518: Eureka County, Yucca Mountain Information Office*

Eureka County
Yucca Mountain Information Office
P.O. Box 714
Eureka, Nevada 89316
Phone (702) 237-5407 FAX (702) 237-5189

June 19, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Mr. Head,

RE: Draft EIS On Proposed Nuclear Weapons Non-proliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel.

The purpose of this letter is to provide the Department of Energy (DOE) with the comments of Eureka County, Nevada regarding the above referenced Draft Environmental Impact Statement (DEIS).

Eureka County is an "affected unit of local government" under Section 116 of the Nuclear Waste Policy Act as amended. We are concerned about the DOE's Yucca Mountain project. Our role is to provide oversight of the DOE project in order to protect the health and safety of residents of our county.

For the record, we are aware that the Programmatic Spent Nuclear Fuel and INEL EIS (Programmatic SNF and INEL EIS) Record of Decision (ROD) has determined that the Nevada Test Site will not be a site for storage of interim spent fuel. Therefore, it is our understanding that the Nevada Test Site will not be used for storage of the Foreign RRF, despite its discussion in the DEIS.

We have prepared comments on the foreign RRF DEIS because, despite the DEIS ROD, the least costly option would be Phase I storage at the Idaho National Engineering Laboratory (INEL) and Phase II storage at the Nevada Test Site.

The DEIS also makes clear that the ultimate disposition of this waste, under the NWPA of 1982 as amended, is geologic disposal in a repository.

## *Response to Comment Commentor No. 518: Eureka County, Yucca Mountain Information Office*

## COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

Mr. Charles Head Page 2 June 19, 1995

We have the following comments by section on the Draft EIS Summary:

S.2.8 Emergency Management.
Our studies of emergency management in rural areas indicate that despite the existence of plans and programs, local governments are not adequately prepared to cope with emergency management and response for radioactive materials. The DEIS does not adequately address the true demands on local governments. The DEIS should detail the kinds of impacts and needs for local governments and local response agencies including training, equipment, staffing, and liability.

In our experience related to the Nuclear Waste Policy Act, Section 180(c) requires DOE to establish a technical assistance program to prepare states and local governments for emergency response involving spent nuclear fuel and high-level radioactive waste. However, DOE is just beginning to determine how it will structure the program even though shipments could occur as soon as 1998. The existence of 180(c) is evidence that communities are not adequately prepared. The absence of a DOE 180(c) program indicates that DOE is not prepared either. The DEIS should discuss 180(c) and its applicability to the research reactor spent fuel. 518-1

It would be useful to address the potential frequency and quantity of the transportation of RRF. The DEIS should address cumulative transportation impacts of accepting and moving foreign fuel.

S.4 Policy Considerations and Environmental Impacts.
Some of the sites and ports under consideration in this document were initially established in areas of disproportionate minority, low-income, and politically disadvantaged populations. 518-2

The EIS should offer an analysis of the cumulative radiological and other health related impacts to these populations.

## RESPONSE TO COMMENT COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

### *Response to Comment No. 518-1*

Rural areas, like urban ones, maintain the basic components of emergency management response, i.e. emergency management, fire, law enforcement, and emergency medical services personnel. It is recognized that rural areas depend more heavily on volunteer resources than urban areas and, while this creates an availability issue during normal business hours (i.e. Monday-Friday, 8:00am-5:00pm), rural jurisdictions generally would be able to meet their responsibilities for public safety involving the wide range of hazardous material shipments that traverse their jurisdictions daily.

Section 180(c) of the Nuclear Waste Policy Act pertains to shipments of commercial reactor spent nuclear fuel and is not directly applicable to this EIS. However, DOE has been concerned with, and involved in, the public safety and emergency response issues their shipments raise. To this end, under Section 180(c) of the Nuclear Waste Policy Act and other initiatives, DOE in concert with many other Federal agencies, is researching the training requirements and identifying a training program to address the incremental needs that DOE shipments would place on a jurisdiction above those for which they are already required to prepare.

### *Response to Comment No. 518-2*

Radiological and nonradiological health effects of the proposed action were evaluated and found to pose no significant risks to the populations surrounding candidate ports, along transportation routes, and surrounding management sites (Sections 4.2.2, 4.2.3, and 4.2.4 of the EIS). Conclusions given in the EIS are based upon analyses described in Appendices A through F and Section 4.2 of the EIS. Risks to the general population, including minority and low-income members of the population, were found to be very low, regardless of previous exposures (See Appendix A).

## COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

Mr. Charles Head Page 3 June 19, 1995

S.4.4.3 Ground Transport Impacts.

The summary states, "The EIS calculations for incident-free and accident conditions demonstrate that for the general population the impacts are very small. Minority or low-income populations living near these routes would not be subjected to any greater impacts. Therefore, these populations would not receive disproportionately high or adverse impacts." Does this conclusion take into account populations which may have already received a disproportionately high exposure to radiation from fallout from above and underground nuclear weapons testing? This should be addressed in the EIS. *518-2 (Cont'd.)*

S.4.4.3.1 Impacts of Incident-Free (Routine) Ground Transportation.

Would the truck drivers work for DOE or for a trucking company? The description supposes a level of control by DOE in choosing and screening drivers. Is this realistic? How would it be handled?

Also, in choosing drivers, there is no discussion of the driver's previous radiation doses. Is any consideration given to the driver's cumulative dose rather than just annual? *518-3*

S.4.4.3.2 Impacts of Accidents during Ground Transport.

The Summary states that the development of a transportation plan, incorporating state and local emergency response plans, "would increase emergency responder effectiveness and reduce the potential consequences of an...accident." A plan is not going to increase effectiveness. Adequate training, equipment, and personnel might.

S.4.4.4.1 Potential Health and Safety Impacts from Incident-free Management Site Activities.

In this section there is no discussion of the cumulative impact of exposures to workers, including reviewing their past work exposures. Is an annual exposure all we need to address in order to protect the long-term health of radiation workers? *518-4*

## RESPONSE TO COMMENT COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

### *Response to Comment No. 518-3*

The drivers would work for a trucking company under contract to DOE or the foreign research reactor operators. It is realistic for the contract with the trucking company to assign some control over choosing and screening drivers. How the driver screening would be included in the contract is an implementation detail that is outside the scope of this EIS.

No. Each driver's radiation dose is limited to 100 mrem per year without consideration of previous years' radiation doses.

DOE considers that a Transportation Plan would be the basis for identification of required personnel and equipment, as well as determining whether training is required. Proper preparation under the plan would help the responders arrive on the scene faster, thus increasing their effectiveness. The subject of emergency management and response is discussed in more detail in Section 2.7 of the EIS.

### *Response to Comment No. 518-4*

Yes. Annual limits are the only limits on worker exposures. The regulatory limit for onsite radiation workers is 5,000 mrem per year, but DOE would use administrative controls to keep each individual's dose much lower each year.

## COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

Mr. Charles Head Page 4 June 19, 1995

S.4.4.4.3 Other Potential Environmental Impacts From Management Site Activities.

Air Quality. The summary states that only dust would be a problem during construction. For the Nevada Test Site, the DEIS should address potential airborne radioactive particulate including plutonium from the nuclear rocket testing program in area 25. 518-5

S.4.4.4.4 Cumulative Impacts at the Management Site.

The purpose of the analysis of cumulative impacts is to provide decision makers with the big picture and an opportunity to analyze "the straw that could break the camel's back." Therefore, it is not useful to compare these impacts with other larger ones and conclude that the cumulative impact is minimal. Instead, this analysis should address the potential impacts of this program on the proposed sites and in combination with other activities proposed for the same sites. 518-6

For example, at the Nevada Test Site, the cumulative impacts analysis should consider the radiological, and socioeconomic, and other impacts of all NTS activities. These include: one million cubic feet per year of low level waste; storage site for TRU waste; the possibility of being the site for Greater than Class C Waste; the proposed Yucca Mountain repository; and defense spent fuel, to name a few. The cumulative impacts analysis in relation to NTS is inadequate.

S.4.9 Impacts of Ultimate Disposition.

This section should clarify whether a separate EIS will be done on the ultimate disposal of the material or whether the proposed repository EIS proposed will be adopted or substituted. 518-7

## RESPONSE TO COMMENT COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

### *Response to Comment No. 518-5*

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Nevada Test Site.

### *Response to Comment No. 518-6*

See response to comment 518-5, above.

### *Response to Comment No. 518-7*

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. A detailed, quantitative discussion of these impacts would have to be the subject of future NEPA documentation.

## COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

Mr. Charles Head Page 5 June 19, 1995

The final paragraph of this section states, "After emplacement in a geologic repository, however, DOE expects there would be no more impacts to workers, the public, or the environment because the radioactive material would be effectively isolated." DOE's current thinking is that the repository would remain open for 100 years for monitoring before final closure. Thus there would be a very long period after emplacement and before closure when there could be impacts. Everyone expects there will be impacts to the public and the environment after emplacement, it is just a question of when and how severe. 518-7 (Cont'd.)

To conclude, the DEIS does not adequately address emergency management and response. The activity proposed in this DEIS must be looked at in the context of the DOE Waste Management System, and there should be a thorough cumulative impact analysis for each site.

The transportation analysis is inadequate and it too should take into account the cumulative impacts of Yucca Mountain transportation, DOE complex transportation, Navy Spent Fuel transportation and WIPP shipments among others.

We appreciate the opportunity to comment on the Draft EIS. Please keep us informed of the decisions surrounding these topics.

Sincerely,

Sandra L. Green

Sandra L. Green
Project Coordinator

ACJ/eds
cc: Leonard Fiorenzi
Abigail Johnson
Steve Campbell, PIC
Representatives of AULGs
State of Nevada, Joe Strolin, John Walker

## RESPONSE TO COMMENT COMMENTOR NO. 518: EUREKA COUNTY, YUCCA MOUNTAIN INFORMATION OFFICE (CONT'D.)

## COMMENTOR NO. 530: W. CARL STEGMAN, MAYOR, CITY OF FIFE

The City of Fife

5213 PACIFIC HIGHWAY EAST, FIFE, WASHINGTON 98424

Mayor
W. CARL STEGMAN

(206) 922-CITY

Director of Administration
SHIRLEE A. MOTT

Council

GEORGE CRIM
NANCY de BOOY
WALT FIETZ
JACK STERINO
MARIAN WETSCH

June 19, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
US Department of Energy
1000 Independence Ave.
Washington, DC 20585

RE: DOE's Foreign Reactor Spent Fuel Policy

Dear Mr. Head:

The City of Fife has passed the attached Resolution objecting to the joint policy of the DOE and Department of State to transport spent nuclear fuel from foreign research reactors by shipment through the City of Tacoma, Port of Tacoma and City of Fife. We object to Alternative 1 and feel that a much better solution would be Transition Now With Alternative 2.

530-1

Our City, our business and our surrounding population and businesses feel strongly that the risks involved in shipment through our area -- or anywhere in the United States -- represents an unacceptable burden and risk upon our citizens. Therefore, we strongly oppose Option 1 and support Alternative 2 as prepared by Port staff and Dr. Ray K. Robinson, consultant.

Sincerely yours,

W. CARL STEGMAN
Mayor

WCS/bmw
cc: Fife City Councilmembers
Mayor Harold Moss, City of Tacoma
Patrick O'Malley, President of
Port Commission, Port of Tacoma
Mott/File

## RESPONSE TO COMMENT COMMENTOR NO. 530: W. CARL STEGMAN, MAYOR, CITY OF FIFE

### *Response to Comment No. 530-1*

The commentor's opposition to Management Alternative 1 and support for Management Alternative 2 are noted. These are discussed in Sections 2.2, 2.3, 4.2, and 4.4 of the EIS.

## COMMENTOR NO. 530:
## W. CARL STEGMAN, MAYOR, CITY OF FIFE (CONT'D.)

ORIGINAL

RESOLUTION NO. 518

CITY OF FIFE, WASHINGTON

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FIFE, PIERCE COUNTY, WASHINGTON OBJECTING TO THE JOINT POLICY OF THE UNITED STATES DEPARTMENT OF ENERGY AND UNITED STATES DEPARTMENT OF STATE TO TRANSPORT SPENT NUCLEAR FUEL FROM FOREIGN RESEARCH REACTORS BY SHIPMENT THROUGH THE CITY OF FIFE, WASHINGTON

WHEREAS, the United States Department of Energy and the United Department of State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

WHEREAS, nuclear fuel containing uranium enriched in the United States of America would be covered by this policy; and

WHEREAS, the purpose of this policy is to promote US nuclear weapons nonproliferation policy objectives,specifically seeking to reduce highly enriched uranium from civilian commerce; and

WHEREAS, the number one alternative of the study that assessed the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy involves spent nuclear fuel being shipped by ocean going vessels from foreign countries to the United States of America; and

WHEREAS, the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur; and

WHEREAS, the shipment of the spent nuclear fuels through the Port of Tacoma to other locations within the United States will result in shipping the fuels through the City of Fife; and

WHEREAS, the US House Budget Resolution eliminates the US Department of Energy thereby creating funding uncertainties; and 530-2

WHEREAS, the US Department of Energy is failing to provide adequate procedural due process in that it is not making a record of its hearings thereby foreclosing individuals abilities to challenge the adequacy of the EIS; and 530-3

WHEREAS, the US Department of Energy has not answered properly the question of what effect the radiation would have on the environment should a shipping cask be damaged during the handling process in the Port of Tacoma or City of Fife; now therefore 530-4

BE IT RESOLVED THAT the City Council of the City of Fife 530-1 (Cont'd)

## RESPONSE TO COMMENT
## COMMENTOR NO. 530:
## W. CARL STEGMAN, MAYOR, CITY OF FIFE (CONT'D.)

### *Response to Comment No. 530-2*

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

### *Response to Comment No. 530-3*

DOE did request that comments be submitted in writing, however, all oral comments presented at each hearing were summarized and have been addressed along with the written comments in Volume 3 of the EIS. All comments, written and oral, are part of the public record.

### *Response to Comment No. 530-4*

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 40 years of spent nuclear fuel ground transport in the United States, no radioactive contents have ever been released from a transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as the result of an accident.

The tests performed to receive Nuclear Regulatory Commission certification of transportation casks are more severe than any accidents envisioned on the dockside. Although the NRC drop test is only from 30 feet and dockside heights can easily exceed this amount, the NRC test is still considered more severe because the cask is dropped upon an unyielding surface. The unyielding surface used in NRC tests is a monolithic reinforced concrete base covered with battleship armor. Docks are not of such construction. Likewise the puncture test is demanding, consisting of a one meter (39.4 in) cask drop onto a 15 cm (6 in) solid steel bar mounted on an unyielding surface. Section 5.4.1 of the EIS presents details of the certification.

## COMMENTOR NO. 530:
## W. CARL STEGMAN, MAYOR, CITY OF FIFE (CONT'D.)

strongly opposes the shipment of spent nuclear materials from foreign research reactors through the Port of Tacoma and the City of Fife. 530-1 (Cont'd)

Passed by the City Council on the 13th day of June, 1995 and approved by the Mayor on the 13th day of June, 1995 at a regularly scheduled meeting of the City Council of the City of Fife.

W. Carl Stegman, Mayor

Attest:

Shirlee Mott
City Clerk

## RESPONSE TO COMMENT
## COMMENTOR NO. 530:
## W. CARL STEGMAN, MAYOR, CITY OF FIFE (CONT'D.)

## COMMENTOR NO. 556: ERNEST F. CIARROCCHI, MAYOR, CITY OF BENICIA

THE CITY OF BENICIA CALIFORNIA

CITY HALL • 250 EAST L STREET • BENICIA, CA 94510 • (707)746-4212 • FAX (707) 747-8120

*Office of the Mayor*
ERNEST F. CIARROCCHI

June 14, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

**RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT ON A PROPOSED NUCLEAR WEAPONS NONPROLIFERATIONS POLICY CONCERNING FOREIGN RESEARCH REACTOR SPENT NUCLEAR FUEL**

Dear Mr. Head:

The City Council of Martinez, California contacted the City of Benicia about the proposal of the Department of Energy to ship nuclear wastes to the Concord Naval Weapons Station for storage. The City of Martinez requested our support in extending the public notice and comment period for not less than ninety (90) additional days to September 20, 1995. This extension would allow the Martinez Planning Department staff and council a full opportunity to evaluate the impacts associated with DOE's proposal to ship spent nuclear fuel from foreign reactors through the Concord Naval Weapons Station and along California highways and rails to various sites across the United States. 556-1

Ordinarily, actions of this magnitude require months of planning study before any local agency or government is prepared to make a decision to approve or disapprove such a project. I believe the following points illustrate areas of particular importance to all cities in the area:

- The area is densely populated and while the risk of widespread contamination due to accidental release may be low, the potential impact effect of such an accident on thousands of residents, not to mention the long term impacts on people, major waterways and downwind agricultural could be enormous. 556-2
- The transportation of this material, as presently proposed, would bring tons of this material through surrounding cities by rail and truck. 556-3

ERNEST F. CIARROCCHI, *Mayor*
*Members of the City Council*
CARRY CORRALEY *Vice Mayor* • JOHN SILVA • JERRY HAYES • PEPE ARTIAGA

OTTO WM. GIULIANI, *City Manager*
VIRGINIA SOUZA, *City Treasurer*
FRANCES GRECO, *City Clerk*

Recycled Paper

## RESPONSE TO COMMENT COMMENTOR NO. 556: ERNEST F. CIARROCCHI, MAYOR, CITY OF BENICIA

### *Response to Comment No. 556-1*

The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment.

### *Response to Comment No. 556-2*

Sections 4.2.1 and 4.2.2 of the EIS provide an evaluation of consequences and risks of on-board ship fires. Supporting details are given in Appendix D of the EIS. If a policy to accept foreign research reactor spent nuclear fuel is adopted, spent nuclear fuel elements would be shipped in transportation casks which are resistant to destruction by collision and fire (Section 2.6.2 of the EIS). In the unlikely event that a cask is breached by collision and/or fire, the radiological consequences would be low and the associated risks would be low (Section 4 of the EIS).

### *Response to Comment No. 556-3*

If one port were to receive all 721 casks over the proposed 13-year receipt period, this would result in about one additional truck or rail car per week on average. This amount of increased traffic is unlikely to have any effect.

DOE has not yet selected ports, routes, or transport modes for the foreign research reactor spent nuclear fuel. If the Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR 397.101 (a)(2)). That route could use Route 4, Route 24, and/or Waterfront Road. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## COMMENTOR NO. 556:
## ERNEST F. CIARROCCHI, MAYOR, CITY OF BENICIA (CONT'D.)

- Since this proposal also includes the use of shipping channels for transport, we are concerned about the potential for widespread contamination in the event of a ship fire or other unforeseen occurrence. 556-4

The City of Benicia, therefore, urges you to take a careful look at this proposal and honor the request of the City of Martinez by extending the period for public notice and comment.

Thank you for your time and attention to this important issue.

Sincerely,

Ernest F. Ciarrocchi
Mayor

EFC:tb
/6895

cc: George Miller
Congressman

Bill Baker
Congressman

## RESPONSE TO COMMENT
## COMMENTOR NO. 556: ERNEST F. CIARROCCHI, MAYOR, CITY OF BENICIA (CONT'D.)

*Response to Comment No. 556-4*

See response to comment 556-2, above.

## COMMENTOR NO. 557: BOB JACOBS, MAYOR, CITY OF OLYMPIA

City of
OLYMPIA
900 Plum Street, P.O. Box 1967, Olympia, WA 98507-1967

June 23, 1995

COUNCIL
Bob Jacobs, Mayor
Mark Foutch Mayor Pro Tem
Pat Cole
Holly Gadbaw
Jeanette Hawkins
Mary Lux
Margaret McPhee

CITY MANAGER
Richard C. Cushing

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

I am writing on behalf of the Olympia City Council regarding a U.S. Department of Energy proposal to ship spent nuclear fuel from foreign research reactors through the Port of Tacoma in the Puget Sound.

The City of Olympia is strongly opposed to this action. We believe this action could produce a devastating and disproportionate impact on the residents of the Puget Sound area including Olympia. 557-1

Instead, we support the alternative developed by the Port of Tacoma which prefers that the United States work collaboratively with foreign sources of nuclear fuel for permanent and appropriate geological disposal in those respective countries. We believe both long term and short term storage can be accommodated for these foreign sources of nuclear waste. We strongly urge you to consider the Port of Tacoma's alternative and to cease any plans to ship those fuels through the environmentally sensitive Puget Sound area. 557-2

Sincerely,

Bob Jacobs
Mayor of Olympia

cc: Olympia City Council

6D/05

ALL-AMERICA CITY 1986 1987

| | | | | | |
|---|---|---|---|---|---|
| City Council | 753-8450 | Community Planning & Development | 753-8314 | Personnel | 753-8442 |
| City Manager | 753-8447 | Fire | 753-8348 | Police | 753-8300 |
| City Attorney | 753-8449 | Parks/Recreation/Cultural Services | 753-8380 | Public Works | 753-8362 |
| Administrative Services | 753-8325 | | | | |

## RESPONSE TO COMMENT COMMENTOR NO. 557: BOB JACOBS, MAYOR, CITY OF OLYMPIA

### *Response to Comment No. 557-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 557-2*

The commentor's preference for overseas storage and disposal is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 569:
## GAYLE B. UILKEMA, MAYOR, CITY OF LAFAYETTE

LAFAYETTE

CITY COUNCIL
Gayle B. Uilkema, Mayor
Ivor Samson, Vice Mayor
Judy Garvens
Anne Grodin
Donald L. Tatzin

June 16, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Re: Request a copy of the complete Draft Environmental Impact Statement and a 60 day extension to the public comment period.

Dear Mr. Head,

I wish to respond on behalf of the Lafayette City Council to the **summary** of the Draft Environmental Impact Statement (EIS) for the Proposed Policy On Return of Spent Nuclear Fuel. This proposal, as written, may have an impact on our community and residents. I am referring specifically to the preferred alternative which proposes the use of the Concord Navel Weapons Station (NWS) as a port of entry and transportation hub for spent nuclear fuel. As Mayor of Lafayette, the safety of our residents and our environment is of utmost concern to me. To this end, we formally request a 60 day extension to the public comment period and the opportunity to review a **complete** Draft EIS. 569-1

I would like to take this opportunity to express my deep concern that the Department of Energy **DID NOT NOTIFY US** regarding this proposal. To this date, we have not even received a complete Draft EIS. The standard procedure for large projects processed at the local level is to subject them to a comprehensive review by all impacted jurisdictions in order to identify the impacts of the project on the entire community. We understand that federal policies are not required to conform to local ordinances; however, the Bay Area (and Lafayette specifically) has a unique combination of factors that merit close scrutiny. Failure to adequately analyze these factors could have a detrimental affect on the safety of the residents in the area.

The City of Lafayette has, through its own efforts, acquired some relevant documents, including the summary of the Draft EIS. After a review of these documents we have the following questions and comments:

1. What services may be required from local agencies in the event that the Concord Navel Weapons Station is used as a port of entry for the transportation of nuclear material? Has there been an evaluation of the increased burden to Lafayette's emergency services and personnel? Has the DOE planned for a regional 569-2

POST OFFICE BOX 1968
3675 MT. DIABLO BLVD., SUITE 210, LAFAYETTE, CA 94549-1968
TELEPHONE: (510) 284-1968 FAX: (510) 284-3169

## RESPONSE TO COMMENT
## COMMENTOR NO. 569:
## GAYLE B. UILKEMA, MAYOR, CITY OF LAFAYETTE

### *Response to Comment No. 569-1*

The draft EIS did not specify a preferred alternative. However, the final EIS does present a preferred alternative in Sections 2.9 and 4.7. The deadline for submission of comments in response to the draft EIS was extended from June 20 to July 20, 1995. DOE considers the comment period (90 days total) to be sufficient for public comment. As to the commentor's claim that notification was not provided, DOE acted in full compliance with NEPA by publishing in the Federal Register an Advance Notice of Proposed Rulemaking (ANPR), which announced DOE's intention to conduct scoping meetings related to the proposed policy of managing foreign research reactor spent nuclear fuel. The ANPR constitutes DOE notice, under NEPA, that a major federal action is being proposed. Further notice of the proposed policy came with the publication in the Federal Register (60 FR 19899, April 21, 1995) of the availability of the draft EIS and the notification of the public hearings on the draft EIS.

### *Response to Comment No. 569-2*

Foreign research reactor spent nuclear fuel shipments are subject to the same types of potential hazards as those of other ships carrying nonradiological hazardous materials.

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is discussed in Section 2.7.1. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 569: GAYLE B. UILKEMA, MAYOR, CITY OF LAFAYETTE (CONT'D.)

emergency response in the event of an accident? If so, we have not been contacted regarding these issues.

2. Will our emergency services coordinator or local officials be notified when nuclear material is scheduled to be transported to the NWS? Will special accommodations need to be made during the transporting of the material, perhaps putting emergency personnel on alert or blocking off local roads or freeway on and off ramps? Will local jurisdictions be reimbursed for these expenses? *569-2 (Cont'd.)*

3. What contingencies has the DOE formulated to handle an accident that damages one or both of the major transportation arterials. There are several key transportation arterials which in the past have proven to be especially vulnerable to accidents. These include Highway 24 at the Caldacot Tunnel and Highway 680. Were current and future traffic surveys and the potential for life-threatening accidents been considered in the Draft EIS? *569-3*

4. Since the Draft EIS states this policy would last for 13 years, has the impact been evaluated on future developments? These would include: the increased likelihood of accidents caused by increasing traffic volummes along major transportation arterials, the impact of accidents on future developments and increased population and emergency response costs due to the cost of future development.

5. There is an open reservoir in Lafayette which potentially provides drinking water to much of the region. What contingencies have been formulated to ensure the reservoir will not be contaminated in the event of an accident? If the reservoir is contaminated, how will the DOE ensure an emergency supply of safe drinking water to the region? *569-4*

6. What are the possible economic impacts to a local jurisdiction if an accident involving the nuclear material occurs? Is there a possibility of long term environmental damage? *569-5*

Obviously, it is impossible to respond adequately or responsibly to the proposed nuclear material transfer policy without having the opportunity to review the complete Draft EIS. Due to the risks associated with the transportation of nuclear materials through densely populated areas, it is imperative that a thorough analysis of the safety issues and risks be completed. I am therefore requesting that a complete EIS be sent to the Lafayette City Offices as soon as possible. I also request that a 60 day extension to the public comment period be granted. This is necessary to allow us the to opportunity thoroughly review and comment on the document.

Sincerely,

Gayle B. Uilkema
Mayor

## RESPONSE TO COMMENT COMMENTOR NO. 569: GAYLE B. UILKEMA, MAYOR, CITY OF LAFAYETTE (CONT'D.)

### *Response to Comment No. 569-3*

For the local truck routes near Concord, see the response to Comment 22-11. DOE has not conducted any traffic surveys or formulated any contingencies for an accident that might damage a major transportation arterial. The addition of up to 186 truck shipments to these routes spread out over a period of 13 years would have a low impact on the traffic congestion or the traffic accident rate because tens of thousands of truck shipments will travel the same roads during those 13 years. As discussed in Appendix E and Section 4.2.3.3 of the EIS, the potential for traffic accidents would be low.

The increased likelihood of accidents is included in the ground transport risk calculations presented in Section 4.2.3.3 of the EIS.

### *Response to Comment No. 569-4*

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 40 years of spent nuclear fuel grand transport in the United States, no radioactive contents have ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel transportation cask ever been punctured, even as the result of an accident. Based on this experience, DOE does not expect that transportation casks passing through the Concord NWS would release it contents or affect the quality of the water supply for Contra Costa Water District via Mallard reservoir or any other path.

DOE would like to point out that the foreign research reactor spent nuclear fuel is neither volatile nor unstable. The spent nuclear fuel that the proposed policy deals with is a solid metal which contains enriched uranium matrixed in, all clad with either aluminum or stainless steel. This type of fuel is very stable. Section 2.6.1 of the EIS presents a detailed description of the foreign research reactor spent nuclear fuel.

Analysis of a severe accident involving a ship at Concord NWS (Section 4.2.2.3 of the EIS) indicates that the resultant contamination would be so small that no cleanup would be required, other than possibly in the immediate vicinity of the accident. To insure this was the case, if such a severe accident were to occur, all water supplies in the area, as well as food and air, would be tested for contamination.

### *Response to Comment No. 569-5*

The economic impacts of an accident involving foreign research reactor spent nuclear fuel to a local jurisdiction would be low in almost every instance. As discussed in Section 2.7 of the EIS, the primary responsibility for emergency response to an incident would reside with State, Tribal, and local authorities. DOE would provide coordination and technical assistance and training to the State, Tribal, and local emergency response

## Commentor No. 569: Gayle B. Uilkema, Mayor, City of Lafayette (Cont'd.)

## Response to Comment Commentor No. 569: Gayle B. Uilkema, Mayor, City of Lafayette (Cont'd.)

personnel. In addition, DOE has Radiological Assistance Program teams that operate from eight strategically located DOE offices around the country. Upon State, Tribal, or local request, these teams can provide technical expertise and assistance to monitor and assess radiological hazards. The teams are activated on an as-needed basis and generally can be ready to deploy from their home station within four hours of notification.

Other potential local expenses that a local jurisdiction might incur would be associated with follow-up activities after an accident. However, spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. In the unlikely event of a severe accident, some radioactive material could be released from the cask and distributed into the environment. However, the analyses in Section 4.2.2.3 and Appendix D, Section D.5 of the EIS determined that no decontamination, interaction, or condemnation of property would result from the worst plausible accident. Close in to the accident, near the cask would likely require some cleanup, but the overall impact on the air and water quality in the port would be small. Therefore, even an accident should not economically impact local jurisdictions.

On the issue of environmental impacts, no negative impacts would result from the receipt, handling, and transportation of foreign research reactor spent nuclear fuel. As stated above, spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

## COMMENTOR NO. 592: JANDA VOLKMER, MAYOR, TOWN OF STEILACOOM

**Office of Administration**

Mayor Janda Volkmer

June 20, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington D.C. 20585

RE: Shipment of Spent Nuclear Fuel through Puget Sound and Port of Tacoma

Dear Mr. Head:

I am the Mayor of a small town on the shores of Puget Sound south of Tacoma in the State of Washington. I am writing to express my strong opposition to and dismay at the Department of Ecology's proposal to ship spent nuclear fuel through the Port of Tacoma. 592-1

I realize that the Nuclear Nonproliferation Treaty is designed to restrict the access of irresponsible parties to nuclear materials, however I do not believe DOE's proposal represents the best alternative.

In order to meet the nonproliferation objectives of the proposed foreign research reactor spent nuclear fuel policy, this country needs to work diligently now with affected parties on a plan that allows them to become self sufficient as soon as possible. Assuming their responsibilities for 10 years merely defers the problem, does not solve it. 592-2

Philosophical observations aside, I wish to stress the immediate and negative impact such an action would have on Steilacoom and its environs. The DOE-recommended proposal advocates shipment of highly radioactive waste through the Port of Tacoma and the waters of Puget Sound. This scenario presents a risk to our people, wildlife, fish and environment that should not even be considered - particularly when there exists a feasible alternative. That alternative consists of the U.S. working in collaboration with foreign sources of nuclear fuel services to develop the abilities to store, reprocess and permanently dispose of spent nuclear fuel. Pursuing this alternative would allow foreign governments to assume proper responsibility for protection and disposal of their nuclear resources and would also protect the citizens of this nation from exposure to needless risks. 592-3 592-2 (Cont'd.)

I urge you to consider seriously the alternatives available to DOE's recommended proposal and not endanger the health and safety of United States citizens.

Sincerely,

Janda Volkmer
Mayor

JV/sw

c: Patrick O'Malley
Tacoma Port Commission

1715 Lafayette Steilacoom, WA 98388 Phone (206) 581-1900 FAX (206) 582-3463

## RESPONSE TO COMMENT COMMENTOR NO. 592: JANDA VOLKMER, MAYOR, TOWN OF STEILACOOM

### *Response to Comment No. 592-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 592-2*

The commentor's preference for overseas storage, reprocessing, and disposal is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

### *Response to Comment No. 592-3*

In regard to the air and water quality as it pertains to the proposed policy of managing foreign research reactor spent nuclear fuel, DOE considers that there would be no significant adverse impacts to any of the ports that might be used to accept the material nor any of the waterways through which the ships pass. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

The analyses in Sections 4.2.2.2, 4.2.2.3 and 4.5 of the EIS demonstrate that the risks to the people in the area of Tacoma, including the Town of Steilacoom, are low.

## COMMENTOR NO. 646: PORT OF GALVESTON

PORT of GALVESTON

123 Rosenberg
P.O. Box 328
Galveston, Texas 77553

Galveston (409) 766-6103
Houston (713) 286-2484
Fax (409) 766-6171

NOTICE OF MEETING

Ernest Conner
General Manager

THE GALVESTON WHARVES WILL HOLD A PUBLIC MEETING ON THE SUBJECT OF SPENT NUCLEAR FUEL MANAGEMENT ON THURSDAY, JUNE 29, 1995, AT 5:30 P.M. THE PUBLIC IS INVITED TO ATTEND AND TAKE PART IN THESE DISCUSSIONS. THERE WILL ALSO BE A VIDEO ON THIS SUBJECT MATTER SHOWN DURING THE MEETING. 646-1

IF YOU HAVE ANY QUESTIONS, PLEASE CALL (409) 766-6105.

PUBLIC MEETING

PORT OF GALVESTON
8TH FLOOR, SHEARN MOODY PLAZA
123 ROSENBERG, GALVESTON, TEXAS
THURSDAY, JUNE 29, 1995, 5:30 P.M.

## RESPONSE TO COMMENT
## COMMENTOR NO. 646: PORT OF GALVESTON

### *Response to Comment No. 646-1*

The notice of a public meeting held by Galveston Wharves on June 29, 1995 is noted. A public meeting on the draft EIS sponsored by DOE was held in Galveston on May 17, 1995. Responses to comments given at that meeting are provided in this document.

## COMMENTOR NO. 678: CLYDE CIVIC IMPROVEMENT ASSOCIATION, INC.

**Written Comments on the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

If you would like to give us written comments, please feel free to use this page and drop it off at the registration table when you leave. Alternatively, you may mail your comments to the Department of Energy at the address listed below. Also, please provide us with your name, address, and telephone number for any follow-up information or any questions concerning the intent of your comments. This will also allow us to properly indicate the source of the comments in the comment response document. Thank you.

**Name:** Juanita J. Price **Phone:** (510) 687-4440

**Title and Organization:** Clyde Civic Improvement Assn., Inc. & Private Citizen

**Address:** 146 Park Street

**City:** Clyde, Concord, **State** CA. **Zip** 94520

*** COMMENTS ***

I attended your meeting in Concord and was amazed how unprepared you were in responding to the complaints of those present. We as taxpayers have a right to a voice in matters of this extreme importance since we live right in the middle of the Naval Weapons Station. We are like an island in the midst of the Base. How dare you try to thrust something like this down our throats! We want you to hear our voices LOUD & CLEAR that we will not allow this to happen! Our community has filed many lawsuits over the years and have to lose one yet. Our lives are at stake here and you people could care less. Take the logical move and take contaminated nuclear waste out of our country and leave it with the countries who are using it. If it must come into this country, then send it up to Washington so it will have a short way to travel to the disposal site. Coming up the river and under the Bay Bridge and the Golden Gate Bridge will not be allowed by us!

678-1

678-2

To Mail in Comments, Address Correspondence to:

Mr. Charles R. Head
Office of Spent Fuel Management, EM-37
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

## RESPONSE TO COMMENT COMMENTOR NO. 678: CLYDE CIVIC IMPROVEMENT ASSOCIATION, INC.

### *Response to Comment No. 678-1*

The commentor's preference for keeping the foreign research reactor spent nuclear fuel, covered under this proposed action, overseas is noted. However, this alternative, evaluated as Management Alternative 2a (Section 2.3 of the EIS), would not fully support the U.S. nuclear weapons nonproliferation policy.

Storage in the countries of origin would also cost more than storage in the United States (and cost U.S. taxpayers more), would be technically difficult, if not impossible, in many countries, and would violate the laws of several of the countries. Finally, many countries participated in the U.S.-led research reactor programs on the belief that the United States would eventually accept the spent nuclear fuel.

### *Response to Comment No. 678-2*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 684:
## CRAIG G. KOCIAN, CITY MANAGER, CITY OF OAKLAND

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA • OAKLAND, CALIFORNIA 94612

Office of City Manager
Craig G. Kocian
City Manager

(510) 238-3301
TTY/TDD (510) 238-3724

June 19, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-7)
US Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

**Re: Draft EIS Concerning Foreign Reactor Spent Nuclear Fuel - March 1995**

Dear Mr. Head:

In response to the US Department of Transportation Draft EIS issued March 1995, the Oakland City Council at its meeting of June 13, 1995 voted 8-0 to oppose the transportation of radioactive spent fuel rods from foreign countries across San Francisco Bay, via air, water, rail or highway, to the Concord Naval Weapons Station or any other private or governmental facility. *684-1*

The Oakland City Council opposes the shipment of spent nuclear fuel into San Francisco Bay for the following reasons:

No permanent disposal option currently exists for spent nuclear fuel. Any spent nuclear fuel returned to the U.S. will require further transportation when permanent disposal options and site(s) are identified. For this reason environmental organizations, including Western States Legal Foundation and Greenpeace oppose the movement of spent nuclear fuel until a permanent disposal option is available. *684-2*

Spent fuel is thermally hot and can spontaneously ignite or explode in contact with air or other chemicals should the casks fail. The release of even a very small quantity of nuclear fuel by leak, fire or explosion would contaminate a large area making that area uninhabitable. *684-3*

The risk of accident is greatest when new processes, procedures and materials are introduced at a facility. The EIS provides no information concerning the ability, capacity or special facilities of Concord NWS to handle spent nuclear fuel, therefore we have no idea of whether they can safely handle this project. *684-4*

## RESPONSE TO COMMENT
## COMMENTOR NO. 684:
## CRAIG G. KOCIAN, CITY MANAGER, CITY OF OAKLAND

### *Response to Comment No. 684-1*

The commentor's opposition and that of the Oakland City Council to bringing foreign research reactor spent nuclear fuel through the Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 684-2*

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

### *Response to Comment No. 684-3*

The foreign research reactor spent nuclear fuel is not pyrophoric and will neither ignite nor explode when it comes in contact with air or chemicals. In fact, the spent nuclear fuel is being shipped in a transportation cask with air as a cooling medium. The radioactive material in spent nuclear fuel is contained within the fuel hybrid (aluminum or zirconium) and is surrounded by a layer of solid aluminum, stainless steel or incoloy, (Appendix B of the EIS). The EIS evaluated accident scenarios involving fire that results in loss of cask integrity. The results of the analyses in Section 4.2.2.3 and Appendix D, Section D.5 of the EIS determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident. The EIS evaluated the consequences of an accident involving a prolonged high intensity fire in response to public concern. The results, as shown in Appendix D, indicate a contamination distance of less than 0.2 mile with a probability of occurrence of one in ten billion (Appendix D of the EIS).

### *Response to Comment No. 684-4*

The experience and facilities that a port must have to safely handle foreign research reactor spent nuclear fuel are discussed in Appendix D, Sections D.1.9.1 and D.1.9.3 of the EIS, respectively. The Concord NWS possesses the necessary experience and facilities.

## COMMENTOR NO. 684: CRAIG G. KOCIAN, CITY MANAGER, CITY OF OAKLAND (CONT'D.)

The EIS does not consider all possible risks including San Francisco Bay shipping accidents, congested traffic, earthquake, tidal wave and other risks specific to this area. The current EIS considers the 10 port of entry sites as a group; site specific risks are not discussed. 684-5

The EIS assumes that local emergency responders and local emergency plans are fully capable of handling an emergency in the transportation of spent nuclear fuel. Since it is the policy of the federal government, due to national security, to neither confirm nor deny the movement of weapons and the other sensitive materials, local governments are not always informed. It therefore becomes very difficult to plan for and respond to a potential incident of this nature. 684-6

In the past the Oakland City Council and the Port of Oakland have both vigorously opposed the shipment of spent nuclear fuel through the Port of Oakland. The risks of shipping spent nuclear fuel through San Francisco Bay to the Concord Naval Weapons Station are very similar and objections remain the same. Should an accident occur the region as a whole would be seriously affected.

Sincerely,

Craig G. Kocian
City Manager

cc: Mayor Harris
Members of the City Council
Office of the City Clerk

## RESPONSE TO COMMENT COMMENTOR NO. 684: CRAIG G. KOCIAN, CITY MANAGER, CITY OF OAKLAND (CONT'D.)

### *Response to Comment No. 684-5*

The passage from San Francisco Bay to Concord NWS meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS). Favorable transit from open ocean is only one of the considerations in selecting ports of entry for the foreign research reactor spent nuclear fuel. Other considerations such as port population, population along the route to the management site, port experience with handling containers, and port facilities would be considered in making the final selection of ports of entry. Appendix D, Section D.1.9 of the EIS presents details of the port selection process.

The EIS considered severe natural phenomena (i.e., earthquakes, volcanism, etc.) as part of the port selection process (Appendix D, Section D.1.9.6 of the EIS). The probability of severe natural phenomena impacting foreign research reactor spent nuclear fuel shipments is low since there is an extremely short period of risk (typically less than 24 hours). The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS.

### *Response to Comment No. 684-6*

As discussed in Section 2.6.4.2 of the EIS, the NRC regulations concerning actual route notification are set forth in 10 CFR Part 73. Shippers are required to submit proposed routes for spent nuclear fuel shipments to NRC for approval, and NRC publishes a public information circular that lists routes that have been evaluated and approved for specific spent nuclear fuel shipments. The regulation also requires DOE to inform the Governor of each State and any Tribal chair, or their designee, along the route at least seven days in advance of the each shipment of hazardous cargoes, including radioactive materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected these issues include capabilities and training of first emergency responders. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL

City of Tacoma

Office of the City Council

June 19, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

RE: Draft Environmental Impact Statement (EIS) on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The City of Tacoma is grateful to the U.S. Department of Energy for the public hearing you have scheduled for June 19, 1995 in our community and the extension on the public comment period to June 30, 1995 recently granted at the request of Congressman Randy Tate, Senator Patty Murray, and the rest of our Washington State Congressional delegation. We feel a matter of this importance needs the opportunity for sufficient consideration by our citizenry.

The City of Tacoma is writing to express its strong opposition to the U.S. Department of Energy's proposal to use the Port of Tacoma as a port of entry for the United States to import spent nuclear fuel from foreign research reactors. The goal of the proposed policy--to prevent the potential for creation of nuclear weapons by carefully regulating the shipment and disposal of high-level nuclear waste from foreign countries--is laudable. The Draft EIS failed to consider or fully ignored, however, a broad range of environmental, health and safety, and economic issues related to our community which undoubtedly will lead to considerable difficulty and possible litigation if the Port of Tacoma is designated as a port of entry.

The summary listed below does not attempt to identify all the issues of concern, but rather attempts to highlight some of the more significant ones. The following points have been incorporated into a resolution which was adopted by unanimous vote of the Tacoma City Council on June 6, 1995. A copy is attached for your reference.

747 Market Street, Room 1200, Tacoma, Washington 98402-3766, (206) 591-5100, FAX (206) 591-5123

## RESPONSE TO COMMENT
## COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL

## COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL (CONT'D.)

Mr. Charles Head
Page 2
June 19, 1995

1. The Port of Tacoma is located in a federally-designated Superfund Site. The Commencement Bay Nearshore/Tideflats Superfund Site is on the National Priority List for cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Millions of local business, industry, and municipal (community) dollars are being spent in an effort to cleanup this environmentally sensitive area. Additionally, once the federal Superfund cleanup activities are complete, the Natural Resources Damage Assessment process under CERCLA goes beyond the cleanup to recover additional dollars from these same entities to restore, replace, or acquire the equivalent of the injured resources within the Superfund Site.

2. The Draft EIS states: "**The absence of conflicting activities at potential commercial ports was considered...**" The Draft EIS goes on to state that criteria considered,"**...if the port in question also had no potentially dangerous, unavoidable conflicting activities, such as regularly scheduled transport of explosive or flammable cargoes, no petroleum carriers or storage facilities in the immediate vicinity of the foreign research reactor spent nuclear fuel carrying vessels,...**" The Port of Tacoma is the sixth largest and busiest commercial container port in the nation. The Draft EIS ignores the potential for conflicting activities at the Port of Tacoma, which pose a very real safety concern to our community. The Port of Tacoma handles explosive cargo through our civilian terminals, but, more importantly, because of the military facilities in our community, the Pierce County terminal handles powerful explosives on a regular basis. Additionally, our Port handles some products which have restricted limits on quantities due to safety reasons, and there are major chemical and petroleum production, storage, and transport facilities located in the immediate vicinity. The Draft EIS also states that recovery of any shipping casks/containers in waters of 200 meters or deeper is difficult, but states areas with those depths only exist in the open ocean. This is not true. The Puget Sound has a number of depressions with waters 200 meters or deeper. 687-1

3. The Draft EIS states, "**Primary responsibility for emergency response to a foreign research reactor spent nuclear fuel incident would reside with local authorities (DOE, 1989).**" The Port and City of Tacoma have emergency response plans for hazardous materials; however, there is some question whether the training, safety, and response needs addressed in these local plans would be sufficient if a spent nuclear fuel incident should occur. Local officials are very concerned that the burden for funding the proper training and equipment for this 687-2

## RESPONSE TO COMMENT COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL (CONT'D.)

### *Response to Comment No. 687-1*

DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS regarding Commencement Bay being a Superfund Site. The analysis of impacts in Section 4 of the EIS indicates that there would be no significant adverse impacts on the ports, people, or natural environment from shipments of foreign research reactor spent nuclear fuel and the overall impacts to Commencement Bay would be unchanged by the various management alternatives.

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Sections 4.2.1.1 and Appendix C, Section C.2 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years experience shipping spent nuclear fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS. Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS).

The security provided for the spent nuclear fuel shipments is required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal

## COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL (CONT'D.)

Mr. Charles Head
Page 3
June 19, 1995

type of emergency could be equivalent to yet another federal unfunded mandate thrust on local government. Even if full funding for training were available, it is unlikely we, as elected officials, would acquiesce to this proposal. We understand that additional emergency response management may be available with those military facilities located within our community, and we question whether they have had sufficient time to comment on the impact of this proposal. 687-2 (Cont'd.)

4. The City of Tacoma has recently been designated an Enterprise Zone Community. The Port of Tacoma is an area within the boundary of that designation. This distinction has been given to communities in need of boosting their socio-economic base and improving the quality of life for their citizens. The stigma of being identified as a port of entry for spent nuclear fuel coupled with the already existing negative implications from our Superfund designation would run counter to the City's efforts to boost our reputation as an area with potential for a thriving economic base.

The precise extent of the impact of this proposal is difficult to predict due to the ambiguous language in the Draft EIS. We question the wisdom of implementing the current proposal to import spent nuclear fuel into the United States through the Port of Tacoma given the absence of proper consideration of the impact on this community and the failure by the U.S. Department of Energy to adequately give a balanced, objective consideration to all three management alternatives in the Draft EIS.

Sincerely,

Harold G. Moss
Mayor

Robert W. Evans
Deputy Mayor

Bill Baarsma
Council Member

Mike Crowley
Council Member

Dave De Forrest
Council Member

Steve Kirby
Council Member

Sharon McGavick
Council Member

Paul Miller
Council Member

Dr. Dolores I. Silas
Council Member

Enclosure (1)

## RESPONSE TO COMMENT COMMENTOR NO. 687: CITY OF TACOMA - CITY COUNCIL (CONT'D.)

waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters. The impacts of a foreign research reactor spent nuclear fuel transportation cask sinking in coastal and deep waters are estimated in the EIS (Appendix C, Section C.5). The results of this analysis show that both the consequences and the risk of these accidents are low (Appendix C, Sections C.5.4 and C.5.5).

### *Response to Comment No. 687-2*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is discussed in Section 2.7.1 of the EIS. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 691:
## ED DIMMICK, MAYOR, CITY OF WALNUT CREEK

Walnut Creek

Office of the City Manager

June 13, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

RE: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

Below are the City of Walnut Creek's comments on the draft EIS regarding the above stated policy. We appreciate this opportunity to comment on the policy's impact on our community.

1. The public does not fully understand the complexity of nuclear waste transport. Nor can we fully assess the possible risks associated with this activity through our community. We need to rely on your assurances that the "risks are minimal." However, one measure of your trustworthiness is the adequacy of your EIS work to date. Unfortunately, we have found the analysis to be wholly inadequate. Not only is the name of the Bay where the port is located misidentified ( it is the Suisun Bay not the San Suison Bay that does not exist) but the proposal to use the Concord Naval Weapons Station as a port of entry lacks enough information for local review purposes. 691-1

For example, there is no description of the incoming 40 mile traffic waterway between the Pacific Ocean and the port. There is no mention of the five major bridges and heavy local ship traffic containing petroleum products associated with local refineries in this Bay. The study does not identify local arterials between the port and the freeway nor does it clearly identify the routes for the possible destinations for the waste.

The biggest problem facing the City of Walnut Creek is traffic. Consequently, the Council has restricted growth through its General Plan. The study does not review traffic patterns or identify major areas of congestion. One of the most congested 691-2

P.O. Box 8039 ◆ 1666 North Main Street ◆ Walnut Creek, California 94596-4661 ◆ (510) 943-5812 ◆ FAX: (510) 943-5897

## RESPONSE TO COMMENT
## COMMENTOR NO. 691:
## ED DIMMICK, MAYOR, CITY OF WALNUT CREEK

### *Response to Comment No. 691-1*

The errors identified by the commentor have been corrected in the final EIS.

Although there is no detailed description of the passage to the Concord NWS in the EIS (or into any of the other candidate ports), the passage was considered when Concord NWS was evaluated against port selection Criterion 2 (Favorable Transit From Open Ocean). The passage does meet the requirements of Criterion 2 (Appendix D, Section D.1.9.2 of the EIS). The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS.

The exact land route out of Concord to the management site(s) was not specified in the EIS because the actual route followed could change over the course of the program (which could be 13 years) as a result of road changes and weather conditions. In general, however, the shortest route that used major highways would be followed.

Concord NWS was one of ten ports that was identified as to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted into the United States. Population of the port and surrounding areas is one of the considerations of the port selection criteria, and one of the reasons the Port of Oakland was not included in the final list of ports. Concord's relatively lower population was a positive aspect. It should also be noted that the National Defense Authorization Act for Fiscal Year 1994 requires that low port population be a criterion for port selection for the receipt of foreign research reactor spent nuclear fuel. The population criterion for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS.

As the result of public comments, eight additional ports were considered, including Everett, WA. Like the rest of the ports analyzed, the risks associated with the use of Everett would be low. The final choice of port or ports to use, if foreign research reactor spent nuclear fuel is accepted into the United States, will be in the Record of Decision.

## COMMENTOR NO. 691:
## ED DIMMICK, MAYOR, CITY OF WALNUT CREEK (CONT'D.)

intersections in the entire Bay area region is the 680/24 interchange that appears to be a proposed truck travel route to storage sites east of here. This interchange has an inordinately high number of accidents and will remain under construction for at least another year and probably three. There is a temporary flyover that is quite high, steep and particularly dangerous for truck traffic. *691-2 (Cont'd.)*

2. The study does not consider the likelihood and consequences of an earthquake. Attached is an Association of Bay Area Government Study. In particular note the elaborate fault structure in the area as well as the soil shaking potential (pp. 9 and 30). The study should analyze this more thoroughly. *691-3*

3. The residents of this area already face a higher exposure potential to acutely hazardous materials. Contra Costa County (tied with neighboring Marin County) has the highest breast cancer incidence rate in the state. However, this study does not address the cumulative effects of adding spent nuclear fuel handling and transport to an area already experiencing military and industrial development impacts. Rightly or wrongly, if nuclear fuel is handled and transported from this area, this activity will be blamed for any future higher cancer incidence rates in the area. *691-4*

4. Finally, two military ports in the Bay area are slated for closure namely Alameda and Vallejo. Additionally, we understand that the high population density surrounding the Oakland port was one reason for its removal for consideration. The two military ports are closing in part because of the apparent cost effectiveness of the port in Everett, Washington. Why is this port not considered? It's less densely populated than this area and closer to the Hanford Reservation site in Washington. *691-1 (Cont'd.)*

In summation, the City of Walnut Creek cannot support the selection of the Concord Naval Weapons Station as the port of entry for nuclear waste from foreign reactors. There needs to be additional analysis addressing our concerns as well as the concerns of the other surrounding communities. Still, our population density, traffic congestion, and proclivity to damage from earthquakes, should eliminate this port from consideration.

Sincerely,

Ed Dimmick

Ed Dimmick
MAYOR

cc Walnut Creek City Council
Congressman Baker
Congressman Miller
Mayors of Concord, Pleasant Hill, and Martinez
Contra Costa County Board of Supervisors

## RESPONSE TO COMMENT
## COMMENTOR NO. 691:
## ED DIMMICK, MAYOR, CITY OF WALNUT CREEK (CONT'D.)

### *Response to Comment No. 691-2*

If the Concord NWS is selected as a port of entry, then DOE would choose the best route to I- 80 in accordance with Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, and/or Waterfront Road. These are the local Concord streets that the trucks would probably use. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

### *Response to Comment No. 691-3*

The EIS evaluates the risk associated with marine port activities, ground transportation, and storage at proposed DOE management sites in Section 4.2. The impacts are evaluated for both incident-free and accident conditions. Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents, however, the number of earthquake-induced ship and road accidents is small compared to other causes.

### *Response to Comment No. 691-4*

The cumulative impacts of foreign research reactor spent nuclear fuel transport through the port areas are addressed in Sections 4.2.2.4 and 4.2.3 of the EIS. The assumptions used for the analysis of potential impacts were very conservative, as discussed in Section 4.2.3.1, and as a result the likely impacts from acceptance of the foreign research reactor spent nuclear fuel into the United States would be much lower than estimated in the EIS.

## COMMENTOR NO. 731:
## WHITE PINE COUNTY NUCLEAR WASTE, PROJECT OFFICE

FLORINDO MARIANI
Coordinator

WHITE PINE COUNTY NUCLEAR WASTE
PROJECT OFFICE
957 Campton Street
Ely, NV 89301
(702) 289-2933
FAX (702) 289-2514

June 15, 1995

U.S. Department of Energy
Environmental Management
1000 Independence Ave., SW
Washington, D.C. 20585
Attn: Mr. Charles Head, EM-37

RE: Comments to Draft EIS On A Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

On behalf of White Pine County, Nevada, I am pleased to submit the following comments to the subject DEIS. White Pine County is one of ten units of local government which have been identified as "affected" by the Secretary of Energy pursuant to the Nuclear Waste Policy Act, as amended. The State of Nevada and the Department of Energy have identified candidate highway and rail routes through White Pine County for shipments of spent nuclear fuel and defense high-level radioactive wastes to the Nevada Test Site (NTS).

Should the Department of Energy select NTS as a site for storage of foreign research reactor fuel, shipments of spent fuel could be transported through White Pine County over a thirteen year period. Such shipments would be in addition to potential shipments of spent fuel from commercial nuclear power plants, other defense high-level wastes, and low-level radioactive wastes from DOE defense nuclear facilities. The draft EIS must consider the possible cumulative risk to the public health, safety and welfare of residents and businesses located in White Pine and other corridor counties from these transportation activities. 731-1

The draft EIS would benefit from a comparative analysis of the exposure risk associated with the management alternatives considered. The risk of transportation and storage of the materials into and within the United States should be compared with those associated with managing the spent fuel at its source location. Managing the wastes at their present locations may pose less risk than moving it to the United States. 731-2

## RESPONSE TO COMMENT
## COMMENTOR NO. 731:
## WHITE PINE COUNTY NUCLEAR WASTE, PROJECT OFFICE

### *Response to Comment No. 731-1*

As discussed in Section 4.2.3.4 of the EIS, the cumulative impacts of ground transport of radioactive material were analyzed in the Department of Energy Programmatic Spent Nuclear Fuel and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The transport of foreign research reactor spent nuclear fuel was included as one part of that analysis.

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Nevada Test Site.

### *Response to Comment No. 731-2*

The comparative analysis requested by the commentor is in Section 4.8 of the EIS.

## COMMENTOR NO. 731: WHITE PINE COUNTY NUCLEAR WASTE, PROJECT OFFICE (CONT'D.)

Page 2
Mr. Charles Head
June 15, 1995

The draft EIS does not provide adequate consideration of options for mitigation and compensation of impacts. The subsequent Record of Decision should include specific measures to mitigate and/or compensate impacts. With regard to transportation of spent fuel through areas such as White Pine County, such measures should include pre-shipment training and equipping of emergency first responders; pre-notification of public safety officials prior to all shipments; real-time tracking of all shipments; consultation with local public safety officials regarding real-time transportation conditions and constraints; and where necessary to reduce the risk of accidents, infrastructure improvements to enhance highway safety. 731-3

To the extent that the aforementioned comments are not appropriately addressed within the final EIS, DOE will not have sufficiently complied with NEPA concerning foreign research reactor spent nuclear fuel.

Sincerely,

Ferd Mariani

Ferd Mariani
Coordinator

## RESPONSE TO COMMENT COMMENTOR NO. 731: WHITE PINE COUNTY NUCLEAR WASTE, PROJECT OFFICE (CONT'D.)

***Response to Comment No. 731-3***

Measures for impacts which warrant mitigation are discussed in Sections 4.2 and 4.9.4 of the EIS for port activities (Section 4.2.2.5), ground transportation (Section 4.2.3.5), and management sites (Appendix F, Section F.4) of the EIS.

The commentor's preference for geologic disposal of spent nuclear fuel is noted. The impacts of ultimate disposition of spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. A detailed, quantitative discussion of these impacts would have to be the subject of future NEPA documentation.

## COMMENTOR NO. 835:
## TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE

June 29, 1995

TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

RE: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

After review of the issue, our Chamber's Board of Directors has adopted policy opposing the importation of spent nuclear fuel through the Port of Tacoma.

The reasons for this opposition are listed below:

- The ILWU Local #23 has declared that they will not handle this cargo, thereby hampering the movement of commercial cargos. Not only is this a potential economic hazard to the local community, but the status of the Port of Tacoma as the sixth largest volume port in North America carries implications for the nation's economy. 835-1

- Shipping containers of nuclear fuel may be breached by the extraordinary conditions of shipboard fires. In addition to a shipboard fire with these conditions having recently occurred in the neighboring community of Seattle, a more recent shipboard fire occurred in our port area. The local fire department experienced extreme difficulties in fighting the fire. 835-2

- As a security benefit, almost all civilian commerce of nuclear material is anonymous. This environmental impact statement, however, will identify the transshipment point. The security normally afforded nuclear shipments will be breached. 835-3

- Terrorists groups don't have to steal and process nuclear materials for bombs to create nuclear incidents. Neither Chernobyl nor Three Mile Island involved nuclear explosions. 835-4

- There are no provisions for funding or training nuclear hazmat (hazardous materials) teams locally. 835-5

- Exposing the Tacoma population to these risks is unnecessary. Whether by rail or road, these shipments will go through Seattle or Portland. Seattle has been excluded in this 835-6

950 PACIFIC AVENUE, SUITE 300, PO BOX 1933, TACOMA, WA 98401
PHONE 206-627-2175, FAX 206-597-7305

ACCREDITED BY THE CHAMBER OF COMMERCE OF THE UNITED STATES

## RESPONSE TO COMMENT
## COMMENTOR NO. 835:
## TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE

### *Response to Comment No. 835-1*

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

The possibility of a longshoremen strike was not considered in the port selection process (Appendix D, Section D.1.9 of the EIS) since that factor does not impact on the capability to safely receive containers carrying foreign research reactor spent nuclear fuel. The decision as to which port or ports would be used, if foreign research reactor spent nuclear fuel is accepted into the United States, will be made in the Record of Decision. In either case, the possibility of strikes is one of the many factors that would have to be considered in determining which ports to use.

### *Response to Comment No. 835-2*

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the transportation casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of the foreign research reactor

## COMMENTOR NO. 835: TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

round of evaluation because of its population size. Shipping through Tacoma, because of infrastructure design, will mean Tacoma's population will be added to those of Seattle or Portland along the route. Further, the population for Tacoma seems to be that for the City only, rather than that for the Tacoma Primary Metropolitan Statistical Area (Pierce County) which is a more accurate area for analysis and comparison. 835-6 (Cont'd.)

- Fears associated with nuclear energy are expected to produce a stigma about whichever port's community is announced as the transshipment point. No mitigation is considered. 835-7

- Rail lines across the mountains here are nearing capacity. Considerations on pairing nuclear containers with other dangerous cargoes will exacerbate shipment and capacity problems. This may mean adverse economic impacts associated with the interruption of normal commerce, and/or the siderailing of nuclear containers as rail tunnels are freed or cleared. Current normal operations involve siderailing of cargos for an hour between tunnel transits while exhaust fumes are cleared. 835-8

Your consideration of these objections and your choice of an alternative that favors reprocessing of nuclear fuels in countries capable of this technology is recommended.

Sincerely,

Gary D. Brackett, Mgr.
Business and Trade Development

## RESPONSE TO COMMENT COMMENTOR NO. 835: TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analyses.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a spent nuclear fuel transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS). Although the nonradiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 835-3*

As discussed in Section 2.6.4.2 of the EIS, the NRC regulations concerning route notification for civilian shipments of nuclear material are set forth in 10 CFR Part 73. The shipments of foreign research reactor spent nuclear fuel would comply with this regulation, just like similar shipments.

The regulation requires shippers to submit proposed routes for spent nuclear fuel shipments to NRC for approval, and NRC publishes a public information circular that lists routes that have been evaluated and approved for specific spent nuclear fuel shipments. The regulation also requires DOE to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days in advance of the each shipment of hazardous cargoes, including radioactive materials.

Security during ground transport is discussed in Section 2.7.5 of the EIS.

### *Response to Comment No. 835-4*

The Chernobyl and Three Mile Island (TMI) accidents are not examples of terrorist activities. These are accidents which occurred during power reactor operations. The radioactive inventory in each of these reactors were millions of times greater than what would be in a transportation cask containing foreign research reactor spent nuclear fuel. It is inaccurate to consider that an incident involving a spent nuclear fuel transportation

## COMMENTOR NO. 835: TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

## RESPONSE TO COMMENT COMMENTOR NO. 835: TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

cask resulting from a terrorist activity, or any others, would have similar consequences as that resulted from either TMI or Chernobyl. The EIS considered and analyzed all potentially significant accidents, including terrorist initiated accidents (Section 4 and Appendices C, D, E, and F of the EIS). The results indicate a very low risk to an individual, or to the general public as a whole, from all accidents considered. It is worth mentioning that the TMI accident, being the worst nuclear reactor accident in the United States, did not result in any measurable radiological damage to either the public or the environment.

***Response to Comment No. 835-5***

Each port considered in the EIS has developed an Area Contingency Plan. This plan outlines response capabilities, procedures and authorities for responding to and recovering from hazardous material incidents. Additionally, DOE would provide assistance to local authorities to ensure that appropriate measures would be taken in the unlikely event of an accident. As part of this assistance, DOE's Radiological Assistance Program teams, from eight offices strategically located throughout the country, would be used to coordinate and to provide remediation assistance. This type of assistance and coordination would be specified in the Transportation Plan to be prepared prior to any spent nuclear fuel shipment. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected.

***Response to Comment No. 835-6***

As discussed in Section 4 of the EIS, the risk associated with implementation of the proposed action to human health or the environment would be low. Populations surrounding candidate ports and along representative transportation routes were used in the selection of candidate ports for receipt of spent nuclear fuel from foreign research reactors (Appendix D of the EIS). The analysis of populations surrounding candidate ports was based on enumeration of potentially affected residents within 10 miles (16 km) of the port (Appendix D of the EIS). Population data shown in Appendix A for the Port of Tacoma (Table A-1) of the EIS include the population of Pierce County.

***Response to Comment No. 835-7***

DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel at the Port of Tacoma.

## COMMENTOR NO. 835:
## TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 835:
## TACOMA-PIERCE COUNTY CHAMBER OF COMMERCE (CONT'D.)

***Response to Comment No. 835-8***

As an example, if Management Alternative 1 were adopted and the Port of Tacoma would be used exclusively, then an additional 721 ISO containers could be unloaded at Tacoma over a period of 13 years. This would represent a very small increase to the existing and future truck or rail traffic burden. This subject is discussed further in Section 2.6.4 of the EIS.

## *Commentor No. 836:*
## *Doug Sutherland, County Executive, Pierce County*

Pierce County
Office of the County Executive
930 Tacoma Avenue South, Room 737
Tacoma, Washington 98402-2100
(206) 591-7477 • FAX (206) 598-6528

DOUG SUTHERLAND
Executive

FRANCEA L. McNAIR
Deputy Executive
Executive Office
of Operations

June 30, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

Dear Mr. Head:

I am writing to express my adamant opposition to the DOE proposal to ship nuclear waste through the waterways of Tacoma and Pierce County. I believe this proposal would place an unacceptable risk upon the citizens of Puget Sound.

Millions of dollars and years of civic effort have been invested in ridding Commencement Bay of pollution and improving the economic and social environment of the Tacoma-Pierce County area. Shipping nuclear waste through the Port of Tacoma will hamper our efforts, if not bring them to a halt. The risks are more far reaching than the health of our waterways. The health of our citizens is also at stake and as County Executive, I feel a responsibility to protect the citizens I serve. *836-1*

I concur with the Commissioners from the Port of Tacoma that Alternative #2 is an acceptable option. It would meet the goals of the nuclear proliferation treaty without returning spent nuclear fuel to the United States, and more specifically, Puget Sound. *836-2*

Again, I am vigorously opposed to shipping nuclear waste through the waters of Puget Sound. The potential risks facing our citizens and the environment are just too great.

Thank you for your attention to this matter.

Sincerely,

Doug Sutherland,
Executive

DS:jam

PATRICK KENNEY
Executive Office
of Administration

ANDREW NEIDITZ
Executive Office
of Public Safety

DAISY STALLWORTH
Executive Office
of Community and
Human Services

HUDSON STANSBURY
Executive Counsel

BIL MOSS
Special Assistant
to the Executive

BARBARA GELMAN
Assessor-Treasurer

CATHY PEARSALL-STIPEK
Auditor

## *Response to Comment*
## *Commentor No. 836:*
## *Doug Sutherland, County Executive, Pierce County*

### *Response to Comment No. 836-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 836-2*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 845: CITY OF OLYMPIA - CITY COUNCIL

City of OLYMPIA

900 Plum Street, P.O. Box 1967, Olympia, WA 98507-1967

June 27, 1995

COUNCIL

Bob Jacobs, Mayor

Mark Foutch Mayor Pro Tem

Pat Cole

Holly Gadbaw

Jeanette Hawkins

Mary Lux

Margaret McPhee

CITY MANAGER

Richard C. Cushing

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

We are writing in response to a U.S. Department of Energy proposal to ship spent nuclear fuel from foreign research reactors through the Port of Tacoma in the Puget Sound. 845-1

The City of Olympia is strongly opposed to this action. We believe this action could produce a devastating and disproportionate impact on the residents of the Puget Sound area including Olympia.

Instead, we support the alternative developed by the Port of Tacoma which prefers that the United States work collaboratively with foreign sources of nuclear fuel for permanent and appropriate geological disposal in those respective countries. We believe both long term and short term storage can be accommodated for these foreign sources of nuclear waste. We strongly urge you to consider the Port of Tacoma's alternative and to cease any plans to ship those fuels through the environmentally sensitive Puget Sound area. 845-2 845-1 (Cont'd.)

Sincerely,

Bob Jacobs, Mayor — Mark Foutch, Mayor Pro tem — Mary Lux, Councilmember — Pat Cole, Councilmember

Holly Gadbaw, Councilmember — Margaret McPhee, Councilmember — Jeanette Hawkins, Councilmember

5-2025

ALL-AMERICA CITY 1986 1987

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|---|---|---|---|---|---|
| City Council | 753-8450 | Community Planning & Development | 753-8314 | Personnel | 753-8442 |
| City Manager | 753-8447 | Fire | 753-8348 | Police | 753-8000 |
| City Attorney | 753-8449 | Parks/Recreation/Cultural Services | 753-8380 | Public Works | 753-8362 |
| Administrative Services | 753-8325 | | | | |

## RESPONSE TO COMMENT COMMENTOR NO. 845: CITY OF OLYMPIA - CITY COUNCIL

### *Response to Comment No. 845-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, the analysis in the EIS indicates that the risks associated with an accident are low (Sections 4.2.2.3 and 4.5) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel are also low (Sections 4.2.2.2 and 4.5), and pose no significant risk to port personnel, the local population, or the environment.

### *Response to Comment No. 845-2*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

## *Commentor No. 849: Gretchen A. Wilbert, Mayor, City of Gig Harbor*

**CITY OF GIG HARBOR**
**RESOLUTION NO. 448**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GIG HARBOR, WASHINGTON, EXPRESSING STRONG OPPOSITION TO THE ADOPTION OF A POLICY, BEING PROPOSED JOINTLY BY THE UNITED STATES DEPARTMENT OF ENERGY AND UNITED STATES DEPARTMENT OF STATE, TO ACCEPT AND MANAGE SPENT NUCLEAR FUEL FROM FOREIGN RESEARCH REACTORS BY SHIPMENT THROUGH THE PORT OF TACOMA, WASHINGTON.**

WHEREAS, the United States Department of Energy and the United States Department of State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

WHEREAS, nuclear fuel containing uranium enriched in the United States of America would be covered by this policy; and

WHEREAS, the purpose of this policy is to promote United States nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce, and

WHEREAS, the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy and assessed; and

WHEREAS, alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States; and

WHEREAS, under alternative number one the spent nuclear fuel will be shipped by ocean-going vessels from foreign countries to the United States of America; and

WHEREAS, the City of Gig Harbor is a municipality in the County of Pierce and shares waters in close geographic proximity to the Port of Tacoma; and

WHEREAS, the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur, and

WHEREAS, the Draft Environmental Impact Statement (DEIS) was prepared to address the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel; and

A. the DEIS has used outdated information about the Port of Tacoma, its terminals, its operations, and the surrounding area; *849-1*

B. the DEIS did not consider the deep-water depth in the Puget Sound area, which will *849-2*

## *Response to Comment Commentor No. 849: Gretchen A. Wilbert, Mayor, City of Gig Harbor*

### *Response to Comment No. 849-1*

Updated information on the terminals, rail yards, and waterways at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. The evaluated data on populations is from the 1990 census.

### *Response to Comment No. 849-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1000 feet). Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duraction of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of the foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

## COMMENTOR NO. 849: GRETCHEN A. WILBERT, MAYOR, CITY OF GIG HARBOR (CONT'D.)

cause substantial problems in recovery of nuclear fuel shipping containers in case of accident, especially considering the limited integrity standard for containers pertaining to water;

C. the DEIS fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating Puget Sound; *849-2 (Cont'd.)*

D. the DEIS did not recognize the status of Commencement Bay as a superfund site, the stigma attached to this designation, and the expansion of this stigma by Alternative Number One;

E. the DEIS ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma, the industries in Commencement Bay, and the associated crippling business interruption issues;

F. the DEIS stated that part of this material would be of interest to unfriendly nations and/or terrorists, and yet did not provide adequate risk and consequence information of a compete, explosive breach of the nuclear fuel by disgruntled persons or terrorists; *849-3*

G. the DEIS did not consider the security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County, and the State of Washington; *849-4*

H. the DEIS did not adequately address the life cycle costs or benefits and risks of the proposed alternatives; *849-5*

I. the DEIS fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential; and *849-6*

WHEREAS, the record for the safe operation and handling of nuclear materials in United States Department of Energy regulated facilities is less than satisfactory, and there are facilities owned and operated by the United States Government capable of receiving and handling this nuclear material, and *849-7*

WHEREAS, the United States House Budget Resolution eliminates the United States Department of Energy thereby creating funding uncertainties, and *849-8*

WHEREAS, the United States Department of Energy has failed to properly answer a question in a meeting conducted by the Port of Tacoma, in Tacoma on the 22nd of May, 1995, (reference Attachment 'A') pertaining to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, or to respond in writing to that question as promised and; NOW, THEREFORE, *849-9*

THE CITY COUNCIL OF THE CITY OF GIG HARBOR, WASHINGTON HEREBY RESOLVES AS FOLLOWS:

## RESPONSE TO COMMENT COMMENTOR NO. 849: GRETCHEN A. WILBERT, MAYOR, CITY OF GIG HARBOR (CONT'D.)

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analyses.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS). Although the nonradiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

A sentence has been added to Appendix D, Section D.2.1.9 of the EIS regarding Commencement Bay being a Superfund Site. Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. Nor should it contribute to any dirty port stigma based on the EIS analysis that indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway cannot leak because the metal fuel is transported dry, thus it would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

### *Response to Comment No. 849-3*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all the security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

## COMMENTOR NO. 849: GRETCHEN A. WILBERT, MAYOR, CITY OF GIG HARBOR (CONT'D.)

Section 1. The City Council of Gig Harbor, Washington, strongly opposes adoption of a policy, being proposed jointly by the United States Department of Energy and United States Department of State, to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington. 849-10

Section 2. Copies of this Resolution shall be transmitted to President Clinton, Vice President Gore, the United States Department of Energy, the United States Department of State, the Washington State Congressional delegation, the Washington State Legislature, the Office of the Governor, the Pierce County Executive, the King County Council and Executive.

RESOLVED by the City Council this 26th day of June, 1995.

APPROVED:

Gretchen A. Wilbert

Gretchen A. Wilbert, Mayor

ATTEST/AUTHENTICATED:

Mark E. Hoppen, City Administrator/Clerk

APPROVED AS TO FORM;
OFFICE OF THE CITY ATTORNEY:

BY: _____

FILED WITH THE CITY CLERK: 6/21/95
PASSED BY THE CITY COUNCIL: 6/26/95

## RESPONSE TO COMMENT COMMENTOR NO. 849: GRETCHEN A. WILBERT, MAYOR, CITY OF GIG HARBOR (CONT'D.)

### *Response to Comment No. 849-4*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

### *Response to Comment No. 849-5*

Section 4.9 and Appendix F, Section F.7 of the EIS fully address the life cycle costs, risks, and benefits of the proposed action. The use of a net present value approach reflects the life cycle costs. Benefits would be primarily in the form of reduced risks of the proliferation of nuclear weapons to countries who might use them on us or our allies, as well as, income and employment to the management sites and regions conducting the programs and to the nation from reducing the commerce in certain types of nuclear materials. Health and safety risks would be low, as discussed fully Section 4 of the EIS and Appendices C, D, E, and F. Economic risks are described in detail in Appendix F, Section F.7. Particular attention is paid to major cost uncertainties (e.g., waste acceptance criteria, geologic disposal). Economic impacts relating to ports are minor in all respects.

### *Response to Comment No. 849-6*

As demonstrated by the analyses in the EIS, the risk associated with accepting spent nuclear fuel from foreign research reactors through any of the ports analyzed would be low. This result is borne out by the experience gained in over 30 years of shipments of foreign research reactor spent nuclear fuel to the United States. Accordingly, DOE considers that there is no fairness or equity issue to be resolved.

### *Response to Comment No. 849-7*

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

***Response to Comment No. 849-8***

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

***Response to Comment No. 849-9***

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no transportation cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst case analysis of accidents in an EIS. For the purposes of analysis in the EIS, there is no such thing as a worst case scenario because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst-case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

***Response to Comment No. 849-10***

The opposition of the City Council of Gig Harbor, Washington to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA

**City of Tacoma**

**Council Member Bill Baarsma**

June 23, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Head:

I am transmitting my testimony as given at the public hearing on the Proposed Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel in Tacoma on June 19. The testimony is as follows:

969-1 969-2

I do strongly support Alternative 2 which makes eminent sense in the short- and long-term. The logic for Alternative 1 escapes me. However, I would like to comment on one part of the Draft EIS. On page 26 of that summary, the EIS notes, "In the United States...local governments are required to have emergency management and response programs. These programs must be capable of managing all hazards, ranging from natural disasters to hazardous material incidents on a day-to-day basis. These programs include support from special emergency response teams and emergency operation centers."

969-3

Yes, the Tacoma Fire Department has a hazardous unit. It is a four-member team that provides coverage seven days a week around the clock--it involves 20 highly trained firefighters. The unit is in the tideflats area. Its charge is to handle and control the spillage of oil or other toxic materials. However, this unit has no equipment nor does it have the training or capability to handle accidents involving radioactive materials. Again, our firefighters are highly motivated and skilled. They are among the best anywhere, but they do not have the resources to handle a catastrophic accident involving radioactive waste. Nor, could we, as a city, ask them to take on those additional burdens.

Our emergency management division of county government does have a hazardous materials management team. But, for radioactive accidents, its capability is limited to monitoring

747 Market Street, Room 1200, Tacoma, Washington 98402-3766, (206) 591-5100, FAX (206) 591-5123

## RESPONSE TO COMMENT COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA

### *Response to Comment No. 969-1*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

### *Response to Comment No. 969-2*

The commentor's opposition to Management Alternative 1 as described in Section 2.2 of the EIS is noted. Sections 2.3, 2.5, and 4.4 of the EIS describe other alternatives under consideration.

### *Response to Comment No. 969-3*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transport to designated management sites if the foreign research reactor spent nuclear fuel is managed in the United States. Federal funding to State, Tribal, and local governments for maintaining emergency response programs is discussed in Section 2.7.1. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. Emergency preparedness, security, and coordination of DOE with local emergency response authorities, and security are discussed in general in Sections 2.7 and 2.8 of the EIS. Details would be contained in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

## COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

Mr. Charles Head
Page 2
June 23, 1995

and detection of materials after the fact [using 1950's and 1060's technology, I might note]. It can, in concert with the Tacoma Fire Department, set up perimeters around an affected site. It has no resource capability or training to cleanup or control the extent of an accident, however. 969-3 (Cont'd.)

Finally, we have had a number of shipboard fires in this area recently--two in Commencement Bay alone. In one case, the Fire Department had to tow the vessel to the center of Commencement Bay where it burned to the water line--smoke congregating in the basin area of the Bay and then drifting north with the prevailing winds. The other fire of furnace intensity involved a container ship. In this case, we had to call in support services from Seattle to help control that disaster. 969-4

The Draft EIS places the burden for response to any accidents on local jurisdictions. This is viewed as yet another unfunded federal mandate that we must tax our citizenry for.

Bringing this high-level nuclear waste through the Port of Tacoma poses a financial risk, a security risk, an environmental risk, and a health risk--in sum, an unacceptable risk. 969-5

We are opposed to buying a problem that has great cost and does not benefit this community.

I thank you, Mr. Head, for providing the opportunity for giving this testimony this evening.

Sincerely,

Bill Baarsma

Bill Baarsma
Council Member

## RESPONSE TO COMMENT COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

### *Response to Comment No. 969-4*

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the transportation casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships would be relatively small. Data available on the last 15 years from Lloyd's of London indicates that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the transportation cask would not be exposed for the entire duration of the fire. Second, a ship fire's intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analyses.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS), in spite of the fact that some radioactive material might be released.

## COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

## RESPONSE TO COMMENT COMMENTOR NO. 969: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

***Response to Comment No. 969-5***

The commentor's opposition to the use of the Port of Tacoma for receipt of foreign research reactor spent nuclear fuel is noted. Based on the port selection process described in Appendix D of the EIS, the Port of Tacoma is among the ten candidate ports listed in Section 2.2.1.6 of the EIS which could receive foreign research reactor spent nuclear fuel under Management Alternative 1 or 3. The analyses provided in the EIS indicate that the use of any of the ports indicated by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel, local environment, or the population near the port. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.2.3 of the EIS) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel transportation casks are also low (Section 4.2.2.2 of the EIS).

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security measures employed at any port would be required to meet or exceed all the security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel in any commercial port.

Appendix H of the EIS describes the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

The benefit to the citizens of the United States from the proposed action, including those in potential ports of entry, along transportation routes, or near potential management sites, is less risk that weapons grade uranium from civil programs could be diverted into the production of nuclear weapons that might be used against us or our allies. On the other hand, the analyses recorded in Section 4 of the EIS demonstrate that the risks from the proposed action are low.

## COMMENTOR NO. 970: PORT OF TACOMA

PORT of TACOMA U.S.A.

June 23, 1995

Charles Head
Office of Spent Nuclear Fuel Management
U.S. Department of Energy
1000 Independence AVE
Washington DC 20585

Dear Mr. Head:

I appreciate the opportunity to communicate my concerns regarding the alternatives of the draft Environmental Impact Statement. As a taxpayer and as a public official, I strongly support the goals of the United States non-nuclear proliferation policy, which is to reduce and ultimately eliminate highly enriched uranium from civilian commerce. 970-1

Obviously keeping this type of material out of the hands of both foreign terrorists and those people in the United States who may feel compelled to use violence to make a statement such as the tragedy in Oklahoma City is a national priority.

I find several problems with returning the HEU (highly enriched uranium) to the United States (Alternative #1). First, the United States does not have a workable long term storage and disposal plan for its own spent nuclear fuel and high level waste. Bringing this material to the United States for storage at DOE's Nuclear Weapons Production Sites with the notion that someone, at some future date, can figure out how and when to permanently dispose of it, is an invitation to disaster. 970-2

This lack of long range storage plan, as well as storing nuclear waste at weapon production sites, are extremely poor role models to the international nuclear community.

The second problem with alternative 1 is that absolutely no evidence exists that we as a country will be any better off at the end of the ten year period, than we are today. The policy of returning everything to the United States discourages countries operating research reactors to make meaningful progress towards responsible self sufficiency. Without reprocessing, and effective storage operation, we are placing our own environment at tremendous risk. 970-3

P.O. Box 1837 • Tacoma, Washington 98401-1837 • Telephone: (206) 383-5841
*Commissioners:* Stephen R. Anderson • Jack A. Fabulich • Mike Fletcher • Patrick O'Malley • Jerry M. Thorpe
*Executive Director:* John J. Terpstra

## RESPONSE TO COMMENT
## COMMENTOR NO. 970: PORT OF TACOMA

### *Response to Comment No. 970-1*

The commentor's support for nuclear weapons nonproliferation is noted.

### *Response to Comment No. 970-2*

The United States does have plans for long term storage and disposal of foreign research reactor spent nuclear fuel and high-level waste. The plans for safe storage of the foreign research reactor spent nuclear fuel are discussed in Sections 2.6.5 and 4.2.4 of the EIS.

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

### *Response to Comment No. 970-3*

The intent of the proposed policy is to remove as much U.S.-origin HEU as possible from civil programs worldwide and give foreign research reactor operators time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS). DOE and the Department of State would work with foreign research reactor operators to ensure they were making plans for disposition.

## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

PORT OF TACOMA

DOE
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The United States also suffers in other areas. We will eventually pay an unnecessary and extremely high storage and disposal cost for this foreign material, encounter higher public and worker health risks, and face higher environmental risks, all without achieving the necessary shifts in foreign spent fuel management to a non-proliferating self sufficiency. 970-4 970-5

That is why I believe it is imperative that we make the transition in our disposal operations by adopting alternative 2. The benefits are obvious. The United States will no longer set a bad model example as a country endorsing the use of nuclear energy, while ignoring responsibility to implement a long term storage capability.

By adopting Alternative #2, foreign spent fuel management issues will be addressed now, on a case by case basis that is best for each party. It also means that the United States will not subject itself to whatever risks in receiving and transporting foreign highly enriched uranium within the United States borders. 970-6

Rejecting Alternative #2 means that we will exacerbate an already untenable situation, which is our domestic storage and disposal of spent domestic fuel, and defense wastes. No one can forecast the financial cost if we were to come up with a solution, but anyone familiar with the problem realizes the cost will be tremendous. Alternative #2 provides the United States taxpayers with the least costs and best overall short and long term results.

Alternative #2 makes operational sense. Seventy percent (70%) of the foreign spent fuel resides in seven countries with spent fuel capabilities and expertise resulting from their large national commercial nuclear power programs. Interim storage within these countries saves time and money, reduces risk, and can be done under the International Atomic Energy (IAEA) non-proliferation safe guards and controls.

Alternative #2 also makes sense from a recycling standpoint. Three of the seven countries that have major national commercial nuclear power programs, also have spent fuel reprocessing capabilities. This reprocessing is necessary to help transition the foreign research reactor programs to low enriched uranium, incapable of being made into nuclear bombs. 970-7

A current operation in Scotland with reprocessing capabilities is willing and capable of immediately processing and diluting HEU highly enriched uranium. Non-proliferation allies such as France, Japan and the United Kingdom,and others, can immediately begin to help the remaining 34 counties that have the 30% of the total spent fuel inventory, to find acceptable on-site or foreign off-site

## RESPONSE TO COMMENT
## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 970-4*

As discussed in Section 2.2.1.2 and 2.2.2.3 of the EIS, several financing options have been considered, ranging from collection of fees from the research reactor operators that would pay all of the costs of the program to full subsidization of the program by DOE. A compromise between these extremes would be for developed countries to be charged a competitive fee, while U.S. taxpayers would absorb the full costs of the program for developing countries and absorb the amount above a competitive fee for developed countries to accept and manage their spent nuclear fuel. The reasons the United States would pay some of the costs for other countries are: 1) some countries would be unable to afford the costs of the proposed action and would have no safe alternative means of managing their spent nuclear fuel (i.e., the developing countries); and 2) some countries would continue to use and trade weapons-grade nuclear material indefinitely unless the United States charges a competitive fee and absorbs any costs above that fee (i.e., most of the Western European countries). As discussed in Section 4 of the EIS, the environmental burden and human health risks would be low in an absolute sense and very low compared to the risks posed by continued commercial use of highly-enriched (weapons-grade) uranium or unsecure storage of spent nuclear fuel containing HEU in numerous locations overseas.

### *Response to Comment No. 970-5*

As discussed in Sections 1.1 and 1.2 of the EIS, the adoption of a policy to manage the foreign research reactor spent nuclear fuel is necessary to reduce the risk of nuclear weapons proliferation. If that policy is Management Alternative 1, then the United States would have the most influence with the research reactor operators, with the result that most of the reactors would probably be converted to the use of LEU fuel. Contrary to the commentor's statement, DOE and the Department of State considers that the implementation of Management Alternative 1 would achieve the necessary shifts in foreign research reactor spent nuclear fuel management practices to reduce the worldwide risk of nuclear weapons proliferation.

### *Response to Comment No. 970-6*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

### *Response to Comment No. 970-7*

The commentor's preference for overseas reprocessing is noted. This is Management Alternative 2, Subalternative 1b, which is discussed in Section 2.3 and 4.4.2 of the EIS.

## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

PORT OF TACOMA

DOE
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Page Three

capabilities for their spent nuclear fuel or a non-proliferating reprocessing option. These efforts should be directed at both short and long term solutions for the affected countries. *970-7 (Cont'd.)*

Stated in another manner; the question we are all awaiting the answer to is: Since over 70% of the spent fuel under the proposed policy, resides in 7 countries having major commercial nuclear reactor programs, all having major spent fuel storage capabilities. Three (3) countries have spent fuel reprocessing capabilities and all participate in the IAEA nuclear safe guards program. Why not eliminate Germany, Sweden, Switzerland, France, Canada, Japan, and the United Kingdom from consideration in Alternative #1. *970-8*

We can then work with our allies and focus more on the remaining 30% of the problem.

The next question is economic in nature: Why do we want to add more waste when we already don't know what to do with what we already have?

The least cost alternative that meets the minimum non-proliferation policy guidelines should be selected to minimize everyone's cost. This means selecting Alternative #2 or #3, which have the lowest estimated cost ranging from $750 to $950 million, and as well as some sharing of the specific costs. *970-9*

As a United States taxpayer I should not have to accept the burden of paying for most of the enriched uranium conversion costs to lower enriched uranium. However, Alternative #1, the U.S. option, has the highest cost in the draft EIS ranging from $850 to $1,850 million (1996 dollars) This alternative should be abandoned immediately. There is no benefit at all to Puget Sound, Washington State, or the Port of Tacoma in handling this material. Indeed there are only additional costs that really constitute unfunded DOE mandates. Our city will be charged with responding to a nuclear accident. Our port will be required to administer and monitor its longshore work force for radiation exposure. *970-10*

For example, if there is a nuclear accident at the Port of Tacoma, the City of Tacoma Fire Department will be charged with the primary responsibility in handling this hazard. Obviously, no fire department on the West Coast of the United States has the expertise and the equipment necessary to combat a nuclear accident. Accordingly, training, equipment and capital expenditures will rise. In addition, there is a considerable health hazard to Port employees and longshoremen. This program will cost the Port a substantial amount of money and again will not return any benefit to the Port at all. *970-11*

## RESPONSE TO COMMENT
## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 970-8*

The intent of the proposed action is to support U.S. nuclear weapons nonproliferation policy seeking to reduce, and eventually eliminate, the use of highly enriched (weapons-grade) uranium in civil programs worldwide. If the United States does not include its stable, developed allies in this program, then many of the research reactors in these countries are likely to switch back to (or continue) the use of HEU fuel, or they would have to shut down.

As stated in the EIS, the U.S. has an obligation under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to assist nonnuclear weapons states with peaceful applications of nuclear energy. Actions which compel a country to shut down a peaceful nuclear research program, or to seek reprocessing, could cast doubt on U.S. commitment to NPT principles. Any perception that the U.S. does not support the NPT, which is the foundation of the entire international nuclear nonproliferation regime, would make it that much harder to negotiate further nuclear nonproliferation agreements.

If the research reactors are forced to shut down, the United States would likely be accused of failing to live up to its obligations under the Treaty on the Non-Proliferation of Nuclear Weapons to assist nonnuclear weapons states with peaceful applications of nuclear technology.

If the reactors switch back to (or continue) the use of HEU fuel, the move towards elimination of the civil use of HEU will be severely diminished.

While it is true that these countries do not pose a threat of nuclear weapons proliferation themselves, they serve as examples for other countries. Furthermore, several of them manufacture and sell research reactors to other countries, including third world countries. If our stable allies continue to use HEU fuel for their research reactors, then the countries which buy reactors from them would demand reactors fueled in the same manner.

The United States is currently attempting to persuade Russia and China to implement programs, similar to that of the United States, to convince their client states to switch their research reactors to LEU fuel. If, through action or inaction, the United States is unable to persuade its allies to discontinue the use of HEU fuel, then we are unlikely to convince Russia and China to cooperate in this effort.

### *Response to Comment No. 970-9*

The amount of spent nuclear fuel in the foreign research reactor program is on the order of 1 percent of U.S. defense waste and 1/10 of 1 percent of U.S. commercial waste. The costs for the foreign research reactor spent nuclear fuel program would be on the order of 1-2 percent of that for the total U.S. program. Adding this material to an already large base of material would not make the resolution of the problem any easier but it would reduce a significant international nuclear weapons proliferation risk at a low incremental cost.

## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

PORT OF TACOMA

DOE
June 23, 1995
Page Four

An additional human and economic issue is shipboard fires. For example, there have been shipboard fires on Puget Sound that far exceed the design specifications of the cask. In the event the cask is ruptured and radioactive material becomes airborne, there will be a catastrophe of unimaginable proportions. 970-12

Subjecting Americans to this type of danger, when we lack the ability to reprocess, recycle and store for short and long term periods is shortsighted and unacceptable. I strongly question the process at the Department of Energy if Alternative #1 is selected.

The lack of any positive benefits to our community and our society, should compel the Department of Energy to endorse Alternative #2.

Sincerely,

Patrick O'Malley, President
PORT OF TACOMA

POM/c
cc: Congressional Delegation

## RESPONSE TO COMMENT
## COMMENTOR NO. 970: PORT OF TACOMA (CONT'D.)

In general, the costs for the in-U.S. components of the program will be determined by decisions made in other programs, particularly waste disposal programs. Regardless of these decisions and regardless of how costs are allocated, Management Alternative 3 would almost always have the lowest total costs. Strictly speaking, the lowest cost approach would appear to be maximizing the amount of material reprocessed at Dounreay and chemically separated at the Savannah River Site, with the chemical separation activity taking place early in the program and the Dounreay reprocessing taking place over the duration of the receipts. The United States could be required to accept the reprocessing wastes (strictly speaking, substituted high-level waste from a different British facility.) The feasibility of this plan depends on several factors, including United States and United Kingdom acceptance of the waste substitution components.

The costs for Management Alternative 1 would be at least 25 percent higher than Management Alternative 3 and could be many times higher depending on the resolution of issues outside the foreign research reactor program, particularly the waste acceptance criteria for the high-level waste repository. Managing the spent nuclear fuel overseas would create numerous economic and technical problems and would not be a low-cost option. Many countries have no storage capability. Virtually no countries have a disposal capability. The cost per unit of spent nuclear fuel for a small storage facility is high. Total program costs would be more than just the cost of a spent nuclear fuel transportation cask. The supporting infrastructure required for security, safety, health, etc. exists at management sites in the United States but does not exist in many of the foreign countries.

### *Response to Comment No. 970-10*

The benefit to the citizens of the United States from the proposed action, including those in potential ports of entry, along transportation routes, or near potential management sites, is less risk that weapons grade uranium from civil programs could be diverted into the production of nuclear weapons that might be used against us or our allies. On the other hand, the analyses recorded in Section 4 of the EIS demonstrate that the risks from the proposed action are low.

### *Response to Comment No. 970-11*

DOE considers that there is adequate regulatory and emergency preparedness infrastructure to ensure the safe acceptance and transportation to the designated management sites if foreign research reactor spent nuclear fuel is managed in the United States. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The

provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

***Response to Comment No. 970-12***

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the transportation casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships would be relatively small. Data available on the last 15 years from Lloyd's of London indicates that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the transportation cask would not be exposed for the entire duration of the fire. Second, a ship fire's intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analyses.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS), in spite of the fact that some radioactive material might be released.

## *Commentor No. 973: Michael Deal, Mayor, City of Puyallup*

RESOLUTION NO. 1256

A RESOLUTION OF THE CITY OF PUYALLUP CITY COUNCIL EXPRESSING STRONG OPPOSITION TO THE ADOPTION OF A POLICY, BEING PROPOSED JOINTLY BY THE UNITED STATES DEPARTMENT OF ENERGY AND UNITED STATES DEPARTMENT OF STATE, TO ACCEPT AND MANAGE SPENT NUCLEAR FUEL FROM FOREIGN RESEARCH REACTORS BY SHIPMENT THROUGH THE PORT OF TACOMA, WASHINGTON.

WHEREAS, the United States Department of Energy and the United States Department of State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

WHEREAS, nuclear fuel containing uranium enriched in the United States of America would be covered by this policy; and

WHEREAS, the purpose of this policy is to promote United States nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce, and

WHEREAS, the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy are assessed; and

WHEREAS, alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States; and

WHEREAS, under alternative number one the spent nuclear fuel would be shipped by ocean-going vessels from foreign countries to the United States of America; and

WHEREAS the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur; and



Puyallup City Attorney
218 West Pioneer
Puyallup, Wash. 98371
(206) 841-5525

## *Response to Comment Commentor No. 973: Michael Deal, Mayor, City of Puyallup*

## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

WHEREAS, the Draft Environmental Impact Statement (DEIS) was prepared to address the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel; and

A. The DEIS has used outdated information about the Port of Tacoma, its terminals, its operations, and the surrounding area; 973-1

B. The DEIS did not consider the deep-water depth in the Puget Sound area, which will cause substantial problems in recovery of nuclear fuel shipping containers in case of accident;

C. The DEIS fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating Puget Sound;

D. The DEIS did not recognize the status of Commencement Bay as a superfund site, the stigma attached to this designation, and the expansion of this stigma by Alternative Number One; 973-2

E. The DEIS ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma, the industries in Commencement Bay, and the associated crippling business interruption issues;

F. The DEIS stated that part of this material would be of interest to unfriendly nations and/or terrorists, and yet did not provide adequate risk and consequence information of a complete, explosive breach of the nuclear fuel by disgruntled persons or terrorists; 973-3

G. The DEIS did not consider the security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County, and the State of Washington; 973-4

H. The DEIS did not adequately address the life cycle costs or benefits and risks of the proposed alternatives; 973-5

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Puyallup City Attorney
118 West Pioneer
Puyallup, Wash. 98371
(206) 841-5525

## RESPONSE TO COMMENT
## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

### *Response to Comment No. 973-1*

Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS.

### *Response to Comment No. 973-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1000 feet). Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of the foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analyses.

## COMMENTOR NO. 973: MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

I. The DEIS fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential; and 973-6

WHEREAS, the record for the safe operation and handling of nuclear materials in United States Department of Energy regulated facilities is less than satisfactory, and there are facilities owned and operated by the United States government capable of receiving and handling this nuclear material, and 973-7

WHEREAS, the United States House Budget Resolution eliminates the United States Department of Energy thereby creating funding uncertainties, and 973-8

WHEREAS, the United States Department of Energy has failed to properly answer a question in a meeting conducted by the Port of Tacoma, in Tacoma on the 22nd day of May, 1995, pertaining to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, or to respond in writing to that question as promised and; NOW, THEREFORE, 973-9

BE IT RESOLVED by the Puyallup City Council:

Section 1. The Puyallup City Council strongly opposes adoption of a policy, being proposed jointly by the United States Department of Energy and United States Department of State, to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington. 973-10

Section 2. Copies of this Resolution shall be transmitted to President Clinton, Vice President Gore, the United States Department of Energy, the United States Department of State, the Washington State Congressional delegation, the Washington State Legislature, the Office of

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## RESPONSE TO COMMENT COMMENTOR NO. 973: MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS). Although the nonradiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

A sentence has been added to Appendix D, Section D.2.1.9 of the EIS regarding Commencement Bay being a Superfund Site. Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. Nor should it contribute to any dirty port stigma based on the EIS analysis that indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway cannot leak because the metal fuel is transported dry, thus it would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

### *Response to Comment No. 973-3*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all the security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 973-4*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

Governor, the Pierce County Executive, the King County Council and Executive, and all cities and towns in Pierce County.

Passed this 19th day of June, 1995.

MICHAEL DEAL, MAYOR

ATTEST:

BARBARA J. PRICE, CITY CLERK

resolut/nuclear/693

4

Puyallup City Attorney
218 West Pioneer
Puyallup, Wash. 98371
(206) 841-5525

## RESPONSE TO COMMENT
## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

### *Response to Comment No. 973-5*

Section 4.9 and Appendix F, Section F.7 of the EIS fully address the life cycle costs, risks, and benefits of the proposed action. The use of a net present value approach reflects the life cycle costs. Benefits would be primarily in the form of reduced risks of the proliferation of nuclear weapons to countries who might use them on us or our allies, as well as, income and employment to the management sites and regions conducting the programs and to the nation from reducing the commerce in certain types of nuclear materials. Health and safety risks would be low, as discussed fully Section 4 of the EIS and Appendices C, D, E, and F. Economic risks are described in detail in Appendix F, Section F.7. Particular attention is paid to major cost uncertainties (e.g., waste acceptance criteria, geologic disposal). Economic impacts relating to ports are minor in all respects.

### *Response to Comment No. 973-6*

As demonstrated by the analyses in the EIS, the risk associated with accepting spent nuclear fuel from foreign research reactors through any of the ports analyzed would be low. This result is borne out by the experience gained in over 30 years of shipments of foreign research reactor spent nuclear fuel to the United States. Accordingly, DOE considers that there is no fairness or equity issue to be resolved.

### *Response to Comment No. 973-7*

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

### *Response to Comment No. 973-8*

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 973:
## MICHAEL DEAL, MAYOR, CITY OF PUYALLUP (CONT'D.)

***Response to Comment No. 973-9***

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no transportation cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst case analysis of accidents in an EIS. For the purpose of analysis in the EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst-case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

***Response to Comment No. 973-10***

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS demonstrate that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## *Commentor No. 1022:*
## *Tacoma City Council Member Bill Baarsma*

**City of Tacoma**

Council Member Bill Baarsma

July 3, 1995

Claire F. Hull
Secretary
Wright Park Neighborhood Association
701 South Yakima
Tacoma, WA 98405

Dear Claire:

I want to thank the Wright Park Neighborhood Association for their action supporting the City's efforts to stop nuclear waste imports. I am sending a copy of your letter to Mr. Charles Head of the Department of Energy.

You will be pleased to hear that the Association of Washington Cities fully supports Tacoma's position on this issue as well. Last Friday, the AWC assembly approved our City's resolution by an overwhelming vote.

Again, thank you.

Sincerely,

Bill Baarsma

Bill Baarsma
Council Member

cc: Mr. Charles Head

BB:cl(8873)

747 Market Street, Room 1200, Tacoma, Washington 98402-3766, (206) 591-5100, FAX (206) 591-5123

## *Response to Comment*
## *Commentor No. 1022:*
## *Tacoma City Council Member Bill Baarsma*

## COMMENTOR NO. 1022: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

Wright Park Neighborhood Association

"Together We Can Win!"

19 June 1995

Mayor Harold Moss
Municipal Building, Rm 1200
747 Market St.
Tacoma WA 98402

Dear Mayor Moss:

At the meeting of the Wright Park Neighborhood Association held on Monday, 19 June, the transportation of atomic waste through Tacoma was a subject of discussion. We all wished we could have attended the meeting held specifically to discuss this project.

However, it was the consensus of the 23 people at our meeting that as Secretary of our group, I should send you a letter protesting this action. 1022-1

We have gone on record as being against such a project for the city of Tacoma.

Sincerely,

Claire F. Hull

Claire F. Hull, Secretary
for the WPNA

copies to: City Council
Councilman Evans
Port of Tacoma

701 South Yakima * Tacoma, Washington 98405

## RESPONSE TO COMMENT COMMENTOR NO. 1022: TACOMA CITY COUNCIL MEMBER BILL BAARSMA (CONT'D.)

### *Response to Comment No. 1022-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 1050:
## CITY OF TACOMA FIRE DEPARTMENT

Tacoma City of Tacoma
Fire Department

June 30, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Ave. SW
Washington D.C. 20585

Dear Mr. Head:

Subject: Draft Environmental Impact Statement
Foreign Research Reactor Spent Nuclear Fuel

The Tacoma Fire Department is very concerned with sections of this DEIS regarding Emergency Management and Response. It is our belief that the impact on local emergency management and response agencies (i.e. the fire department) has been minimized in this DEIS. Any community burdened with this additional community safety risk will need additional resources. Jurisdictions already appropriately handling quantities of nuclear fuel or nuclear waste could have properly trained teams in place and be more desirable ports than those that do not.

Emergency Management is the planning and organizing of resources which can be called upon in the event of a major emergency. Please understand that our very capable Tacoma/Pierce County Emergency Management Services has NO personnel designed for emergency scene response; they rely on local fire departments for scene response. Good planning is dependent on the availability of good resources to provide an appropriate response.

Many local fire departments, including Tacoma, have Hazardous Material Response Teams. The level of training of these teams can vary. Because of the extremely large variety and types of hazardous materials, local teams are trained in general hazardous material response with specific training and education focused on the significant hazards present in their communities. Resources are limited and must be applied toward local problems and conditions. This DEIS mistakenly assumes that, because a jurisdiction has plans for hazardous cargo accidents, no other resources are necessary to appropriately handle a nuclear waste accident.

Page D-35 of the DEIS discusses "Emergency Response Capabilities." This section suggests that "DOE 'could' provide assistance in the development of radiological emergency response plans and training at ports that have no specific response plans for spent nuclear fuel accidents in port." This implies that ports with some plan would not be

1050-1

901 Fawcett Avenue ▪ Tacoma, Washington 98402-5699 ▪ (206) 591-5737 ▪ FAX (206) 591-5746

## RESPONSE TO COMMENT
## COMMENTOR NO. 1050:
## CITY OF TACOMA FIRE DEPARTMENT

### *Response to Comment No. 1050-1*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 1050: CITY OF TACOMA FIRE DEPARTMENT (CONT'D.)

assisted. It also implies that it would be DOE's prerogative (could provide assistance) whether or not assistance was provided. This should be "will provide" assistance to any port so chosen.

More important, this DEIS does not address the financial burden of radiological equipment for first responders and hazardous materials teams. Nor does it address the resources needed for personal protective equipment, the need for personnel medical surveillance, nor the needs of a local jurisdiction required by State Labor and Industries to protect firefighters. It also fails to mention the on-going training needs and the future requirements for personnel safety.

Initial fire department response may appear as a rather minor issue for non-fire service personnel. However, the initial development of a properly prepared response, the details of maintaining good readiness, proper tools, training, and good safety standards for all personnel, and administrating all these elements, including liaison with the Department of Energy, is not a minor issue for those who must "get the job done." All this would be additional resource requirements placed on the local jurisdiction. This DEIS makes no mention of these needs which would result from choosing Option I or III.

It is our recommendation that specific resources be identified and provided to the local jurisdictions which are burdened with this public safety risk. These resources should be to the satisfaction of the local jurisdiction which is responsible for both the emergency response and for maintaining a positive sense of public safety for their community.

*1050-1 (Cont'd.)*

We also believe that priority considerations should be given to ports already handling nuclear material.

*1050-2*

Sincerely,

Ralph W. Johns, Deputy Chief
Prevention and Education

c: United States Congress
Sen. Patty Murray
Sen. Slade Gorton
Rep. Norm Dicks
Rep. Randy Tate
Rep. Jim McDermott
Rep. Jack Metcalf
Rep. Jennifer Dunn
Rep. Linda Smith
Rep. Larry Nethercutt, Jr.
Rep. Rick White
Rep. Doc Hastings

## RESPONSE TO COMMENT COMMENTOR NO. 1050: CITY OF TACOMA FIRE DEPARTMENT (CONT'D.)

### *Response to Comment No. 1050-2*

As the port selection process explains in detail (Appendix D, Section D.1.9 of the EIS) the Port of Tacoma is considered to be able to safely handle the foreign research reactor spent nuclear fuel. The experience criterion used in the port selection process evaluates the port's experience in handling containerized cargo (Appendix D, Section D.1.9.1), not in dealing with radioactive material. Similarly, the criterion which evaluates appropriate port facilities (Appendix D, Section D.1.9.3) does not include the evaluation of facilities for handling radioactive material; experience with handling containers is sufficient. Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the casks used to transport it would be low, so no special handling is required; experience with and facilities for handling containers are sufficient. Therefore, the EIS does not consider an individual port's ability to handle radioactive material or residual radioactive waste.

A sentence has been added to Appendix D, Sections D.1.9.1 and D.1.9.3 of the EIS which states: Because containerized spent nuclear fuel requires no special port experience or facilities specific to the handling of radioactive material, ports were not eliminated from consideration because of lack of such experience or facilities.

## COMMENTOR NO. 1063: NORTH PLATTE FIRE DEPARTMENT

[Billing Code 6450-01-P]

DEPARTMENT OF ENERGY

**Extension of the Public Comment Period for the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

AGENCY: Department of Energy

ACTION: Extension of the Public Comment Period

SUMMARY: The Department of Energy is extending the public comment period through July 20, 1995, for the draft Environmental Impact Statement (EIS) on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. All comments received by that date will be considered by the Department in the preparation of the final EIS. Comments received after the close of the comment period will be considered to the extent practicable. The Department had earlier announced (60 FR 19899, April 21, 1995) that the comment period would end on June 20, 1995. Comments can be mailed to Mr. Charles Head, Office of Spent Fuel Management, EM-37, U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, D.C. 20585-0001. For more information on the draft EIS please call 1-800-736-3282.

3 July 1995

Issued in Washington, D.C. on June 20, 1995.

Mark W. Frei

Mark W. Frei
Acting Special Associate Deputy Assistant
Secretary for Waste Management
Environmental Management

My thoughts on this issue are mixed
I can understand the benefits of this program, in that we can ensure that the spent Fuel will be stored properly and we'll know where it is and be able to make sure it is secure. Selling this to the general public however, I feel is an effort in futility. We were not even able to get the public to buy in to the necessity of establishing the state compacts for the low level storage of our own waste. The public will perceive the United States as the world's nuclear waste dump and associate with all kinds of negative visitors such as Hiroshima and Nagasaki, nuclear meltdown, etc. Opponents will be very vocal. Fear of nuclear storage will prevail, no one will have the intestinal fortitude to make the
(on back)

1063-1

## RESPONSE TO COMMENT
## COMMENTOR NO. 1063: NORTH PLATTE FIRE DEPARTMENT

### *Response to Comment No. 1063-1*

This EIS evaluates the environmental effects of various options for managing spent nuclear fuel from foreign research reactors (Sections 2.2 through 2.4 of the EIS). It also evaluates the environmental effects of taking no action to manage foreign research reactor spent nuclear fuel (Section 2.5 of the EIS). As in any technical document, the presentation should be objective and factual. No attempt was or should be made in an EIS to influence public opinion except through an objective presentation of the findings of the study.

No management alternative evaluated in the EIS would compel the United States to permanently serve as a repository for foreign research reactor spent nuclear fuel. Foreign research reactor spent nuclear fuel is neither explosive nor flammable. It is radioactive, but it cannot be used to make a nuclear weapon without reasonably sophisticated chemical processing and an associated weapons technology.

As indicated in this document, most of the comments concerning the proposed action were opposed to acceptance of foreign research reactor spent nuclear fuel (Management Alternative 1, Section 2.2 of the EIS).

An assessment of the environmental effects of federal actions is required under NEPA (Section 5 of the EIS). No sooner than 30 days following publication of this final EIS, DOE, after consultation with the Department of State, will publish its Record of Decision on a policy to manage foreign research reactor spent nuclear fuel. The environmental evaluation provided in this EIS is one factor in that decision. As discussed in Section 4 of the EIS, the risks associated with implementation of the proposed action to human health and environment would be low. Thus, there is no environmentally preferred alternative, and the decision would be based on considerations other than the environment.

## COMMENTOR NO. 1063:
## NORTH PLATTE FIRE DEPARTMENT (CONT'D.)

decision to proceed against public sentiment, and a lot of time, effort and tax dollars will be spent to no avail.

Paul Anderson
Fire Chief
North Platte Fire Dept.
715 South Jeffers St.
North Platte, Ne.
69101

308-534-8382

## RESPONSE TO COMMENT
## COMMENTOR NO. 1063:
## NORTH PLATTE FIRE DEPARTMENT (CONT'D.)

## COMMENTOR NO. 1075:
## THURSTON COUNTY BOARD OF COUNTY COMMISSIONERS

THURSTON COUNTY
SINCE 1852

Judy Wilson
District One
Diane Oberquell
District Two
Dick Nichols
District Three

BOARD OF COUNTY COMMISSIONERS

June 28, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management
Mail Stop EM-37
U. S. Department of Energy
1000 Independence Ave. SW
Washington, D.C. 20585

Dear Mr. Head:

We are writing as the Board of County Commissioners and Board of Health for Thurston County in regards to the Foreign Research Reactor Spent Nuclear Fuel project. This project includes as one option, the shipment of high level nuclear waste through the Port of Tacoma in Washington State. In your evaluation of the alternative transportation routes for this project we request you give a high consideration to protection of drinking water supplies.

While the current Environmental Impact Statement for this project does not include rail transportation as an alternative from the Port of Tacoma site, we understand transport by rail is still a possibility. Our concern in this regard is that the main rail line from the Port of Tacoma to the South runs directly through the McAllister Springs recharge area. McAllister Springs is a vital water supply resource to our community, supplying the majority of drinking water to the residents of Olympia, and also being a significant source of water supply to the City of Lacey. In developing the federally mandated wellhead protection program for McAllister Springs, it has been identified that the single most catastrophic event which could affect this source of water supply is a train accident occurring on the main rail line. Due to its close proximity to the springs, a rail accident involving hazardous/nuclear material could wipe out this vital community resource virtually over night. It is of interest to note that the only two derailments which have occurred in Thurston County over the past several years have taken place in close proximity to McAllister Springs. 1075-1

While the City of Olympia, Thurston County, and the state of Washington will continue to work with Burlington Northern Railroad to address safety issues along this stretch of rail line, we also thought it important to bring this issue to your attention so that wellhead protection, and

Building #1, Room 269, 2000 Lakeridge Drive SW, Olympia, Washington 98502-6045 (360) 786-5440
T.D.D. (360) 754-2933

Recycled Paper

## RESPONSE TO COMMENT
## COMMENTOR NO. 1075:
## THURSTON COUNTY BOARD OF COUNTY COMMISSIONERS

### *Response to Comment No. 1075-1*

The commentor's concern for the protection of drinking water supplies is noted. The chance of a transportation cask carrying foreign research reactor spent nuclear fuel crashing near McAllister Springs is low. Even if such an accident did occur, however, the cask would be expected to survive the crash without releasing any radioactive material. (Appendix B, Section B.2 and Section 2.6.2 of the EIS.)

## *Commentor No. 1075: Thurston County Board of County Commissioners (Cont'd.)*

Charles Head
June 28, 1995
Page 2

protection of municipal water supplies, can be a factor in your evaluation of transportation alternatives. Thank you for your consideration.

Sincerely,

THURSTON COUNTY BOARD OF COUNTY COMMISSIONERS
THURSTON COUNTY BOARD OF HEALTH

Judy Wilson, Chairman

Diane Oberquell, Commissioner

Dick Nichols, Commissioner

cc. City of Olympia

## *Response to Comment Commentor No. 1075: Thurston County Board of County Commissioners (Cont'd.)*

## *Commentor No. 1076:*
## *City of Portland Commissioner Charles Hales*

CITY OF
PORTLAND, OREGON
DEPARTMENT OF PUBLIC SAFETY

Charlie Hales, Commissioner
1220 S.W. Fifth Avenue
Room 404
Portland, Oregon 97204
(503) 823-4682
FAX (503) 823-4040

July 7, 1995

U.S. Department of Energy
Office of Environmental Management (EM-37)
Attn: Charles Head
1000 Independence Ave., S.W.
Washington, D.C. 20585-0001

Re: City of Portland's official comments on draft EIS on *Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel*

Dear Mr. Head:

I am transmitting the following resolution, passed unanimously by the Portland City Council on July 6, 1995, as our official comment on DOE's draft EIS on the shipment of foreign research reactor spent nuclear fuel. The City Council is in strong support of the State of Oregon's previously expressed opposition to the potential shipment of such nuclear waste through our city to either Hanford Nuclear Reservation or the Idaho National Engineering Laboratories. The Council feels its has sound reasons, as do our sister cities of Seattle and Tacoma, Washington, to oppose such shipments..

We realize it is the role of the federal government to develop a nonproliferation policy. However, we feel strongly that any shipment of additional nuclear material to Hanford or the Idaho labs is an unsound and unsafe policy due to the ongoing environmental and safety problems at both sites as well as the fact that neither facility is a likely permanent storage location for this material. I would urge you to keep Portland city officials informed as you continue into the full EIS process later this year. Thank you for you acceptance of comments and please feel free to contact me with any question you may have concerning the City's position on this matter.

Sincerely,

Charlie Hales, City Commissioner

cc: Mayor Vera Katz
Commissioner Earl Blumenauer
Commissioner Gretchen Kafoury
Commissioner Mike Lindberg
Fire Chief Robert Wall

## *Response to Comment*
## *Commentor No. 1076:*
## *City of Portland Commissioner Charles Hales*

## COMMENTOR NO. 1076: CITY OF PORTLAND COMMISSIONER CHARLES HALES (CONT'D.)

**RESOLUTION No. 35418**

Join the State of Oregon in opposition to the shipment of foreign research reactor spent nuclear fuel through Portland (Resolution)

WHEREAS, the U.S. Department of Energy is now accepting comments on the "Draft Environmental Impact Statement (EIS) on a proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel."

WHEREAS, the Port of Portland is one of 10 potential U.S. ports of entry for the foreign research reactor spent nuclear fuel.

WHEREAS, there are major environmental problems and concerns associated with both the Hanford site and the Idaho National Engineering Laboratories where foreign research reactor spent nuclear fuel shipped through the Port of Portland is proposed to be stored.

WHEREAS, the Oregon Department of Energy is the State's lead agency for policies relating to the disposal and transportation of nuclear waste, and is on the record in its comments on the EIS opposing the shipments stating that "no shipment should go to Hanford or to Idaho and therefore no shipments should come through Portland." *1076-1*

WHEREAS, the recently completed Tri-Party Agreement on the cleanup of Hanford negotiated by the state of Washington, the U.S. Department of Energy and the U.S. Environmental Protection Agency does not take into account the receipt of additional spent nuclear fuel for long-term storage and such storage would seriously detract from the vital cleanup work currently planned. *1076-2*

WHEREAS, the U.S. Department of Energy Draft EIS finds that "age, condition, available capacity of the [facilities at Hanford] and the Tri-Party Agreement milestones generally prevent the use of existing facilities for the storage of foreign research reactor spent nuclear fuel."

WHEREAS, the cities of Seattle, Federal Way, Milton and Tacoma, Wash., Pierce County, Wash. and the Port of Tacoma have all formally opposed the shipment of foreign research reactor spent nuclear fuel through their communities.

WHEREAS, the period of public comment on the draft EIS process is open to July 20, 1995.

NOW, THEREFORE BE IT RESOLVED by the Council of the City of Portland, a municipal corporation of the state of Oregon, finds that the U.S. Department of Energy has failed to answer the fundamental question of why nuclear fuel should be shipped through the City of Portland to Hanford Nuclear Reservation or the Idaho National Engineering Laboratories. *1076-3*

NOW THEREFORE BE IT FURTHER RESOLVED, by the Council of the City of Portland that the Council joins the State of Oregon in opposing the shipment of foreign research reactor spent nuclear fuel through Portland to Hanford or Idaho National Engineering Laboratories. *1076-4*

AND BE IT FURTHER RESOLVED that copies of this resolution be transmitted immediately to office of Oregon Governor John Kitzhaber, the U.S. Department of Energy, the Congressional delegation of the state of Oregon and President William Jefferson Clinton.

ADOPTED by the Council, JUL 0 5 1995
Commissioner Hales
Marc Zolton
June 29, 1995

BARBARA CLARK
Auditor of the City of Portland
By Brooke Olson

## RESPONSE TO COMMENT COMMENTOR NO. 1076: CITY OF PORTLAND COMMISSIONER CHARLES HALES (CONT'D.)

### *Response to Comment No. 1076-1*

The commentor's opposition to the use of Portland as a port of entry and the use of either the Hanford Site or the Idaho National Engineering Laboratory as a management site for foreign research reactor spent nuclear fuel under Management Alternative 1 or 3 is noted. Based on the criteria used for identifying the ports of entry for evaluation (Section 2.6.3.1 of the EIS), the selection of a management site does not directly affect the port identification.

### *Response to Comment No. 1076-2*

DOE is committed to the Tri-party agreement for cleanup activities at the Hanford Site; however, the cleanup at the Hanford Site is beyond the scope of this EIS. Section 4.2.4 and Appendix F, Section F.4.3 of the EIS, discuss the impacts of foreign research reactor spent nuclear fuel storage at the Hanford Site.

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford Site.

### *Response to Comment No. 1076-3*

As a part of the overall evaluation of environmental impacts associated with the shipment of foreign research reactor spent nuclear fuel, the EIS identifies ports of entry in the United States that are acceptable for the receipt and handling of foreign research reactor spent nuclear fuel. Evaluation criteria were developed to use in determining the final selection of ports of entry (Appendix D, Section D.1.9 of the EIS). The criteria include such factors as transit from open ocean, port population, population along the route to the management site, port experience with handling containers, and port facilities. While 161 ports were initially considered, only the ports which are determined to be acceptable might be used in the case that foreign research reactor spent nuclear fuel is accepted by the United States.

## COMMENTOR NO. 1076: CITY OF PORTLAND COMMISSIONER CHARLES HALES (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 1076: CITY OF PORTLAND COMMISSIONER CHARLES HALES (CONT'D.)

Portland was one of 161 ports (153 commercial and eight military ports) considered. These ports were evaluated against selection criteria, resulting in 10 ports that met all of the criteria. Appendix D, Sections D.1.8 and D.1.9 of the EIS present a detailed discussion of the process and results.

***Response to Comment No. 1076-4***

The Portland City Council's resolution in opposition to bringing foreign research reactor spent nuclear fuel through the Port of Portland is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing foreign research reactor spent nuclear fuel to the Port of Portland, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 1120:
## PETER MURRAY, MAYOR, CITY OF PINOLE

**Pinole California**
2131 Pear Street Pinole, CA 94564 (510) 724-9000

July 18, 1995

Secretary Hazel R. O'Leary
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Secretary O'Leary:

This is written on behalf of the City Council of the City of Pinole, Contra Costa County, to express our unanimous opposition to the use of the Concord Naval Weapons facility as a port of entry for the importation and transport of foreign research reactor spent nuclear fuel. *1120-1*

The City of Pinole is a community of 18,300 population located in Western Contra Costa County. Our community abuts the San Pablo Bay and therefore is on the San Francisco Bay-Sacramento/San Joaquin Delta Estuary water route. We are also traversed by the Santa Fe and Southern Pacific Railroad lines and bisected by Interstate 80. We believe, therefore, that we will be directly affected by most any access route chosen to haul these most dangerous products to the Concord Naval Weapons Station.

The Pinole City Council is opposed to the use of the Concord Naval Weapons Station for the intake and trans-shipment of spent nuclear fuel based on concerns for the cumulative impacts of the proposed program on the City of Pinole, Contra Costa County, and the Bay Area. We are already affected by military installations, nuclear research facilities, petroleum refineries, and chemical industries. We are also concerned about the handling of accidents and security. *1120-1 (Cont'd.)*

Further, we support the position of the Contra Costa County Board of Supervisors that the Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel is inadequate for evaluating the potential impacts of the use of the Concord Naval Weapons Station on this city, the County, and the Bay Area.

-1-

## RESPONSE TO COMMENT
## COMMENTOR NO. 1120:
## PETER MURRAY, MAYOR, CITY OF PINOLE

### *Response to Comment No. 1120-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

DOE considers that if foreign research reactor spent nuclear fuel is managed in the United States, there is adequate regulatory and emergency preparedness infrastructure to ensure its safe acceptance and transportation to the designated management site. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advice and assistance to the State, Tribal and local agencies involved with a radiological incident. DOE is also required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days prior to shipment of hazardous cargos, including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

In regard to cumulative impacts, the receipt and transshipment of the foreign research reactor spent nuclear fuel would not affect the environment. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

DOE has not yet selected ports, routes, or transport modes for the foreign research reactor spent nuclear fuel. If the Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR 397.101(a)(2)). That route could use route 4, Route 24, and/or Waterford Road. These are the local Concord streets that the trucks would probably use. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

## COMMENTOR NO. 1120:
## PETER MURRAY, MAYOR, CITY OF PINOLE (CONT'D.)

Secretary Hazel R. O' Leary
July 18, 1995

In this regard, we urge you to seriously address the specific concerns raised by Contra Costa County in their June 6, 1995 report on this subject, which is attached for your reference. *1120-2*

In short, we oppose this proposal because of its cumulative impacts and because the site proposed and the transportation routes to it are too close to Pinole. Further, before any further consideration is given at all to this proposal, the Environmental Impact Statement is inadequate and should be made more comprehensive and realistic. *1120-1 (Cont'd.)* *1120-3*

Thank you for your consideration. Once again, we urge you to oppose the use of the Concord Naval Weapons facility as a port of entry for the importation and transport of foreign research reactor spent nuclear fuel.

Very truly yours,

Peter Murray
Mayor of Pinole

PM:sc

Attachment

cc: Charles Head, Program Manager, Office of Spent Nuclear Fuel Management (EM-37)
President William Clinton
Senator Barbara Boxer
Senator Dianne Feinstein
Congressman George Miller
Governor Pete Wilson
Senator Dan Boatwright
Assemblyman Robert Campbell
Dr. William B. Walker, County Health Officer
Contra Costa Board of Supervisors
Pinole City Council

\doe\O'Leary

-2-

## RESPONSE TO COMMENT
## COMMENTOR NO. 1120:
## PETER MURRAY, MAYOR, CITY OF PINOLE (CONT'D.)

### *Response to Comment No. 1120-2*

DOE has provided its detailed responses to the Board of Supervisors' comments. DOE responses are included in this document and can be located by consulting the list of commentors.

### *Response to Comment No. 1120-3*

Potential environmental effects which could result from implementation of the proposed action were evaluated during preparation of this EIS. As discussed in Section 4 of the EIS, implementation of the proposed action would result in no significant benefits or risks to human health or the environment at candidate ports, along representative transportation routes, or at candidate management sites. Conservative assumptions were made during the analyses (Sections 4.2.2, 4.2.3, and 4.2.4 of the EIS). More realistic assumptions would result in even lower estimated values of radiological risks.

## COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT

CONTRA COSTA WATER DISTRICT
1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(510) 674-8000 FAX (510) 674-8122

July 19, 1995

Sent by Facsimile
(202) 586-5256

Directors
Joseph L. Campbell
President
Elizabeth R. Anello
Vice President
Belle Boatmun
Donald P. Freites
James Pretti
Walter J. Bishop
General Manager

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D. C. 20585

**Subject: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

Dear Mr. Head:

By courtesy of the City of Concord, the Contra Costa Water District (CCWD) has been provided the opportunity to review the Summary and the Draft EIS covering the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. The following comments are prompted by what appears to be a very general and inadequate treatment of the environmental conditions and potential impacts from accidental nuclear contamination relative to the Port of Concord - one of ten seaports being considered by the Department of Energy (DOE) to receive spent nuclear fuel from foreign research reactors. The Port of Concord, located at the Naval Weapons Center Concord, is in close proximity to public water supplies and facilities operated by the Contra Costa Water District (CCWD) serving approximately 400,000 residents, commercial, industrial and public agencies in central and eastern Contra Costa County. The Draft EIS fails to address potential impacts to these water supplies and facilities, potential inability to effect facility repairs following a localized or regional event causing damage, and other aspects related to the immediate proximity of the water utility and its customers. *1123-1*

CCWD's water supply flows within the open Contra Costa Canal which provides conduit from the San Joaquin Delta to CCWD and customer treatment plants, including the Bollman Treatment Plant in the north Concord area. The Canal is located within 1.5 miles of the dock facilities at the Port of Concord which is located in the Naval Weapons Station Concord (see copy of Figure 3-24, enclosed, which has been modified to identify and highlight the Canal and Mallard Reservoir). Mallard Reservoir, located less than three miles from Port of Concord, is an open, fully exposed 200 acre surface facility providing emergency storage for the Central County service area. The primary concern raised in the following comments would involve the potential for the release of nuclear contaminated materials resulting from an explosion or fire with resulting fallout into the nearby public water supplies.

The following specific comments are made on the Summary document first, followed by comment on a portion of the full Draft EIS.

## RESPONSE TO COMMENT
## COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT

### *Response to Comment No. 1123-1*

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, after more than 30 years of spent nuclear fuel shipments, no radioactive contents have ever been released from a spent nuclear fuel transportation cask, nor has a spent nuclear fuel shipping cask ever been punctured, even as the result of an accident. Based on this experience, DOE considers that spent nuclear fuel transportation casks passing through the Concord NWS would not affect the quality of the water supply for Contra Costa Water District via Mallard reservoir or any other path. Analysis of a severe accident involving a ship at Concord NWS (Section 4.2.2.3 of the EIS) indicates that the resultant contamination would be so small that no cleanup would be required, other than possibly in the immediate vicinity of the accident. This means that contamination of Mallard Reservoir would be minimal. To ensure this was the case, if such a severe accident were to occur, all water supplies in the area, as well as food and air, would be tested for contamination.

DOE would like to point out that the foreign research reactor spent nuclear fuel is neither volatile nor unstable. The fuel that the proposed policy deals with is a metal which contains enriched uranium matrixed in, all clad with either aluminum or stainless steel. This type of fuel is very stable. Section 2.6.1 of the EIS presents a detailed description of the foreign research reactor spent nuclear fuel.

## COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
July 19, 1995
Page 2

**Summary of Draft EIS**

Page 27, second paragraph, lines 6-9,14 and 15. It is stated that "radiological impacts were calculated in terms of absorbed dose and associated health effects in the exposed populations" and that "non-radiological impacts to the environment", including water quality, were also analyzed. The conclusion is that "no significant health or environmental effects were found for the total population", which presumably includes all ports and fuel management or storage sites under consideration. However, the analysis of radiological impacts appears to be confined to the past incidence of worker exposure rather than to a "what if..." containment breaching and fire event causing massive exposure at a port site (note: radioactive contamination from accelerated releases, such as by fire, were evaluated only for the five storage sites, DEIS, pages 4-41 and -42). An analysis should be made of such a hypothetical event in order to properly address mitigation measures and emergency response planning that can be applied at the selected port site. Given the general nature of analysis (i.e., a program level) based on a number of alternative sites, it may be appropriate to consider preparation of site specific EIS for each port and storage site following their selection. The present Draft EIS has failed to consider impacts on CCWD's water supplies and customer agencies. *1123-2* *1123-3*

Page 37, S.4.4.4.2 Potential Health and Safety Accident-Related Impacts. The analysis for accidental radioactive releases is confined to storage locations and does not address such a potential event at port facilities, as noted above, for DEIS pp. 4-41-42. While it does address the impacts of releases upon "sites, population distributions and food production and consumption rates within 80 km (50 mi) of the storage location", it does not identify an analysis of impacts on water supplies (including both human ingestion of contaminated water and supply restriction). *1123-4*

**Draft EIS**

Page 3-27, Figure 3-24 NWS Concord, CA. This map, showing the Port of Concord, fails to identify the Contra Costa Canal although its outline is shown. Please note the proximity of the Port of Concord to the open Canal facility (1.5 miles, as stated, above) and the San Francisco Bay/San Joaquin Delta from which CCWD takes its water supplies. Mallard Reservoir, owned and operated by CCWD, is shown; however, there is no recognition of these resources or analysis in the appropriate section of the document that covers potential impacts from radioactive contamination to public water supplies in the event of an explosive release into the atmosphere and the resultant water supply restriction to the general population. It is estimated that CCWD currently has only three to five days water supply storage capacity which includes the three major exposed, open reservoirs (Mallard, Martinez and Contra Loma). CCWD's Bollman Treatment Plant, which serves approximately 200,000 customers in the Central Contra Costa County area, is located on the south side of Mallard Reservoir (less than three miles from Port Concord) and could be impacted from an event at Port Concord. The enclosed copy of Figure 3-24 is modified by yellow highlighting for the Contra Costa Canal and Mallard Reservoir with the Canal identified by name in red lettering. *1123-4 (Cont'd.)*

## RESPONSE TO COMMENT COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

### *Response to Comment No. 1123-2*

Containment breaching and fire scenarios at ports are discussed in detail in Appendix D and Section 4.2.2.3 of the EIS. In addition, Section 2.7 of the EIS discusses emergency management capabilities. Because the EIS considers a range of low probability accident scenarios, and demonstrates that resulting consequences would not adversely affect human health or environmental resources, any impacts to local waters would be correspondingly low.

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of the foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Sections D.5.3 and D.5.4 present a detailed discussion of accident probabilities and radioactive material source terms and the results of the analyses, respectively. In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a spent nuclear fuel transportation

## COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U. S. Department of Energy
July 19, 1995
Page 3

Page 4-27, 4.2.2.5 Port Activities Mitigation Measures. No mitigation measures are noted for impacts on water quality and supplies at port sites since there was no evaluation of a release into the atmosphere at port sites.

Page 4-49, 4.2.4.2.7 Water Quality. The Draft EIS is inadequate in failing to evaluate potential impacts and possible mitigation measures. The water quality impacts discussion covers only water supply demands (i.e., a "non-radiological impact"). There should be a separate analysis of water quality impacts from the potential for radiological releases.

1123-5

Page 4-42. The second paragraph on this page addressing "Conservative Assumptions and Accident-Related Impacts", shows that potential food contamination was addressed up to 50 miles from an accident location considering various meteorological conditions. The discussion notes that continued consumption of contaminated food products would be suspended if levels exceeded EPA guidelines. However, there is no indication that the analysis of impacts on food was extended to cover water supplies which is obviously distributed differently than food supplies.

In summary, the Draft EIS fails to address potential impacts on public water supplies as a result of a radioactive discharge either into the atmosphere or otherwise (such as into a groundwater aquifer). This issue should be addressed in the Final EIS. If the Port of Concord is selected as the port facility to receive foreign research reactor spent nuclear fuel, it is recommended that a site specific Draft EIS be prepared with adequate time (at least 60 days) for circulation, public review (including hearings or scoping sessions) and comment. Please place the Contra Costa Water District on your mailing list (attention: Dennis Pisila, Senior Planner) on matters involving the Port of Concord.

Sincerely,

Arthur R. Jensen
Director of Planning

ARJ/DP/rlr - 3

cc: David Goleck, Planning Director, City of Concord

Enclosure: Copy of Figure 3-24, modified

## RESPONSE TO COMMENT COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

that even in the event of a severe ship fire involving a spent nuclear fuel transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS). Also see Appendix D, Section D 5.4.3.2 of the EIS

### *Response to Comment No. 1123-3*

DOE considers that if foreign research reactor spent nuclear fuel is managed in the United States, there is adequate regulatory and emergency preparedness infrastructure to ensure its safe acceptance and transportation to the designated management site. As discussed in Section 2.7.1 of the EIS, Federal funding to State, Tribal, and local governments is being provided for maintaining emergency response programs. There are three national emergency response plans under which DOE provides radiological monitoring and assessment assistance. Under these plans, DOE provides technical advise and assistance to the State, Tribal and local agencies involved with a radiological incident. DOE is also required to inform the Governor of each State and any Tribal chair, or their designee, along a transportation route at least seven days prior to shipment of hazardous cargos including radioactive materials. It would be the responsibility of the Governor to provide any further notification to State and local officials.

Emergency preparedness, security, and coordination of DOE with local emergency response authorities that would be involved with the acceptance and transportation of foreign research reactor spent nuclear fuel will be discussed in detail in the Transportation Plan, that would be prepared prior to any individual spent nuclear fuel shipment and coordinated with State and local officials. The general provisions of the Transportation Plan are included in Appendix H, which was added to the final EIS in response to public comments.

Emergency response planning for the foreign research reactor spent nuclear fuel is discussed in Section 2.7 of the EIS. The commentor's request for site-specific EISs for each port and management site is noted, but the necessary site-specific analyses are already included in Section 4.2 of the EIS and in the Appendices.

See also the response to Comment 1123-1, above.

### *Response to Comment No. 1123-4*

The analysis of the consequences and risk associated with an accident in port involving foreign research reactor spent nuclear fuel determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 and Appendix D, Section D.5 of the EIS.) and that the risks associated with accidents in port for the entire proposed action, are low. The analysis in the EIS indicates that some radioactive material could be released from the spent nuclear fuel cask and distributed into the environment. However, the analyses in Section 4.2.2.3 and

## COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

## RESPONSE TO COMMENT COMMENTOR NO. 1123: CONTRA COSTA WATER DISTRICT (CONT'D.)

Appendix D, Section D.5 of the EIS determined that no decontamination, interdiction or condemnation of property would result for the worst plausible accident. Close in to the accident, near the cask would likely require some cleanup, but the overall impact on water supplies, air quality, property, and structures in the port would be low.

***Response to Comment No. 1123-5***

In regard to water quality, DOE is convinced that there would be no significant adverse impacts to any of the ports that could be used to receive the foreign research reactor spent nuclear fuel. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

Since neither the incident-free operation nor the accident situation would result in any significant contamination, no mitigation measures were developed.

Air and water quality impacts from facility construction and operation activities at the management sites have been addressed in Appendix F of the EIS. The overall conclusion for each of the sites considered is that radiological and nonradiological effects on air and water quality from the construction and operation of facilities used for the management of foreign research reactor spent nuclear fuel would be low, and that cumulative pollutant concentrations would be well within allowable air and water quality standards. Similarly, as discussed in Section 4.2.4.1, under Secondary Impacts of Accidents, no measurable impacts to water quality would be expected from the postulated accidents involving foreign research reactor spent nuclear fuel.

Therefore, the contribution to the individual and population dose from a water consumption pathway, would be very small compared to the contributions from direct exposure, inhalation, and the food ingestion pathway.

## COMMENTOR NO. 1124: PORT OF PORTLAND

Port of Portland

Box 3529, Portland, Oregon 97208
503/231-5000

VIA FAX AND OVERNIGHT MAIL

July 19, 1995

Mr. Charles Head
Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: Port of Portland's Comments on Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head:

The Port of Portland is here submitting its written comments on the Draft Environmental Impact Statement ("Draft EIS") on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel. These written comments are submitted under the provisions of the National Environmental Policy Act and the regulations of the United States Department of Energy ("DOE") on or before July 20, 1995, the extended date for submission set by DOE.

Please take these comments into account as you prepare the Final Environmental Impact Statement and provide a specific response to the issues raised herein.

EXECUTIVE SUMMARY

The Port of Portland supports the U.S. nuclear nonproliferation objectives. We agree that the U.S. should take reasonable and prudent steps to mitigate the spread of nuclear materials capable of being assembled into nuclear explosive devices. While all three alternatives discussed in the Draft EIS can accomplish varying degrees of this objective, we believe Alternative 2, the foreign management alternative, is the best policy for the U.S. over the short and long-term. 1124-1 1124-2

To successfully meet the nonproliferation objectives of this proposed foreign research reactor spent nuclear fuel policy, the U.S. needs to work diligently now with the affected parties on a plan that allows them to become self sufficient in a nonproliferating way as soon as possible. We reject the notion that resurrecting the highly subsidized, "return all your spent fuel to the U.S." policy (Alternative 1) for ten years will yield a lasting, acceptable nonproliferation strategy. At a minimum, the return strategy suggested as Alternative 1 will only serve to postpone the inevitable 1124-3

Port of Portland offices located in Portland, Oregon, U.S.A.
Chicago, Illinois; Washington, D.C.; Hong Kong; Seoul; Taipei; Tokyo

## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND

### *Response to Comment No. 1124-1*

The commentor's support for the proposed nuclear weapons nonproliferation policy and development of a policy to manage spent nuclear fuel from foreign research reactors to prevent its use in nuclear weapons, is noted.

### *Response to Comment No. 1124-2*

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

### *Response to Comment No. 1124-3*

The commentor's opposition to management of spent nuclear fuel from foreign research reactors in the United States (Management Alternatives 1 or 3; Sections 2.2 and 2.4 of the EIS, respectively) is noted. Section 2.3 of the EIS describes other alternatives under consideration.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

transition to responsible independence that must occur with these foreign research reactors.

If the decision is to proceed with Alternative 1, then the Port of Portland opposes the use of its facilities at Portland or any facility at other commercial ports for the movement of spent nuclear fuel. If the U.S. determines that the return of spent nuclear fuel to the United States is in the national interest then Federal military installations should be used for the receipt, handling and sequential shipment of such cargo. Adequate security cannot be provided at Portland, nor can the Port's sole container terminal be utilized for the proposed purpose without significant commercial disruption and economic loss. In addition, DOE's risk analysis does not address the true worst case for the citizens of Portland and this region. These issues were not adequately discussed in the Draft EIS. 1124-4 1124-5 1124-4 (Cont'd.)

DISCUSSION

1. SPENT FUEL SHOULD NOT BE BROUGHT BACK TO THE U.S.

Two problems exist with Alternative 1:

1. The U.S. doesn't have a workable storage and disposal plan yet for its own spent nuclear fuel and high level wastes. Alternative 1 attempts to gather up all enriched uranium in research reactors around the world (41 countries) and ship it to the U.S. for storage at DOE's nuclear weapons production sites until someone can figure out how and when to permanently dispose of it. Not having a workable domestic plan and having to use weapons production sites are setting two very bad examples as role models for our foreign research reactor friends. 1124-6

2. The other problem is that there is no solid evidence that we will be any better off at the end of the ten-year period than we are today. Foreign dependence on such a "return everything to the U.S." policy can demotivate and suppress meaningful progress towards responsible, self sufficiency on the part of our foreign research reactor friends. Complacency and procrastination can work against the real changes that need to occur for responsible self-sufficiency to become a near-term reality. The U.S. will, in the meantime, have realized unnecessary and extremely high storage and disposal costs, higher public and worker health risks, and higher environmental risks - all without achieving the necessary shifts in foreign spent fuel management to a nonproliferating self-sufficiency. 1124-7

We support facing the transition issues now by adopting Alternative 2 (foreign management alternative). This means that foreign spent fuel management issues will be addressed now on a case-by-case basis to find the best solutions for each party. It also means that the U.S. will not subject itself to whatever risks there are of receiving and transporting foreign spent fuel within U.S. borders. Lastly, it means that we will not have exacerbated an already untenable situation in our own domestic storage and disposal of spent domestic fuel and defense wastes -- at who knows what ultimate cost increases. 1124-2 (Cont'd.)



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-4*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Portland is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Portland, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 1124-5*

Ten ports that are considered to be able to safely receive foreign research reactor spent nuclear fuel were identified using the port selection criteria discussed in Appendix D, Section D.1.9 of the EIS. Examination of the port selection criteria will show that there is no stated preference for military ports, contrary to the comment. Either military or commercial ports, if they meet the selection criteria, are equally acceptable. Risks associated with accidents in both military and commercial ports are discussed in Appendix D, Section D.5.5.

### *Response to Comment No. 1124-6*

The commentor's concern that the U.S does not have a storage and disposal plan for its own wastes is noted. Storage in the United States of the foreign research reactor spent nuclear fuel is Management Alternative 1 or 3, which are discussed in Sections 2.2, 2.4, 4.2, 4.3, and 4.5 of the EIS. Storage technologies are discussed in Section 2.6.5.1 of the EIS.

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS). As stated in Sections 2.1 and 4.2.7 of the EIS, if a geologic repository was not prepared to accept the foreign research reactor spent nuclear fuel or the high level radioactive waste form resulting from the chemical separation or other processing of such spent nuclear fuel, by the end of the 40-year program period, DOE would continue to manage the spent nuclear fuel, or the high level waste forms, until such a geologic repository were available.

### *Response to Comment No. 1124-7*

The commentor's suggestion that implementation of Management Alternative 1 could demotivate and suppress meaningful progress towards self sufficiency on the part of foreign research reactor operators, is noted. The intent of the proposed policy is to remove as much U.S.-origin HEU as possible from civil programs worldwide and give foreign research reactors time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS).

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

The least cost Alternative that meets the minimum nonproliferation policy guidelines should be selected to minimize everyone's costs. This means selecting Alternative 2 or Alternative 3. Management Alternatives 2/3 had the lowest estimated costs ranging from $750 million to $950 million (1996 $'s in 1996). 1124-8

Alternative 2 should provide the least cost, best overall short-term and long-term nonproliferation result. Several acceptable foreign spent fuel management scenarios are available as options in working through each foreign countries specific set of circumstances. Several of these are suggested for your consideration:

1. Over 70 percent of the foreign spent fuel resides in countries with spent fuel storage capabilities and expertise resulting from large, national commercial nuclear power programs. Interim storage within these countries saves time and money, reduces risk and can be done under IAEA nonproliferation safeguards and controls.

2. Nearly half of those that have major national commercial nuclear power programs also have spent fuel capabilities. Three nuclear power states (France, Japan and the United Kingdom) have major spent fuel handling, storage, and processing capability. Four nuclear power states (Canada, Germany, Sweden and Switzerland) have major spent fuel handling and storage capability. Where reprocessing is necessary to help transition the foreign research reactor program to low enriched uranium incapable of being made into nuclear bombs, this capability now exists with at least one reprocessor willing and capable of immediately processing and diluting the high enriched uranium. 1124-9

3. The U.S. and its nonproliferation allies can begin immediately to help the remaining 34 countries that have 30 percent of the total spent fuel inventory find acceptable on-site or foreign off-site storage capability for the spent nuclear fuel or a nonproliferating reprocessing option. These efforts should be directed at both short-term and long-term solutions for the affected countries.

4. Subsidies, if necessary, can be used to leverage the desired outcome of this effort.

Our strong preference is for the U.S. to work collaboratively with foreign sources of nuclear fuel services ranging from spent fuel storage and reprocessing to permanent geologic disposal. By working with the research test reactor personnel and their political leaders, it should be possible to structure a mutually acceptable arrangement that provides foreign, self sufficient, responsible, nonproliferating, short and long-term fuel management of foreign research reactor spent nuclear fuel.

A large fraction, nearly 50 percent, of the foreign research reactors are still operating on high enriched uranium (HEU) and their spent fuel will require reprocessing until fully converted to low enriched uranium (EL). Even after conversion to EL, many reactor operators will find it advantageous to reprocess their low enriched uranium spent fuel. Many of these reactors are closer to the UK and France than they are the U.S. Thus, the overall spent fuel and HEU transportation routes, under Alternative 2, will be shortened considerably compared to the Alternative 1 case. 1124-10

July 19, 1995 Port of Portland Comments, Page 3 of 11

## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-8*

The final EIS shows that the least costly alternative is a hybrid that involves reprocessing overseas, chemical separation at the Savannah River Site, and management at the Idaho National Engineering Laboratory. Chemical separation of aluminum-based elements in the U.S. (without overseas reprocessing) and management of TRIGA elements in the U.S. has about the same costs as the hybrid, depending on how fixed costs at the Savannah River Site are allocated. There is no technically feasible alternative that excludes U.S. receipt of either the spent nuclear fuel or the high-level waste resulting from overseas reprocessing, regardless of cost. Even if all the spent nuclear fuel could be reprocessed overseas (which it cannot), a substantial fraction of the high-level waste would have to come back to the United States. Storage of the spent nuclear fuel in the countries that cannot contract for reprocessing for whatever reason would be significantly more costly than storage in the United States, assuming equivalent levels of security and safeguards. Distributed overseas storage suffers from extremely large diseconomies of scale. Finally, no foreign country has expressed any interest in accepting the spent nuclear fuel or the reprocessing waste from other countries.

### *Response to Comment No. 1124-9*

The commentor's scenarios for implementation of the proposed action are noted. Several issues, however, should be noted. Many of the foreign research reactor operators do not currently have means for storage or other disposition of their spent nuclear fuel. This is a result of a long standing policy of cooperation with the United States to prevent proliferation whereby the United States was accepting the spent nuclear fuel from these research reactors. Thus, the intent of the proposed policy is to remove as much U.S.-origin HEU as possible from civil programs worldwide and give foreign research reactor operators time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS).

### *Response to Comment No. 1124-10*

The commentor's preference for overseas reprocessing is noted. This is Management Alternative 2, Subalternative 1b, which is discussed in Sections 2.3 and 4.4.2 of the EIS.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

The purpose of this proposed policy is to promote United States nuclear weapons nonproliferation policy objectives by seeking to reduce and ultimately eliminate highly enriched uranium from civilian commerce. However, the Draft EIS doesn't adequately address the fact that nearly half of the aluminum-based fuel (35 reactors) and 25 percent of the TRIGA reactor fuel (5 reactors) still operate with high enriched uranium. Somehow, until these reactors are converted, shipments of high enriched uranium (HEU) or fresh fuel elements containing HEU will continue to occur resulting in a significant potential security or proliferation issues. This bomb-grade material is the most proliferation sensitive material in the fuel cycle. Appropriately, details are not available in the Draft EIS as to how this material will be shipped or by whom. 1124-11

More work needs to be done on the 'Foreign' Alternatives 2 and 3. The 'bring it all back to the U.S. case (Alternative 1) was analyzed in substantial detail. The alternative cases involving all or partial foreign solutions were analyzed less thoroughly. For example in the Summary, of the Draft EIS at page 5: 1124-12

1. *"Currently, overseas reprocessing results in separated HEU that is placed back into commerce for use as a new reactor fuel."*

Nothing is mentioned about potential changes in this current policy to one that is proliferation-proof, i.e., tri-party agreements (U.S., foreign reprocessor, reactor owner) that requires the High Enriched Uranium to be diluted to Low Enriched Uranium before it is shipped back to the foreign reactor.

2. *"The overseas reprocessing facilities (e.g., Dounreay in Scotland) currently do not have the capability to reprocess the high-density LEU fuels that the United States is encouraging foreign research reactors to use to replace the HEU fuels."* 1124-13

The Dounreay facilities can handle now the bulk of the HEU fuels and with modifications or added facilities could handle all of the HEU fuels (including the TRIGA fuel rods), and with modifications or added facilities could handle the high-density LEU fuels that the U.S. is encouraging foreign research reactors to use to replace HEU fuels.

3. *"Thus, any foreign research reactor that wishes to use reprocessing to control its inventory of spent nuclear fuel must continue to use, or convert back to, fuel containing HEU."*

Not true. A short-term storage solution needs only to be found to allow Dounreay or any other foreign reprocessor (others in the UK, France, or Japan) time to make the necessary modifications to their reprocessing facilities. In the interim the storage solutions include, at least, the foreign countries with the research reactors, one or more of the seven countries having major commercial nuclear power programs and existing spent fuel storage areas (Canada, France, Germany, Japan, Sweden, Switzerland, UK), and the potential reprocessors (France, Japan, and the UK). 1124-14



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-11*

HEU is weapons-grade material. Many of the foreign research reactors are still operating with HEU fuels. One of the major goals of the proposed action is to encourage those foreign research reactor operators still using HEU fuels to convert to LEU fuels (Sections 1.2 and 1.3 of the EIS). By accepting the spent nuclear fuel from the foreign research reactor operators, research reactors still using HEU fuel would be provided with a limited period of time to convert to operating with LEU fuel.

### *Response to Comment No. 1124-12*

As discussed in Section 2.3 of the EIS, certain arrangements in support of U.S. nuclear weapons nonproliferation policy would have to be established with the foreign reprocessors and research reactor operators before overseas reprocessing could be implemented with U.S. assistance. These could include steps such as blending the HEU down to LEU, developing the capability to reprocess high-density LEU spent nuclear fuel, and converting the research reactors to the use of LEU. There is no guarantee that such arrangements can be worked out, but DOE and the Department of State are discussing these issues with the appropriate parties.

### *Response to Comment No. 1124-13*

DOE acknowledges that the Dounreay Site has the capability now to reprocess the bulk of the existing inventory of foreign research reactor spent nuclear fuel. The current lack of capability applies to the new high-density LEU fuel made of a uranium-silicon-aluminum alloy. As stated in Section 1.1 of the EIS, it is not clear whether the extra equipment necessary to reprocess this new fuel will be installed at the Dounreay Site.

### *Response to Comment No. 1124-14*

The sentence cited by the commentor has been revised in response to this comment and also in response to Comment 311-4.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

4. *"For most foreign research operators, construction of a new storage facility would not be practical due to the very high cost of storing small amounts of spent nuclear fuel and the long time required to design, license, and construct facilities."*

1124-15

The U.S. commercial reactor operators are facing the same problems: either shut down needed nuclear electrical power generators, construct new storage facilities; or ship their spent nuclear fuel offsite for storage and ultimate disposal. The best short-term and long-term solution is for the U.S. to help the foreigners find a foreign solution while the U.S. is helping the U.S. reactors find a U.S. solution.

1124-16

There is a definite bias throughout the Draft EIS slanted towards Alternative 1, and to a lesser extent, Alternative 3 (the hybrid alternative). This bias shows up a number of ways including the absence of clear flow diagrams for all three alternatives like those presented in Figure S-4 and S-5 for Alternative 1. Importantly, no cost data is clearly summarized for Management Alternative 2. A Hybrid Alternative is defined as one of the options and the only clearly defined cost analyses are for: i) acceptance/storage in the U.S. (pure Alt. 1); ii) chemical separation/vitrification in the United States (option 6 for Alt. 1); and finally the Hybrid Alternative (Alts. 2 and 3). [See Section F.7 beginning on page F-264 for additional proof of this gross bias and absence of key alternative assessments.]

1124-17

Ninety-one operating research reactors in forty-one countries depend on stable, low cost supplies of fuel, reprocessing services, and assistance in fuel storage and high level waste storage/disposal. Management Alternative 2 is the only means of achieving such stability. With U.S. assistance, this Alternative can be tailored to meet the U.S. nonproliferation objectives and the reactor operator's objectives.

1124-18

Reprocessing spent research reactor fuel is an economic necessity when the enrichments are over 20 percent (HEU). Reprocessing, with today's fuel cycle costs, is probably uneconomical for enrichments down in the 2 percent to 3 percent range. The transition between uneconomical and economical reactor operations probably occurs in the range of 4 percent and 8 percent enriched. To achieve operational stability and achieve the U.S. nonproliferation objectives, some form of a long-term commitment to reprocessing is a requirement.

2. FEDERAL MILITARY INSTALLATIONS SHOULD BE UTILIZED IF AN AMERICAN PORT BECOMES NECESSARY

The Port of Portland is recognized internationally as a very efficient port, yet handling spent nuclear fuel at Portland poses significant problems and costs including:

- Significant local citizen, neighborhood association, employee, union, political and environmental opposition. 1124-19
- The likelihood of severely restrictive safety requirements being placed on the fuel-handling operation, which would significantly interfere with normal commercial operations. 1124-20



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-15*

The commentor's preference for Management Alternative 2 is noted again. The disadvantages of overseas storage are discussed briefly in the Summary, and more thoroughly in Sections 2.3 and 4.4.1 of the EIS.

Furthermore, as discussed in Section 1.2 of the EIS, it is in the self interest of the U.S. to implement the proposed action as a means to reduce and eventually eliminate the use of highly enriched (weapon-grade) uranium in civil programs worldwide. No such considerations apply to the storage of spent nuclear fuel from domestic nuclear power plants.

### *Response to Comment No. 1124-16*

In terms of detailed cost data for options that are either addressed in less detail than might be possible or that are not described as possible options, the following points are relevant:

- Management of the spent nuclear fuel in the countries of origin would cost many hundreds of millions of dollars more than management of the fuel in the United States. The two major non-shipping phases of the program —storage/separation and spent nuclear fuel/high-level waste disposal — have very large economies of scale. Any management alternative that substitutes tens of sites for the two or three in the EIS would increase the costs substantially. The EIS already addresses the practical, legal, political, etc. difficulties associated with such an approach. The final EIS discusses costs and summarizes the problems with their approach.
- All logistically realistic hybrids that involve chemical separation at the Savannah River Site and reprocessing at Dounreay cost about the same as the hybrid described for Management Alternative 3. Costs could be significantly reduced only through accelerated receipt of spent nuclear fuel at the Savannah River Site for chemical separation concurrently with materials from other programs and long-term usage of existing storage facilities at the Idaho National Engineering Laboratory. The reason more hybrids are not costed in great detail is that they all depend on the timing of the receipts at the Savannah River Site, the acceptability of concurrent operations and the use of marginal costing at the Savannah River Site, and the usage of existing facilities at the Idaho National Engineering Laboratory. Subject to constraints on the rate at which Dounreay could reprocess spent nuclear fuel, other issues (e.g., the split between U.S. and overseas management, between LEU and HEU, between aluminum-based fuel and TRIGA fuel, between developed countries and developing countries, etc.) would not substantially affect costs. The key cost drivers are fully and completely outlined in Appendix F. Uncertainties are treated separately.

### *Response to Comment No. 1124-17*

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

- The inability of the Port of Portland and the commercial sector to protect itself against business losses due to closed channels, operational shut-downs, evacuation, or whatever procedures may be ordered by the U.S. Coast Guard. *1124-21*
- The inability of the Port of Portland, without significant additional expenditures, to provide adequate security and protection against seizure by third parties, including hostile countries, foreign terrorists or domestic terrorist organizations. *1124-22*
- The lack of adequately trained personnel to appropriately handle the spent fuel and thus the subsequent expense and lost time necessary to undertake and complete the necessary training. *1124-23*
- The sensitive nature of the Columbia River environment as a critical habitat for several high-profile and nearly extinct endangered species. *1124-24*
- The presence of significant conflicting uses including high volumes of recreational boating and tourism associated with commercial cruise ship usage of the Columbia.

Many of these significant problems and costs are solved or reduced if a Federal military installation is used. The Draft EIS gives insufficient consideration to both the problems listed above and this potential solution. *1124-25*

Five (5) military ports were rejected because of an alleged lack of "appropriate port experience". Undue weight was given to "appropriate container-handling experience" and insufficient weight was given to experience in handling highly dangerous cargo requiring special security provisions. If port experience had been evaluated in this manner, fewer military ports would have been rejected and the Port of Portland might very well have been rejected.

Security Concerns:

There are several factors unique to the Port of Portland, its location and its facilities that make the job of providing adequate security for the proposed shipments either extremely difficult or impossible. These factors, discussed below, were not adequately considered and addressed in the Draft EIS.

The Port of Portland's only container terminal is readily accessible to vehicles and pedestrians during normal working hours and frequently after normal working hours. The container terminal is also readily accessible from the riverside of the facility - there is no riverside security. Nor are any of the Port's security officers trained to monitor for river side security breaches, or for that matter any security breaches involving nuclear cargo. The Port does not operate a marine facility where anti-terrorist security has ever been an issue and thus that training and experience has not been obtained. The City Police, who provide back-up to our security officers are terribly overloaded and could not be relied upon as a component of an enhanced security system should one prove necessary. The air space above the terminal is not restricted in any manner and is subject to frequent overflights. Immediately adjacent to the terminal is a heavily wooded natural area frequented by the public. The container terminal is also the only *1124-22 (Cont'd.)*



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-18*

Chemical separation of spent nuclear fuel from foreign research reactors is not really an economic necessity when the enrichments are over 20 percent. Nevertheless, the commentor's support for some form of chemical separation is noted.

### *Response to Comment No. 1124-19*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Portland is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Portland, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 1124-20*

No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in a cask that is inside a standard shipping container.

### *Response to Comment No. 1124-21*

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that the use of any of the ports indicated by the port selection process, including Portland, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This position is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 1124-22*

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

location where the Port's employees can park their vehicles, further complicating any efforts to afford high security. *1124-22 (Cont'd.)*

One unique access issue arises from the fact that there is an adjacent city park with a swimming area. At low tides swimmers use the river area immediately in front of the container terminal. There is heavy recreational use of the river in front of the terminal by boaters, water-skiers, jet-skiers and fishermen. These uses frequently occur within fifty feet of the dock. A major and heavily fished Columbia White Sturgeon fishing hole is very near the container facility. Moreover, the terminal is in the middle of a rapidly growing section of the city. The population is dramatically increasing and thus recreational use will also increase, making security a difficult if not impossible matter for the cargo proposed. This issue and these facts were not adequately discussed in the Draft EIS. *1124-26*

The Port of Portland is a public agency responsible for the operation and maintenance of Portland's harbor facilities. These facilities, including the container terminal, are the major public port facilities in Oregon. The Port is responsible for providing efficient and uninterrupted cargo throughput services from the terminals to the adjacent transportation network, via truck, rail or barge. The nature of the Port, its role in the community, and its importance to the Region's economy make access restrictions very difficult to adopt and enforce. The Port has a constant stream of tenants and users accessing the only container facility in a necessary manner and that is totally inconsistent with appropriate security for the proposed cargo. *1124-27*

The Port of Portland's container terminal facilities lie in the middle of a growing metropolitan area surrounded by residential neighborhoods that have designated themselves "nuclear free" and populated with some of the nations most energetic environmental activists. The 100-mile river transit from the open sea, not to mention the 400-mile rail or truck trip, represents an extended target for activist groups whose protests could severely disrupt the transportation network and threaten public safety. Consequently, even without the threat of terrorists, security concerns arising from dedicated activists in the City of Portland should militate against selecting Portland as the preferred Port. *1124-28*

Commercial and Economic Concerns:

In addition, Portland is unsuitable as a Port of Entry for Spent Nuclear Fuel (SNF) shipments because Portland has only a single container terminal to serve the regional shipping community. Spent Nuclear Fuel shipments will disrupt operations for the Port and, without a local alternative, regional shippers would be harmed. Consequently, the Port could see an erosion of its customer base as shippers look elsewhere for the certainty and reliability required in the container business. *1124-29*

Significant disruptions of existing business can be expected in several areas related to the shipment of SNF. First, it is the position of the longshoremen that they will not handle SNF shipments. The federal government has been aware of the unwillingness of labor to handle the SNF cargo for some time. Unfortunately however, the Draft EIS does not address the issue of port handling in any detail. For example, who would operate the cranes, etc. if the only labor pool with the experience to do it, the *1124-30*

July 19, 1995 Port of Portland Comments, Page 7 of 11

## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site(s).

DOE is confident that the foreign research reactor spent nuclear fuel can safely be transported to the management site(s), if the foreign research reactor spent nuclear fuel is accepted into the United States. The security measures employed would meet or exceed all the security requirements in the Code of Federal Regulations (10 CFR Part 73). DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel. Section 2.8 of the EIS discusses domestic security.

### *Response to Comment No. 1124-23*

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the transportation casks would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in standard shipping containers; experience with handling containers is sufficient. Therefore, no special training of longshoremen is required.

### *Response to Comment No. 1124-24*

The EIS analyses determined that there would be no significant adverse impacts to the ecology of any of the ports that might be used to receive the material (Sections 4.2.4.2.8 and 4.5 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident (Section 2.6.2 of the EIS). Spent nuclear fuel transportation casks passing through Portland, or any port, cannot leak (the spent fuel would be shipped dry), so it would not affect either the air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. No significant human health, safety, or environmental risks were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS).

### *Response to Comment No. 1124-25*

The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port snip traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

longshoremen, will not? What training and experience will replacement labor be given? How will the Port be compensated for and insured for use of its equipment by others? These difficult issues may well be irresolvable. If so, the Port can not guarantee its customers that their operations in Portland will remain unaffected. *1124-30 (Cont'd.)*

Secondly, if Portland were to be designated as a Port of Entry for SNF shipments, we would anticipate serious conflicts between these shipments, and those of our customers on regularly scheduled liner services. These conflicts will take the form of shipment delays, loss of service at the dock, and will likely result in losing available berthing space during critical windows of operation. *1124-31*

The Port concurs with the Draft EIS conclusion that there is a greater likelihood that the shipments will come in chartered breakbulk/general cargo vessels, with a significant number of new (additional) vessel calls rather than using scheduled liner services. The availability of scheduled liner service calling Terminal 6 is more limited than at larger Ports and Portland serves as an export gateway rather than as an import center. *1124-32*

At this time, all liner services calling Portland's Terminal 6 utilize Portland as a last or middle port of call. This means that Portland is not the first US port on the sailing schedule of the liner services and thus SNF shipments would have already been carried in and out of the ports of Tacoma, Seattle, Vancouver, Los Angeles, Long Beach, or Oakland. Shipping by such round-about means is hardly responsible and is not addressed in the Draft EIS. *1124-33*

Unscheduled charter service is difficult to accommodate at Terminal 6, particularly if it takes precedence over the Port's normal business. With only one terminal available in Portland, we are currently often at capacity. For intample, berth space is limited or unavailable several days of the week at Terminal 6 at existing levels of business. Unscheduled charter services carrying SNF shipments would arrive at random at Terminal 6 and would conflict with normal scheduled commercial liner services from time to time. SNF shipments would command the highest priority in berth space, crahage, and other shoreside capacity to the detriment of existing business. *1124-34*

The berth and terminal conflicts between commercial vessels and SNF charters are likely to increase with time because Terminal 6 is the fastest growing container terminal on the West Coast. We project to exceed total terminal capacity within the next 10 year period. New terminal capacity is on the planning horizon, but a practical means for funding it has not yet been identified. *1124-35*

If the Port of Portland is selected, a separate special purpose facility would be required in order to ensure adequate security and reduce conflicts in use. This need was not identified in the draft EIS, but should be included and addressed in the final EIS. The Port would need significant financial assistance in providing this necessary special purpose facility and restrictive regulations, not otherwise pre-empted by federal authorities, would need to be adopted. These restrictive regulations would govern handling procedures, security measures, personnel training issues, specific state law concerns and Endangered Species Act mandated conservation measures. *1124-36*



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2 of the EIS). Appendix D, Section D.5.3.1.3 of the EIS presents a discussion of the determination of the probability of ship accidents used in the EIS.

As a result of public comments, eight additional military ports were considered, and the selection criteria were carefully applied in order to properly balance military experience with handling containers and hazardous cargos. Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS) or additional security beyond that required by NRC regulation (which can readily be provided in any of the commercial or military ports). No special precautions are required by the U.S. Coast Guard (Section 2.6.3.2.2 of the EIS).

### *Response to Comment No. 1124-26*

The Port of Portland's opposition to using their port on the basis of high recreational use of the waters around the terminal is noted, and will be taken into consideration when choosing ports, if foreign research reactor spent nuclear fuel is accepted into the United States. Recreational use of waters around the port is one of the considerations discussed in Appendix D, Section D.1.9.6 of the EIS, Desirable Port Attributes.

Security would be provided for all shipments of foreign research reactor spent nuclear fuel, as required by the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. The general security provisions are provided in Appendix H of the EIS. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit.

### *Response to Comment No. 1124-27*

See the response to Comment 1124-21, above.

### *Response to Comment No. 1124-28*

Dealing with demonstrations is the responsibility of the local and State governments, as well as the military if such demonstrations occur on military bases. However, if the demonstrations were the result of the receipt of foreign research reactor spent nuclear fuel, DOE would support local, State, or military organizations in dealing with demonstrations.

### *Response to Comment No. 1124-29*

See response to Comment No. 1124-24, above.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

These issues of the disruption of normal business are of critical importance to the Port of Portland because we and the community we serve rely on a single terminal and there are no alternatives within the region. The Port cannot meet its mission to its constituency if forced to handle SNF. *1124-34 (Cont'd.)*

**DOE Risk Assessment is Inadequate:**

DOE's risk assessment, as it relates to the Port of Portland, is inadequate. DOE performed this risk assessment based on the traditional principles of combining an estimate of the frequency at which such a situation is expected to occur with consequence estimates.

While this method of weighting the probability of an occurrence with the consequence estimates may be scientifically correct, the real issue for the people of Oregon is "what happens if a major, even abnormal, severe breach of the fuel occurs in the vicinity of the Port or Oregon and Washington's populated areas along the transportation routes?" *1124-37*

All we know today is the consequences of a major breach of the spent fuel cask are "very severe". Mr. Patrick Schwab, Science Applications International Corporation, provided that qualitative assessment at the May 22, 1995 public meeting with DOE. Mr. Schwab was one of the principals who wrote the Draft EIS under contract to DOE.

Rough extrapolated estimates of the consequences of a high level waste cask breach were approximated in the Draft EIS. The estimate was made for high level vitrified waste. It was assumed that only 0.000001 or 1 part per million of the radioactive material would be released from its packaging. 5 percent of the aerosolized release was respirable, and a bouyant plume rise resulted from an assumed fire. The worst (urban) case resulted in 970 person-rem and 0.48 LCF consequence for the population, and a dose of 0.29 rem and a 0.00015 LCF consequence for the maximum exposed individual. *1124-38*

However, a worst case "credible" accident is not the same as a worst case incident. A worst case incident can assume sabotage and other forms of human intervention, unlikely but possible accidents (like long-term, high temperature ship board fires), and combinations of the two. On page 4-11 the document states, "Assuming the cask was damaged by a severe collision; and the ship remained afloat despite the severe collision; and the cask was engulfed in flames for a time sufficient to release a radio active plume, there would likely be no human population on the ocean (excluding the crew) who could be effected." The DEIS does not address the occurrence of such an event during the 100 mile trip along the Columbia River navigation channel, long portions of which the human population is considerable. Nor does it appear in the risk analysis beginning at page 4-23 that the risk of an accident in the 100 mile channel between the bar and Terminal 6 is considered. There still is not an adequate answer to the question of what are the consequences to Portland area citizens and the environment from a severe breach of the cask and fuel rods, i.e., a breach that substantially exceeds the design limits of the cask such as a fire, with air flow, that raises the spent fuel temperatures will above 1,160 degrees Fahrenheit for a period of hours? *1124-39*



## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-30*

The possibility of the longshoremen's refusal to off-load this material was not considered in the port selection process (Appendix D, Section D.1.9 of the EIS) since that factor does not impact on the capability to safely receive containers carrying foreign research reactor spent nuclear fuel. The decision as to which port or ports would be used, in the case that foreign research reactor spent nuclear fuel is accepted into the United States, would be made in the Record of Decision. The possibility of strikes is one of the many factors that would be considered in determining which ports to use. DOE will work with local officials and port authorities to ensure that the foreign research reactor spent nuclear fuel can be safely received, if accepted into the United States.

### *Response to Comment No. 1124-31*

See response to Comment No. 1124-24, above.

### *Response to Comment No. 1124-32*

The Port of Portland is incorrect in stating that the draft EIS concluded that there is a greater likelihood that the shipments would come in chartered vessels. The EIS concludes that either commercial or chartered vessels were acceptable due to both having low risk with no discernible difference (Section 4.2.2 of the EIS). The Record of Decision will state the type(s) of vessels that would be used if foreign research reactor spent nuclear fuel is to be accepted into the United States.

### *Response to Comment No. 1124-33*

The EIS did address the likelihood that, if commercial shipping were to be used, there would be intermediate port calls before arrival at Portland (Section 4.2.2.1 of the EIS). The risk associated with a journey that included two intermediate port calls, including two high population-density ports, was calculated and is presented in Section 4.2.2.3 of the EIS. The risk of a journey that includes two intermediate port stops is slightly higher than a direct trip, but the risk associated with both journeys is low.

### *Response to Comment No. 1124-34*

The Port of Portland's assumptions about how foreign research reactor spent nuclear fuel would be shipped and how it would affect other ship handling at the port are not based upon the EIS, but are based on speculation on how the shipments would be implemented if the foreign research reactor spent nuclear fuel is accepted by the United States. In the event that the Record of Decision indicates that foreign research reactor spent nuclear fuel is to be accepted by the United States, DOE will do everything practical to minimize any disruption to the operation of the port(s) of entry.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

DOE has analyzed release fractions from spent nuclear fuel in its Draft EIS (Table E-8), page E-44) for worst case "credible" accidents. However, the release fractions appear low for any fire that substantially exceeds the cask and spent fuel design limits or a combination of fire and explosion. Such releases are based on what appear to be minor breaches in the integrity of the spent fuel shipping cask. DOE has not addressed the issue of what happens if a major breach occurs, i.e., shipboard fire of such intensity and duration that the shipping cask design limits are substantially exceeded? Worst case "credible" release fractions in DOE's Draft EIS are: 1124-40

| Substance | Aluminum Clad Fuel | TRIGA Fuel |
|---|---|---|
| Inert Gas | 63% | 63% |
| Iodine | 0.066% | 4.3% |
| Cesium | 0.001% | 0.2% |
| Ruthenium | 0.00024% | 0.048% |
| Particulate | 0.00001% | 0.002% |

While these releases are higher than for the case of vitrified high level waste discussed above, they remain based on a worst case "credible" accident.

The Port's conclusion is that DOE did not properly evaluate and determine the impact of a severe fire or explosion involving a shipping cask of nuclear spent fuel, which would cause severe damage and have long-term effects on a large area near the disaster site. Furthermore the effects of crippling many businesses in the area affected was also not determined. 1124-37 (Cont'd.)

In addition, DOE did not properly address first response capability of the local fire and emergency agencies in case of a shipping cask breach and the spread of radiation from the accident site. No provision was made in the DEIS for upgrading and training of local first response teams. 1124-41

CONCLUSION

For all of the reasons set forth above, the Port submits that the analysis set forth in the Draft EIS is flawed and inadequate to support a decision to select Alternative 1, that is to transport to the U.S. foreign research reactor spent nuclear fuel. The Draft EIS fails to adequately address Alternative 2, the foreign management alternative, and is biased against that Alternative. In addition, the Draft EIS's discussion of the Port of Portland is flawed in that it does not take account of the real security, commercial and environmental problems associated with the use of the Port of Portland's container terminal. If those problems were fairly and thoroughly evaluated, they would weigh in favor of using a Federal Military Facility if the spent fuel is to be shipped to the U.S. Finally, DOE's risk analysis, as it relates to the Port of Portland does not accurately identify and evaluate the real risk to the people of Portland and the Northwest. 1124-3 (Cont'd.) 1124-2 (Cont'd.) 1124-22 (Cont'd.) 1124-25 (Cont'd.) 1124-37 (Cont'd.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-35*

The Port of Portland's information regarding the projected growth of usage of the port is noted and will be considered when the Record of Decision is developed, if foreign research reactor spent nuclear fuel is to be accepted by the United States.

### *Response to Comment No. 1124-36*

DOE does not agree with the Port of Portland on the need to build a special-purpose facility for the handling of the foreign research reactor spent nuclear fuel, if the spent nuclear fuel were to be received in Portland. The port evaluation and selection process, which indicated that the Port of Portland was an acceptable port, was based upon the assessment of the port's existing facilities. If DOE decides to accept the maximum quantity of foreign research reactor spent nuclear fuel in the United States under the basic implementation of Management Alternative 1 (Section 2.2.1 of the EIS), the number of single-cask shipments expected to be received at West Coast ports would be approximately 185 over 13 years, or about one a month. Other possible amounts of foreign research reactor spent nuclear fuel that might be accepted on the West Coast under the hybrid alternative range from 185 to zero. If chartered ships were used, more than one cask would be shipped at a time, so the number of ships to be received would be less. This amount of traffic would neither impact existing facilities, nor require a new special-purpose facility.

### *Response to Comment No. 1124-37*

The commentor's opinion that the DOE's risk assessment is scientifically correct, but still inadequate, is noted. The commentor's focus on the consequences of what happens if scenarios is also noted. See the response to Comment 1124-39 below.

Appendix D, Section D.5.4.3.2 presents the risks of a very high temperature fire that engulfs a spent nuclear fuel transportation cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

### *Response to Comment No. 1124-38*

Commentor's characterization of the approach and assumptions used for vitrified high-level waste accident analysis in the EIS is correct. This accident scenario is discussed in Section 4.4.2.3 under the subheading, Impacts of Accidents During Port Activities and in Appendix D, Section D.5.7 of the EIS. The results mentioned by the commentor (970 person-rem, 0.48 LCF, etc.) are not the same as the results presented in the EIS. The source of these results is not clear to DOE.

## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

Consequently, the Port of Portland asks that DOE carefully reconsider the alternatives evaluated and take the other steps necessary to act upon the comments here provided before issuing a Final EIS and making a decision.

Yours very truly,

Mike Thorne
Executive Director

July 19, 1995

Port of Portland Comments, Page 11 of 11

## RESPONSE TO COMMENT
## COMMENTOR NO. 1124: PORT OF PORTLAND (CONT'D.)

### *Response to Comment No. 1124-39*

Section D.5.9 has been added to Appendix D of the EIS to address the consequences of sabotage or terrorism. In this section the results of an explosion from a terrorist-placed shape-charge on the spent nuclear fuel transportation cask are presented. The result of the explosion is assumed to release 1 percent of the fuel as aerosols and all of the noble gasses.

The spent nuclear fuel transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS provides these details). These certification standards were developed for use of the casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures.

In respect to the impact a ship fire might have on a spent nuclear fuel transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt research reactor nuclear fuel. Appendix D, Section D.5.3 provides a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 provides the results of the analyses. In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5).

Combination of the severe ship fire and terrorism event, both unlikely in themselves, is not considered plausible. The analysis of accidents in port (Appendix D, Section D.5) were also performed at the worst location in the approach to the port (Appendix D, Section D.5.3.2); these are called channel locations in the analyses. In the case of Portland, this analysis was assumed to occur at the St. Johns Bridge. The results of these channel calculations, like the port or dock locations, all showed low risk (Section 4.2.2.3 of the EIS).

***Response to Comment No. 1124-40***

The release fractions quoted by the commentor are those that were used for land transportation accidents (Appendix E, Section E.6.4.2 of the EIS). As the commentor noted, these release fractions are inappropriate for a severe accident, such as might occur with a severe ship accident involving cask damage and an engulfing fire. The EIS did analyze this type of accident, and used release fractions that represent the release of more of the most biologically important isotopes. Also, Appendix D, Section D.5.4.3.2 of the EIS discusses very high temperature effects on release fractions. The high fuel temperatures discussed in this section are considered extremely unlikely.

***Response to Comment No. 1124-41***

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## *Commentor No. 1141: City Council of the City of Galveston*

RESOLUTION NO. 95-56

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GALVESTON, TEXAS, OPPOSING THE U. S. DEPARTMENT OF ENERGY'S PROPOSED PLAN TO TRANSFER NUCLEAR WASTE THROUGH THE PORT OF GALVESTON; PROVIDING FOR FINDINGS OF FACT AND PROVIDING FOR AN EFFECTIVE DATE.

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WHEREAS, the U. S. Department of Energy is considering importing spent fuel for storage in the United States to guard against the fuel's use in producing nuclear weapons by other countries; and

WHEREAS, the fuel contains highly enriched uranium, which is a weapons-grade nuclear material; and

WHEREAS, the U. S. Department of Energy is considering using the Port of Galveston as an entry location for the fuel; and

WHEREAS, if the fuel enters the United States through the Port of Galveston, it will be loaded onto rail cars or trucks for transportation to other areas of the United States; and

WHEREAS, the use of the Port of Galveston as the entry location for the fuel is potentially hazardous to Galveston, and produces no economic benefits to either the City or the Port of Galveston, and will have a detrimental effect on the tourist industry; and

WHEREAS, public hearings have been conducted and the residents of Galveston do not support the U.S. Department of Energy's proposed plan;

WHEREAS, the City Council of the City of Galveston deems it in the public interest to oppose the U. S. Department of Energy's proposed plan to use the Port of Galveston as an entry level of the fuel;

## *Response to Comment Commentor No. 1141: City Council of the City of Galveston*

## COMMENTOR NO. 1141:
## CITY COUNCIL OF THE CITY OF GALVESTON (CONT'D.)

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GALVESTON, TEXAS:

SECTION 1. The findings and recitations set out in the preamble to this Resolution are found to be true and correct and they are adopted by the City Council and made a part hereof for all purposes.

SECTION 2. The City Council of the City of Galveston, Texas strongly opposes the proposed plan by the U. S. Department of Energy to use the Port of Galveston to transfer nuclear waste. 1141-1

SECTION 3. The City Council of the City of Galveston, Texas, directs the City Secretary to send a certified copy of this Resolution to the U.S. Department of Energy; to Ernest Connor, Director of the Port of Galveston, and to all members of the Galveston Wharves Board.

SECTION 3. The City Council requests that the Port of Galveston and the Wharves Board continue to apprise the City Council of any developments concerning the U.S. Department of Energy's proposed plan.

SECTION 4. This Resolution shall be and become effective immediately.

APPROVED AS TO FORM:

Barbara E. Roberts
BARBARA E. ROBERTS
CITY ATTORNEY

I, ANNA LEE, Secretary of the City Council of the City of Galveston, do hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the City Council of the City of Galveston at its regular meeting held on the 13th day of July, 1995, as the same appears in records of this office.

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1141:
## CITY COUNCIL OF THE CITY OF GALVESTON (CONT'D.)

### *Response to Comment No. 1141-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Galveston is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel through the Port of Galveston, or any other port evaluated, is low.

## *Commentor No. 1141:*
## *City Council of the City of Galveston (Cont'd.)*

IN TESTIMONY WHEREOF, I subscribe my name hereto officially under the corporate seal of the City of Galveston this _____ day of _____, 19___.

_____
Secretary for the City Council
of the City of Galveston



## *Response to Comment*
## *Commentor No. 1141:*
## *City Council of the City of Galveston (Cont'd.)*

## COMMENTOR NO. 1207: PORT OF GALVESTON

**PORT of GALVESTON**

123 Rosenberg
P.O. Box 328
Galveston, Texas 77553

Galveston (409) 766-6103
Houston (713) 266-2484
Fax (409) 766-6171

Ernest Connor
General Manager

July 18, 1995

Charles R. Head
Office of Spent Fuel Management
Office of Waste Management, EM-37
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001

Dear Mr. Head:

The following comments represent a summary of the numerous points raised by Galveston during its EIS review process. We would hope and expect that serious attention be given to these points prior to your decisions on both the particular alternative and a designation of ports. They should not be considered an exhaustive list.

1. Serious attention should be given to **Alternative 2** as it may in fact be a superior choice. It does not seem to us to have received full attention as a viable alternative for the US to adopt. *1207-1*

2. Adverse risk to the **economics of Galveston** are of great concern. Galveston is a major tourist destination and large fruit, food and grain importer and exporter. Perceived contaminant difficulties may injure future port/city business and critical future commercial investments. In the event of an actual accident (as small a probability as this may be) financial interest surely could be affected. *1207-2*

3. Galveston has only **one appropriate transportation roadway off the Island** and therefore does not meet your criteria. This is not a fact which would have been easy for you to have discovered. I-45 northbound directly into downtown Houston is fine but only after one successfully traverses the causeway bridges connecting Galveston Island to mainland Texas. Neither the ferry route or the San Luis pass/bridge route would be suitable as alternate routes. Serious auto/truck breakdowns and/or crashes can literally stop all traffic for hours during which time even the emergency vehicles have serious difficulty getting to and leaving the scene. *1207-3*

4. Nuclear **allies should bear much more** of the worldwide problem's cost than the EIS options seem to suggest. Again Alternative two should be a first option to consider. *1207-1 (Cont'd.)*

5. Taxpayer's **cost are too high** for the apparent gain. The gain for Galveston would appear to be none. The Houston metroplex and its transportation problems should be re-reviewed very carefully. Proper routing , temporally and spatially, is critical. Again we believe we should be exempt due to inappropriate alternate routes off the island. *1207-3 (Cont'd.)*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1207: PORT OF GALVESTON

### *Response to Comment No. 1207-1*

The commentor's agreement with Management Alternative 2 is noted. Sections 2.3 and 4.4 of the EIS discuss the advantages and disadvantages of overseas storage and reprocessing.

### *Response to Comment No. 1207-2*

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified is not greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor spent nuclear fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel. Based on this past experience, DOE considers that shipping foreign research reactor spent nuclear fuel through the Port of Galveston would have no detrimental effect on tourism or future business development at the port.

### *Response to Comment No. 1207-3*

The criteria for port selection do not include multiple roadways for exiting the port. The Port of Galveston is served by an interstate highway (I-45) and alternate routes are not necessary.

The routes near Houston and throughout the State of Texas would be selected in consultation with the State. A State routing agency could designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103. As for temporal routing, DOE's policy is for the trucks to leave the port as soon as they

## COMMENTOR NO. 1207: PORT OF GALVESTON (CONT'D.)

6. **Why should Galveston** have such perceived risks to its economy, if no other alternatives are shown to be preferred? There seems to be no actual national need to exercise Alternative one, so why select it? The image of distrust arises whenever it appears that Alternative one is the only option DOE is seriously considering. This is the perception we get when studying the EIS draft documents. It really does seem that the benefits/advantages of Alternative 2 have not been fully brought out and highlighted by the EIS statement. *1207-4* *1207-1 (Cont'd.)*

7. **Too little risk related attention** is given to the not unlikely possibility that a cask would find itself in a very hot fire with chemicals and significant air flow for a number of hours. We have experienced such events minus the radiation (both truck related and ship related) in the Houston-Galveston area on a number of occasions. What would be our risks if such a situation did occur? Please do not argue its remoteness since such events have occurred near Galveston and are a matter of record. Such terrifically hot fires have raged for days on ships. *1207-5*

8. DOE suggested that there would be **no additional training for local** first responders: fire, emergency, etc. This was surely not properly or adequately considered. *1207-6*

9. **The actual impact of Alternative** 1 versus others on a reduction in the proliferation of nuclear weapons was inadequately discussed. It might be argued successfully that the marginal impact of Alternative 1 when compared with others is negligible. *1207-7*

10. It would appear that, rather than wait for 10-13 more years for **other countries** to take care of their spent fuel, the process **should begin now**. There is little incentive for them to speed up the process so long as we will take it back. They should be assisted and encouraged to do what the US was going to do under Alternative 1 at great cost and increased risk, real and perceived. The non-proliferation goals are admirable and should be supported by us all. If alternatives to Alternative 1 can be found which accomplish that goal, they should receive high priority. The US does not yet have adequate storage capability for its own spent nuclear fuel! *1207-8*

Mr. Head after due consideration of the EIS and your hearing, followed recently by our own meeting, and after reviewing the comments and documents of other interested stake holders, the Port of Galveston respectfully requests to be withdrawn as a receiver port for foreign spent nuclear research fuel. We support the non-proliferation intent of the US but are concerned that the alternatives which maintain the spent nuclear fuel in the foreign countries have received inadequate attention and consideration to date. We believe that Alternative 2 with perhaps some modification is philosophically and politically correct and can be rendered technically sound. *1207-9* *1207-1 (Cont'd.)*

If however we are not ultimately withdrawn from consideration, it would be our intent to initiate whatever actions are necessary to prevent our receipt of such shipments until the economic and safety issues we have raised have received satisfactory attention and resolution. Radiation is not like any other toxic agent in that the *public's perception* of the "never ending contamination of everything around radiation release", no matter how small, could mean economic disaster for a small city's port and tourist industry like Galveston Island's. *1207-10*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1207: PORT OF GALVESTON (CONT'D.)

are ready to go. Under normal circumstances, spent nuclear fuel transportation cask should spend no more than 24 hours at the port of entry. Each shipment would be made in conjunction with the State Police, who would help the trucks avoid traffic. Furthermore, traffic problems were taken into account in the risk calculations in Appendix E. The results presented in Section 4.2.3 of the EIS include the possibility of traffic jams.

The gain for Galveston and for all the citizens of the United States would be a reduction in the risk that weapons grade uranium from civil programs would be diverted into production of nuclear weapons that might be used against us or our allies.

### *Response to Comment No. 1207-4*

The commentor's opposition to management of spent nuclear fuel from foreign research reactors in the United States (Management Alternatives 1 or 3; Sections 2.2 and 2.4 of the EIS, respectively), is noted. Sections 2.3, 2.5, and 4.4 of the EIS describe other alternatives under consideration. The environmental and policy impacts of Management Alternatives 2 and 3 are discussed in Sections 4.4 and 4.5, respectively. The cost associated with each of the management alternatives is discussed in Section 4.9 of the EIS.

### *Response to Comment No. 1207-5*

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the transportation casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicates that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures. Hence, contrary to the commentor's assertion, long duration fires are not usual.

In respect to the impact a ship fire might have on a transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship fire's intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of research reactor fuel. The probability of

We believe the ever increasing problem of storing, disposing, and/or reprocessing present and future domestic and defense spent nuclear fuel in *the USA* must be resolved satisfactorily and with increased speed. 1207-11

We appreciate the difficulties associated with your responsibilities and will try to assist whenever and wherever we are able in the best interests of our community's personal and economic safety.

Sincerely,

Ernest Connor
General Manager
Port of Galveston

Elbert Whorton, Ph.D.
Trustee, Galveston Wharves Board
Professor, University of Texas

Attachments: Resolution, City Council
Resolution, Downtown Revitalization Coalition
Tape of Public Meeting June 29, 1995

cc: Members, Galveston Wharves Board
Barbara Crews Mayor
Members, City Council
Doug Matthews, City Manager



reaching such a temperature was calculated to be less than one in a billion (Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt research reactor nuclear fuel. Appendix D, Sections D.5.3 and D.5.4 present a detailed discussion of accident probabilities and radioactive material source terms and the results of the analyses, respectively.

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a spent nuclear fuel transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS).

### *Response to Comment No. 1207-6*

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. The assessment on the capability of local first responders is included in these issues.

### *Response to Comment No. 1207-7*

One measure of the nonproliferation effectiveness is the amount of HEU that could be removed from civil commerce under each alternative. This subject is discussed in Section 4.8.1 and the comparison is presented in Figure 4-21. DOE hopes that all 41 nations involved in the proposed action decide to participate so that the maximum amount of HEU could be removed from civil commerce. This maximum amount (4.6 MTHM of HEU, or 5.2 MTHM of HEU if target material is included) is the same under any of the management alternatives considered (Section 4.8.1 of the EIS).

### *Response to Comment No. 1207-8*

Many foreign research reactor operators do not have immediate means for disposition of their own spent nuclear fuel. Thus, the intent of the proposed policy is to remove as much U.S.-origin HEU as possible from civil programs worldwide and give foreign research reactor operators time to convert their reactors to the use of LEU fuels and to make arrangements for disposition of their LEU spent nuclear fuel (Section 1.2 of the EIS). These arrangements could be completed within the policy period provided foreign research reactor operators immediately begin developing them.

## COMMENTOR NO. 1207: PORT OF GALVESTON (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 1207: PORT OF GALVESTON (CONT'D.)

As demonstrated by the analyses in Section 4 of the EIS, the risks associated with implementation of the proposed action to human health or the environment would be low. Local benefits (other than nonproliferation benefits) would, as noted, be low. These benefits would be associated with increased port activity. Overseas management of spent nuclear fuel from foreign research reactors (Management Alternative 2) is discussed in Section 2.3 of the EIS. Management in the United States would be technically, politically, and economically more advantageous than management in as many as 41 separate countries.

Storage in the countries of origin would cost more than storage in the United States (and cost U.S. taxpayers more), would be technically difficult, if not impossible, in many countries, and would violate the laws of several of the countries. Finally, many countries participated in the U.S.-led research reactor programs on the belief that the United States would eventually accept the spent nuclear fuel. Failure of the United States to accept the spent nuclear fuel could endanger the entire program to substantially eliminate the use of highly enriched (weapons-grade) uranium in civilian programs worldwide.

Section 2.6.5 and Appendix F of the EIS describe interim storage for foreign research reactor spent nuclear fuel in the event that a policy of management in the United States is adopted. As discussed in Section 4.2.7 of the EIS, foreign research reactor spent nuclear fuel could be safely managed in the United States pending ultimate disposition.

### *Response to Comment No. 1207-9*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Galveston is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel through the Port of Galveston, or any other port evaluated, is low.

### *Response to Comment No. 1207-10*

The Port of Galveston is one of ten candidate ports of entry under consideration to receive foreign research reactor spent nuclear fuel. The analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risks associated with receipt of this spent nuclear fuel at the Port of Galveston, or any other potential port, is low. DOE acknowledges that, in many instances, the perception by the public of risks associated with spent nuclear fuel may be greater than the actual risk, or than risk from other even more hazardous activities. Sections 4.2.2, 4.2.3 and 4.5 of the EIS demonstrate that the risk to port personnel and the general public from receipt and transport of the foreign research reactor spent nuclear fuel is low.

### *Response to Comment No. 1207-11*

The commentor's concerns about ultimate disposition of domestic and defense spent nuclear fuel are noted. Ultimate disposition is discussed qualitatively in Section 4.2.7 of the EIS.

## *Commentor No. 1212:*
## *Ben Tarver, Mayor, City of Pleasanton*

# CITY OF PLEASANTON

July 18, 1995

OFFICE OF THE MAYOR
BEN C. TARVER

Charles Head
Program Manager
Office of Spent Nuclear Fuel Management
U.S. Department of Energy
1000 Independence Avenue
Washington D.C. 20585-0001

Re: Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel

Dear Mr. Head,

The Pleasanton City Council has considered the Department of Energy's Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, and offers the following comments.

We do not comment on the overall appropriateness of the Nuclear Nonproliferation Policy, but address only the potential impact on the City of Pleasanton's resources should shipments pass through the Interstate 580/680 corridor. In general, our comments would apply regardless of the port of entry that is chosen, although the only site that would have an impact on our community would be the Concord Naval Weapons Station. We believe that the EIS inadequately addresses several areas that could have a significant effect on the City of Pleasanton's ability to ensure public health and safety if shipments pass through our community.

First, the draft EIS does not disclose the local street and highway routes that could be used to ship the fuel casks to their final storage sites, and does not specify how -- or even if -- local authorities will be notified in advance of shipments passing through their jurisdictions. Consideration of the potential routes and advance notice could significantly affect emergency response by local jurisdictions. Our Fire Department's ability to respond to accidents involving fuel casks, and therefore our ability to control the accident's effect on the surrounding area, would be greatly enhanced by adequate advance notice of shipment routes and times. *1212-1*

We believe that the EIS should specifically describe potential transportation routes and describe how local jurisdictions will be notified of the shipments.

123 MAIN STREET • P.O. BOX 520 • PLEASANTON, CA 94566-0802 • (510) 484-8001 • FAX (510) 484-8236

## *Response to Comment*
## *Commentor No. 1212:*
## *Ben Tarver, Mayor, City of Pleasanton*

### *Response to Comment No. 1212-1*

DOE has not yet selected ports, routes, or transport modes for the foreign research reactor spent nuclear fuel. If Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). Representative Interstate Highway routes for the trucks are shown in Figure E1-11 in Appendix E. Some of these routes go south on I-680 and turn east on I-580. A State of California routing agency could designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

As discussed in Section 2.6.4.2 of the EIS, the NRC regulations concerning actual route notification are set forth in 10 CFR Part 73. Shippers are required to submit proposed routes for spent nuclear fuel shipments to NRC for approval, and NRC publishes a public information circular that lists routes that have been evaluated and approved for specific spent nuclear fuel shipments. The regulation also requires DOE to inform the Governor of each State and any Tribal chair, or their designee, along the transportation route at least seven days prior to each shipment of hazardous cargoes, including radioactive materials.

## COMMENTOR NO. 1212: BEN TARVER, MAYOR, CITY OF PLEASANTON (CONT'D.)

Charles Head
Page 2

Second, the draft EIS does not adequately describe security precautions for the shipments. It is unclear to what extent Pleasanton's Police Department would be called upon to ensure safe passage of the shipments through Pleasanton. We do not know whether the shipments will receive a military escort, or what role our Police Department would be asked to play in responding to a security threat. 1212-2

The EIS should clearly state the types of security precautions that will be taken, including a description of any participation that DOE expects from local law enforcement agencies.

Finally, we are concerned that the draft EIS does not include a comparative analysis of the several ports of entry under consideration. A side-by-side analysis of the various sites is not only desirable, but necessary, to properly assess the complex impacts associated with the various sites. 1212-3

Thank you for the opportunity to comment on the draft EIS, and for extending the public review period to allow the City time to present comments. Please call me or our staff if you wish to discuss the City's position further.

Sincerely,

Ben Tarver
Mayor

cc: City Council
Alameda County Board of Supervisors
City of Concord
City of Livermore
City of Dublin
Representative Bill Baker
Senator Dianne Feinstein
Senator Barbara Boxer
Governor Pete Wilson
State Senator Dan Boatwright
State Senator Bill Lockyer
Assemblymember Richard Rainey
Assemblymember Michael Sweeney
Assemblymember Liz Figueroa
Association of Bay Area Governments

## RESPONSE TO COMMENT COMMENTOR NO. 1212: BEN TARVER, MAYOR, CITY OF PLEASANTON (CONT'D.)

### *Response to Comment No. 1212-2*

The requirements for physical protection of spent nuclear fuel shipments are specified in 10 CFR Part 73.37. The principal points are (1) cooperation with local law enforcement agencies, (2) armed escorts, and (3) communications with a communications center that is staffed 24 hours per day. (Section 5.4.2 of the EIS.)

For truck shipments in heavily populated areas, one escort vehicle containing an armed guard would lead the truck and another escort vehicle containing another armed guard would follow the truck. In less populated areas, there would be only one escort vehicle instead of two. For rail shipments, the escort would ride on the train in a location that permits observation of the shipment car while the train is in motion. (Section 2.7.5 and Appendix H of the EIS.)

In addition, to further address this issue, individual Transportation Plans would be prepared for any shipments actually scheduled for acceptance through the Concord NWS (or any other port of entry). These Transportation Plans would be prepared in consultation with appropriate State and/or local officials to ensure that details of the transportation process are understood, that the individuals or organizations who would perform all required activities are specified and that these individuals and parties know what is expected of them (Section 2.7.5 and Appendix H of the EIS).

### *Response to Comment No. 1212-3*

Section 4.2.2.3 of the EIS provides the results of analyses on the impacts of port activities at all of the candidate ports. These impacts are presented in text and in table form for comparison purposes. The impacts are low at all of the candidate ports.

## *Commentor No. 1216:*
## *Galveston County Commissioners*

**COUNTY OF GALVESTON**

**JAMES D. YARBROUGH**
COUNTY JUDGE

July 20, 1995

VIA FAX (202) 586-5256

Mr. Charles Head
Office of Spent Fuel Management, EM-37
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1110

Dear Mr. Head:

Enclosed is a Resolution passed by the Galveston County Commissioners Court on July 20, 1995, expressing its opposition to utilizing the Port of Galveston as a port of entry for spent nuclear fuel from foreign research reactors. The Resolution, I believe, is self explanatory.

The Commissioners Court feels very strongly about this subject and hopes the Department of Energy will not allow the Port of Galveston to be used in this manner.

Thank you very much for your consideration in this matter.

Sincerely,

JAMES D. YARBROUGH

ssk
Enclosure

[illegible]
[illegible]

COUNTY COURTHOUSE 722 MOODY GALVESTON, TEXAS 77550 (409) 766-2244

## *Response to Comment*
## *Commentor No. 1216:*
## *Galveston County Commissioners*

## COMMENTOR NO. 1216:
## GALVESTON COUNTY COMMISSIONERS (CONT'D.)

### THE COUNTY OF GALVESTON

On this the 13th day of July, 1995, the Commissioners' Court of Galveston County, Texas convened in a regularly scheduled meeting with the following members thereof present:

JAMES D. YARBROUGH, County Judge;
EDDIE BARR, Commissioner, Precinct No. 1;
EDDIE JANEK, Commissioner, Precinct No. 2;
WAYNE JOHNSON, III, Commissioner, Precinct No. 3;
ED STUART, Commissioner, Precinct No. 4; and
PATRICIA RITCHIE, County Clerk

when the following proceedings, among others, were had, to-wit:

WHEREAS, the UNITED STATES DEPARTMENT OF ENERGY and the UNITED STATES DEPARTMENT OF STATE are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

WHEREAS, a portion of the policy identifies the Port of Galveston as the Port of entry for this material;

WHEREAS, the people of Galveston Island have toiled to create a tourist mecca to attract people to enjoy the sites on Galveston and the glittering beauty of the waters of the Gulf of Mexico; and

WHEREAS, their efforts have been placed in danger by this proposal inasmuch as the perception of danger associated with nuclear fuel will act as a deterrent to many individuals; and

WHEREAS, the University of Texas Medical Branch at Galveston, one of the State of Texas' foremost medical and teaching institution, its over ten thousand employees, two thousand five hundred students and its thousands of patients and visitors is located in the immediate vicinity of the Port of Galveston and the proposed area where the nuclear fuel will arrive; and

WHEREAS, the City of Galveston, being a barrier island, is extremely susceptible and sensitive to the extreme destruction caused by hurricanes in the Gulf of Mexico. In addition, as a barrier island it has one main access route to the inland portions of the State and can not quickly provide alternate routes of travel in time of imminent disaster; and

WHEREAS, the climate of Galveston is influenced by wetlands and bayous, which together with high humidity, favors the development of both ground and advective fog. This negative condition continually impacts on transportation throughout Galveston County and increases the potential of accidents occurring; and

WHEREAS, the Commissioners' Court of Galveston County believes the portion of the proposal utilizing the Port of Galveston to be environmentally unsound, ill-advised and contrary to the best interests of all citizens of Galveston County.

NOW, THEREFORE, BE IT RESOLVED that the COMMISSIONERS' COURT OF GALVESTON COUNTY unanimously opposes utilizing the Port of Galveston in this manner and requests the Department of Energy and the Department of State to reject same in order to preserve and prevent any further damage to our coastal area caused by man.

1216-1

## RESPONSE TO COMMENT
## COMMENTOR NO. 1216:
## GALVESTON COUNTY COMMISSIONERS (CONT'D.)

### *Response to Comment No. 1216-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Galveston is noted. The Port of Galveston was one of ten ports that was indicated to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted into the United States. Population of the port and surrounding areas to a radius of ten miles is one of the considerations of the port selection criteria. Galveston's lower population was a positive aspect. The population criterion for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS.

DOE considers that the use of any of the ports identified by the port selection process, including Galveston, would not impact normal commercial operations, and therefore not endanger the ports' economic development. Nor should it contribute to any stigma because the analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2). This consideration is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse cultural or economic reaction to the use of the port. Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

Any ship that would be used to transport foreign research reactor spent nuclear fuel would be equipped with long range communication equipment and remain in contact with weather advisory services. Therefore, the ship would be aware of the existence of a hurricane or other dangerous storm with sufficient advance notice in order to avoid being in the Port of Galveston specifically, or any port or other restricted waterway when such a storm hit. Since docking the ship and unloading would be accomplished quickly, typically within a day, the foreign research reactor spent nuclear fuel would not be caught in restricted spaces due to an extended port stay. Even if the ship were to experience a collision or sink as the result of a severe storm or other cause, the analysis in the EIS indicates that the risk to people nearby is low. Appendix D, Section D.5 presents details on the calculation of consequences and risk associated with accidents in port and their approaches.

The evaluations of accident probabilities, both marine and land, were based on national accident rates, which include locale-specific conditions only as they impact the national statistics. However, local hazards, such as fog, can serve as accident initiators and may therefore slightly increase the probability of an accident. However, they would not increase the consequences (results) of the accident, which were found to be minor (Section 4.2.2.3). Therefore, the overall low risk is essentially unchanged due to foggy conditions in the Port of Galveston.

## *Commentor No. 1216:*
## *Galveston County Commissioners (Cont'd.)*

BE IT FURTHER RESOLVED that a copy of this Resolution be spread upon the minutes of this Court and that the Original hereof be furnished to CHARLES HEAD, of the OFFICE OF SPENT FUEL MANAGEMENT, UNITED STATES DEPARTMENT OF ENERGY.

UPON MOTION DULY MADE AND SECONDED the above Resolution was passed this 13th day of July, 1995.

COUNTY OF GALVESTON, TEXAS

BY: JAMES D. YARBROUGH, County Judge

EDDIE BARR, Comm., Pct.#1

EDDIE JANEK, Comm., Pct.#2

WAYNE JOHNSON, III, Comm., Pct.#3

ED STUART, Comm., Pct.#4

ATTEST:

PATRICIA RITCHIE,
County Clerk

## *Response to Comment*
## *Commentor No. 1216:*
## *Galveston County Commissioners (Cont'd.)*

## *Commentor No. 1223:*
## *Robert A. Molike, Mayor, City of Sumner*

**RESOLUTION NO. 884**

**CITY OF SUMNER, WASHINGTON**

**A RESOLUTION** of the City of Sumner opposing the adoption of a policy, being proposed jointly by the United States Department of Energy and United States Department of State, to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington.

**WHEREAS,** the United States Departments of Energy and State are jointly proposing to adopt a policy to manage spent nuclear fuel from foreign research reactors; and

**WHEREAS,** nuclear fuel containing uranium enriched in the United States of America would be covered by this policy; and

**WHEREAS,** the purpose of this policy is to promote United States nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce; and

**WHEREAS,** the environmental effects and policy considerations of three management alternative approaches for implementation of the proposed policy are assessed; and

**WHEREAS,** alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States; and

**WHEREAS,** under alternative number one the spent nuclear fuel would be shipped by ocean-going vessels from foreign countries to the United States of America; and

**WHEREAS,** the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur; and

**WHEREAS,** the Draft Environmental Statement (DEIS) was prepared to address the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel; and

A. The DEIS has used outdated information about the Port of Tacoma, its terminals, its operations, and the surrounding area; *1223-1*

B. The DEIS did not consider the deep-water depth in the Puget Sound area, which will cause substantial problems in recovery of nuclear fuel shipping containers in case of accident; *1223-2*

1

## *Response to Comment*
## *Commentor No. 1223:*
## *Robert A. Molike, Mayor, City of Sumner*

### *Response to Comment No. 1223-1*

Updated information on the terminals at the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS. The evaluated data on populations is from the 1990 census. Although corrected information has been included in the port information for the Port of Tacoma, the analyses provided in Sections 4.2.2 and 4.5 of the EIS indicate that the use of any of the ports indicated by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel, local environment, or the population near the port.

The acceptance of foreign research reactor spent nuclear fuel through the Port of Tacoma would neither affect the activities being conducted in Commencement Bay as a result of being a Superfund Site, nor would it add any additional burden to this designation. The transport of the spent nuclear fuel on the Bay would not add any hazardous material to the Bay or the environment. DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS recognizing the designation of the Commencement Bay as a Superfund Site. The analysis of impacts, as documented in Section 4 of the EIS, shows that there would be no significant adverse impacts on the port, people, or natural environment from shipments of foreign research reactor spent nuclear fuel through any of the ports of entry.

### *Response to Comment No. 1223-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a spent nuclear fuel transportation cask sinking in coastal and deep ocean waters.

Appendix D, Section D.5.3.1 describes several accident scenarios that involve fire. The results of the analysis of these accidents can be found in Section D.5.4. The analysis indicates that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5). Although the nonradiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

As stated above, the acceptance of foreign research reactor spent nuclear fuel through the Port of Tacoma would neither affect the activities being conducted in Commencement Bay as a result of being a Superfund Site, nor would it add any additional burden to this designation. The notion that the spent nuclear fuel shipments, but not other more hazardous material shipments, passing through the Port of Tacoma would create a stigma is an unjustified concern. The analysis of impacts, as documented in Section 4 of the EIS,

## COMMENTOR NO. 1223: ROBERT A. MOLIKE, MAYOR, CITY OF SUMNER (CONT'D.)

C. The DEIS fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating Puget Sound; 1223-2 (Cont'd.)

D. The DEIS did not recognize the status of Commencement Bay as a superfund site, the stigma attached to this designation, and the expansion of this stigma by Alternative Number One;

E. The DEIS ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma, the industries in Commencement Bay, and the associated crippling business interruption issues; 1223-1 (Cont'd.)

F. The DEIS stated that part of this material would be of interest to unfriendly nations and/or terrorists, and yet did not provide adequate risk and consequence information of a complete, explosive breach of the nuclear fuel by disgruntled persons or terrorists; 1223-3

G. The DEIS did not consider the security aspect of these shipments through the Port of Tacoma, the City of Tacoma, Pierce County, and the State of Washington; 1223-4

H. The DEIS did not adequately address the life cycle costs or benefits and risks of the proposed alternatives; 1223-5

I. The DEIS fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential; and 1223-6

**WHEREAS,** the record for the safe operation and handling of nuclear materials in United States Department of Energy regulated facilities is less than satisfactory, and there are facilities owned and operated by the United States government capable of receiving and handling this nuclear material, and; 1223-7

**WHEREAS,** the United States House Budget Resolution eliminates the United States Department of Energy thereby creating funding uncertainties; and 1223-8

**WHEREAS,** selection of Alternative 2 would significantly reduce the amount of spent nuclear waste into the United States: 1223-9

**WHEREAS,** the United States Department of Energy has failed to properly answer a question in a meeting conducted by the Port of Tacoma, in Tacoma on the 22nd day of May, 1995, pertaining to the effect of radiation in the environment should a shipping cask be damaged during the handling process in the Port, or to respond in writing to that question as promised and; **NOW, THEREFORE,** 1223-10

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## RESPONSE TO COMMENT COMMENTOR NO. 1223: ROBERT A. MOLIKE, MAYOR, CITY OF SUMNER (CONT'D.)

shows that there would be no significant adverse impacts on the port, people, or natural environment from shipments of foreign research reactor spent nuclear fuel through any of the ports of entry. Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This position is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port.

### *Response to Comment No. 1223-3*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk. Section D.5.9 has been added to Appendix D of the EIS to address terrorism and sabotage. All shipments of foreign research reactor spent nuclear fuel would be conducted meeting or exceeding all the security requirements in the Code of Federal Regulations (10 CFR Part 73). Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

### *Response to Comment No. 1223-4*

The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

### *Response to Comment No. 1223-5*

Section 4.9 and Appendix F, Section F.7 of the EIS fully address the life cycle costs, risks, and benefits of the proposed action. The use of a net present value approach reflects the life cycle costs. Benefits would be primarily in the form of reduced risks of the proliferation of nuclear weapons to countries who might use them on us or our allies, as

## COMMENTOR NO. 1223: ROBERT A. MOLIKE, MAYOR, CITY OF SUMNER (CONT'D.)

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF**

**SUMNER, WASHINGTON**

**Section 1.** That the City opposes adoption of a policy, being proposed jointly by the United States Department of Energy and United States Department of State, to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington. *1223-1 (Cont'd.)*

**Section 2.** That the City urges the United States Department of Energy and the United States Department of State to reconsider the adoption of a spent waste policy as presented in Alternative 2. *1223-9 (Cont'd.)*

**Section 3.** That copies of this Resolution shall be transmitted to President Clinton, Vice-President Gore, the United States Department of Energy, and United States Department of State, the Washington State Congressional delegation, the Washington State Legislature, the Office of Governor, the Pierce County Executive, the King County Council and Executive, Port of Tacoma, and all cities and towns in Pierce County.

**ADOPTED AND APPROVED** this 17th day of July, 1995.

Robert A. Molike
Mayor

Attest:

Barbara J. Hughes
City Clerk

Approved as to form:

Mark J. Scraggin
City Attorney

## RESPONSE TO COMMENT COMMENTOR NO. 1223: ROBERT A. MOLIKE, MAYOR, CITY OF SUMNER (CONT'D.)

well as, income and employment to the management sites and regions conducting the programs and to the nation from reducing the commerce in certain types of nuclear materials. Health and safety risks would be low, as discussed fully Section 4 of the EIS and Appendices C, D, E, and F. Economic risks are described in detail in Appendix F, Section F.7. Particular attention is paid to major cost uncertainties (e.g., waste acceptance criteria, geologic disposal). Economic impacts relating to ports are minor in all respects.

### *Response to Comment No. 1223-6*

DOE considers that the port selection criteria fairly and equally indicate those ports that can safely handle foreign research reactor spent nuclear fuel. The EIS demonstrates that the use of any of the ports indicated by the port selection process, if foreign research reactor spent nuclear fuel is accepted into the United States, it would not pose any significant risk to either the port personnel or the population near the port. DOE considers the port selection process and results presented in the EIS, Appendix D, Sections D.1.8 and D.1.9, to be fair, rational and objective.

It should also be noted that Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the fiscal year 1994), requires that the Secretary of Energy shall, "if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel...at a port of entry in the United States which...had the lowest human population in the area surrounding the port of entry..." Public Law 103-160 was signed on November 30, 1993, which is after completion of the scoping process for this EIS. While the National Defense Authorization Act was written specifically to regulate the receipt and storage of foreign research reactor spent nuclear fuel at DOE's Savannah River Site, DOE elected to apply this criterion, among others, in identifying ports of entry to the maximum extent practicable. DOE included consideration of Section 3151 of Public Law 103-160 by including Criterion 5 in the port selection criteria for this EIS (Appendix D, Section D.1.9.5). Application of this criterion resulted in cities such as Seattle being dropped from the list of proposed ports of entry, while Tacoma stayed on the list.

### *Response to Comment No. 1223-7*

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to

satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

***Response to Comment No. 1223-8***

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

***Response to Comment No. 1223-9***

The commentor's preference for the overseas management alternative is noted. This is Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

***Response to Comment No. 1223-10***

DOE responded to this question by letter and fax on June 16, 1995. The response gave the estimated radiation dose rate near the spent nuclear fuel under the assumption that there was no transportation cask to provide shielding, as requested by the Port of Tacoma.

CEQ regulations and guidance do not require a worst case analysis of accident in an EIS. For the purposes of an analysis in the EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst-case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by disgruntled persons or terrorists.

## COMMENTOR NO. 1249: ROBERTA COOPER, MAYOR, CITY OF HAYWARD

CITY OF HAYWARD

Mayor Roberta Cooper
July 17, 1995

Heart of the Bay

Honorable Hazel R. O'Leary
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Secretary O'Leary:

We understand that on June 6, 1995, the Contra Costa County, California, Board of Supervisors, unanimously voted to strongly oppose the use of the Concord Naval Weapons Station (located in Contra Costa County) as port of entry for foreign research reactor spent nuclear fuel.

The Concord Naval Weapons Station is one of three West Coast posts which are currently under review as posts of entry in the U.S. Department of Energy's *Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel*.

As a neighboring community, The City of Hayward joins Contra Costa County in its strong opposition the use of the Concord Naval Weapons Station as a proposed port of entry for foreign research reactor spent nuclear fuel. *1249-1*

In 1988, the members of the City Council adopted Ordinance Number 87-024, establishing "Nuclear Free Hayward". Among the findings contained in the ordinance, the council determined in Section 3 (c) among other issues, that: *1249-2*

> *"The use, storage or transportation of weapons-related radioactive nuclear materials or wastes within or through the City of Hayward poses serious health, safety and environmental risks to the residents of the City".*

Given its close proximity to our community, we believe, unequivocally, that using the Concord Naval Weapons Station poses serious health, safety and environmental risks to the residents of Hayward.

Therefore, consistent with the provisions of our Ordinance, and in the interest of the health and safety of the residents of the City of Hayward, I strongly urge you to direct that the Concord Naval Weapons Station be excluded from the list of those being considered as ports of entry for spent nuclear reactor fuel. *1249-1 (Cont'd.)*

Sincerely,

Roberta Cooper
Mayor

copy: Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

William B. Walker, M.D., Health Officer
Contra Costa County
Health Services Department
20 Allen Street
Martinez, CA 94553

25151 Chrisler Road, Hayward, CA 94545-2731 · (510) 293-5342 · FAX (510) 293-1580 · TDD (510) 293-1590

## RESPONSE TO COMMENT COMMENTOR NO. 1249: ROBERTA COOPER, MAYOR, CITY OF HAYWARD

### *Response to Comment No. 1249-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Concord NWS is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Concord NWS, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 1249-2*

DOE is convinced, and has established in the EIS, that the activities associated with implementing the foreign research reactor spent nuclear fuel proposed policy can and would occur in a manner that would not present human health, safety, and/or environmental risks to the populations surrounding the ports, transportation routes, or potential management sites. The local ordinance of the City of Haywood is noted.

## COMMENTOR NO. 1251:
## EDWARD D. HANSEN, MAYOR, CITY OF EVERETT

EVERETT

OFFICE OF THE MAYOR

Edward D. Hansen
Mayor

July 18, 1995

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Mr. Head:

We have recently become aware of the U.S. Department of Energy's plan to ship spent nuclear fuel through a Puget Sound port for storage in other areas. We wish to submit for the record a statement of our opposition to such a plan. We believe that if it is necessary to bring spent nuclear fuel from foreign countries, there are alternative shipping routes which are more suitable. 1251-1

Thank you for allowing us to submit this letter of opposition to your plan.

Respectfully submitted,

Carl Gipson, Council President

Edward D. Hansen, Mayor

Frank Anderson, Councilmember

Doug Campbell, Councilmember

Bob Overstreet, Councilmember

Dale Pope, Councilmember

Mark Soine, Councilmember

Ann Weinzierl, Councilmember

PB:tm

cc: Harold G. Moss, Mayor of Tacoma
Washington Congressional Delegation
Port of Tacoma Commissioners

CITY OF EVERETT • 3002 Wetmore Ave. • Everett, WA 98201 • (206) 259-8700 • Fax (206) 259-8729

## RESPONSE TO COMMENT
## COMMENTOR NO. 1251:
## EDWARD D. HANSEN, MAYOR, CITY OF EVERETT

### *Response to Comment No. 1251-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

## COMMENTOR NO. 1255: JACK GERAGHTY, MAYOR, CITY OF SPOKANE

SPOKANE

OFFICE OF THE MAYOR
808 W. SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3335
(509) 625-6250

JACK GERAGHTY
MAYOR

July 14, 1995

Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Re: Utilization of Washington Ports and Cities to Address the "Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuels"

Dear Mr. Head:

I have concerns over the fact that Washington cities and facilities play such a significant, and appears only, role in the Department of Energy's management of the world's spent nuclear fuels. There are alternative ports and storage facilities that should be considered. *1255-1*

The City of Spokane is the hub for almost all rail lines serving the northwest's port cities. With plans calling for up to 721 shipments of radioactive materials over a 13 year period, I can't help feeling a little uneasy. Even with all the safety and security plans that exist, accidents do occur. *1255-2*

The transportation and storage of radioactive materials seems to always evoke the worst case response in most people. It's difficult to measure these negative impacts upon a community, but they do exist. I feel that Washington, and especially Spokane, have little to gain by seemingly being singled out as the only solution. Alternates involving other nations as to reprocessing and storage appear to share the impacts with a much larger whole. *1255-1 (Cont'd.)* *1255-3*

I appreciate the opportunity to comment on this plan and ask that you seriously reconsider the other options that are available.

Sincerely,

Jack Geraghty
Mayor

copy: Harold G. Moss
Mayor of Tacoma, WA

## RESPONSE TO COMMENT COMMENTOR NO. 1255: JACK GERAGHTY, MAYOR, CITY OF SPOKANE

### *Response to Comment No. 1255-1*

DOE did not specify a preferred alternative in the draft EIS. DOE's preferred alternative is specified in this final version of the EIS (Sections 2.9 and 4.7). DOE has noted the commentor's objection to the use of Puget Sound and the Port of Tacoma, as well as to storage at the Hanford Site. The analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing foreign research reactor spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

As explained in Section 1.5 of the EIS, the selection of the site or sites at which the foreign research reactor spent nuclear fuel would be managed is based on the analysis in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement. The Record of Decision for this EIS was released on May 30, 1995. In accordance with this Record of Decision, all of the aluminum-based foreign research reactor spent nuclear fuel managed by DOE will be managed at the Savannah River Site in South Carolina. Any other foreign research reactor spent nuclear fuel to be managed by DOE will be managed at the Idaho National Engineering Laboratory. Accordingly, no foreign research reactor spent nuclear fuel would be shipped to the Hanford site.

### *Response to Comment No. 1255-2*

The risks of ground transportation are discussed in Section 4.2.3 and Appendix E of the EIS. In all cases, the risks are shown to be low.

### *Response to Comment No. 1255-3*

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS.

## COMMENTOR NO. 1265: PORT OF TACOMA

PORT of TACOMA U.S.A.

July 20, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
US Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

As an elected body, the Port of Tacoma Commission is vitally concerned with the health, safety, security, efficiency and economic viability of the Port and the thousands of people employed by businesses operating in and around the Port. It is with these concerns in mind that the Commission unanimously opposes the Port of Tacoma's listing as a possible port of entry for spent nuclear fuel from foreign research reactors.

The Port of Tacoma cannot and will not accept spent nuclear fuel shipments. *1265-1*

Virtually the entire Tacoma - Pierce County area has joined the Port in opposing the proposed shipments. There is simply no demonstrable benefit to the Port or the community it serves. Indeed, the proposal contains a number of drawbacks including risks to the health, safety and well-being of workers, the general public and the environment. From the standpoint of port operations, receiving the shipments would place unacceptable burdens on the Port related to costs, scheduling, security and interruption of regular commerce.

In addition, the training and equipment costs related to preparing the Tacoma Fire Department to deal with the possibility of an accident involving spent nuclear fuel would, in effect, be an unfunded federal mandate placed upon the taxpayers of Tacoma. *1265-2*

Furthermore, the Department of Energy has never fully addressed the risks posed by shipboard fire. Although the Draft EIS states that the shipment casks have been tested to withstand fires that reach temperatures as high as 1,160 degrees for up to 30 minutes, shipboard fires in Tacoma and Seattle over the past decade have exceeded 2,000 degrees and lasted much longer than 30 minutes. DOE has never clearly stated what the results would be if a fire were to breach a cask and airborne radioactive smoke, steam and dust escaped into the environment. This worst-case scenario must be thoroughly investigated and a credible answer must be provided. *1265-3*

In addition to the real problems these shipments would cause, the commission is concerned with their effect upon the community's image and identity. The Port of Tacoma and the *1265-4*

P.O. Box 1837 • Tacoma, Washington 98401-1837 • Telephone: (206) 383-5841
*Commissioners:* Stephen R. Anderson • Jack A. Fabulich • Mike Fletcher • Patrick O'Malley • Jerry M. Thorpe
*Executive Director:* John J. Terpstra

## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA

### *Response to Comment No. 1265-1*

The opposition of the Port of Tacoma Commission to the use of the Port of Tacoma for receipt of foreign research reactor spent nuclear fuel is noted. Based on the port selection process described in Appendix D of the EIS, the Port of Tacoma is among the ten candidate ports listed in Section 2.2.1.6 of the EIS which could receive foreign research reactor spent nuclear fuel under Management Alternative 1 or 3. The analyses provided in the EIS indicate that the use of any of the ports identified by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel, local environment, or the population near the port. The analysis in the EIS indicates that the risks associated with an accident are low (Section 4.2.2.3 and 4.5) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel are also low (Section 4.2.2.2 and 4.5).

The benefit to the citizens of the United States from the proposed action, including those in potential ports of entry, along transportation routes, or near potential management sites, is less risk that weapons grade uranium from civil programs could be diverted into the production of nuclear weapons that might be used against us or our allies. On the other hand, the analyses recorded in the EIS (Section 4) demonstrate that the risks from the proposed action are low.

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This position is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no significant adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security measures employed at any port would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel in any commercial port. If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

Mr. Charles Head
July 20, 1995
Page 2

citizens of the Tacoma - Pierce County area are particularly sensitive to the stigma these shipments would attach to the community. *1265-4*

Federal, state and local governments have spent millions of dollars to clean up a number of contaminated sites in and around Commencement Bay. The community is just now beginning to reap the benefits of cleanup efforts. Shipments of spent nuclear fuel, coupled with a possible nuclear accident, would jeopardize the progress that has been made in cleaning up both the environment and the image of Tacoma - Pierce County. *1265-1 (Cont'd.)*

But concern over this issue goes far beyond the desire to prevent these shipments from passing through the Port of Tacoma. While the Commission supports the goals of nuclear nonproliferation, careful research and consideration has led to the conclusion that Alternative 1, as presented in the Draft EIS, is *not* the best, safest, fastest, most economical way to achieve those goals. *1265-5*

The Commission strongly urges DOE to reconsider Alternative 2. We believe Alternative 2 will achieve the goals of nuclear nonproliferation faster, at a lower cost and with less risk to the environment, the health of US citizens, and the economies of communities along possible transportation routes within the US. *1265-6*

The Draft EIS does not dispute the fact that Alternative 1, which is clearly favored in the Draft EIS, would cost nearly $1 billion more than Alternative 2. Even more alarming is the fact that the costs for upgrades to DOE facilities and equipment are not charged against the storage and treatment of the fuel in modernized US facilities. Consequently, the costs of Alternative 1 could spiral to well over $1 billion more than Alternative 2 (see footnote, page F-269, DEIS). Indeed, the Draft EIS states that the cost of Alternative 1 could be five to ten times greater than Alternative 2. *1265-5 (Cont'd.)*

There is no evidence in the Draft EIS that the foreign reprocessing option has a significantly higher proliferation risk than storing the fuel in the US, provided bilateral agreements can be reached to assure that the High Enriched Uranium is diluted to Low Enriched Uranium. *1265-6 (Cont'd.)*

While the Draft EIS does discuss upgrading US storage and reprocessing facilities, there is no evidence that DOE explored upgrading overseas storage and treatment facilities (e.g., Dounreay, Scotland). By not fully analyzing alternatives 2 and 3, DOE has demonstrated a lack of fairness and due diligence which tends to discredit the Draft EIS. It may also provide grounds for successful technical challenges. *1265-7*

Please take note of the attached Port resolution and "Issues and Concerns," which, for the record, expand upon the topics addressed in this letter. The attached documentation also includes questions the Commission would like to see answered in the Final EIS.

## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site(s).

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years experience shipping spent nuclear fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact

### *Response to Comment No. 1265-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

As stated above, Appendix H of the EIS contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

Mr. Charles Head
July 20, 1995
Page 3

In the event that DOE determines that Alternative 1 will be a significant part of its foreign spent fuel policy, the Commission urges you to consider staging the fuel in secure, temporary overseas storage facilities. At periodic intervals the fuel could be shipped to the US through military ports by properly trained personnel under appropriate security conditions. Carefully controlled overland transportation through minimally populated corridors could bring the fuel to its final destination. Although this approach would keep the fuel out of the Port of Tacoma, we believe it is inferior to the more permanent solution achievable under Alternative 2. 1265-8

Thank you for the opportunity to comment on the Draft EIS. We look forward to seeing a Final EIS that addresses the deficiencies described in this letter and the attachments.

Sincerely,

PATRICK O'MALLEY
President of the Port Commission

MIKE FLETCHER
Vice President of the Port Commission

JERRY M. THORPE
Secretary of the Port Commission

JACK A. FABULICH
Assistant Secretary of the Port Commission

STEPHEN R. ANDERSON
Assistant Secretary of the Commission

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-3*

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire. The results of the analysis of these accidents can be found in Appendix D, Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Appendix D, Section D.5.5). Although the nonradiological effects of such a catastrophic accident would obviously impact the local environment, no additional impacts are predicted due to the presence of foreign research reactor spent nuclear fuel.

The transportation casks that would be used for the foreign research reactor spent nuclear fuel are certified if their design meets certain tests, including a fire test, and if the individual casks pass periodic inspections (Section 2.6.2 of the EIS). These certification standards were developed for use of the casks on land, hence the 30 minute fire test, which is considered to be the extent of a high intensity fire resulting from a collision with a tanker truck. The duration of a ship fire is directly related to the amount of combustibles carried on board. The number of severe fires on ships is relatively small. Data available on the last 15 years from Lloyd's of London indicate that of 1,073 ship collisions in port worldwide, only eleven led to fires, and of those, only five caused extensive damage, with only one actually causing buckling of structures. Hence, contrary to the commentor's assertion, long duration fires are not usual.

In respect to the impact a ship fire might have on a transportation cask, there are three facts that would mitigate the potential damage. First, ship fires tend to move to different areas of the ship as the combustible material is consumed, so the cask would not be exposed for the entire duration of the fire. Second, a ship's fire intensity is normally limited by the amount of oxygen that can reach the interior of a hold. Third, all ships that would be used to transport foreign research reactor spent nuclear fuel have built-in fire suppression equipment, which at a minimum would keep fires well below the extreme temperatures needed to damage the transportation cask. For these reasons, it would be almost impossible for spent nuclear fuel inside the transportation cask to reach 900 degrees Kelvin (1,160 degrees F), the melting point of the foreign research reactor spent nuclear fuel. The probability of reaching such a temperature was calculated to be less than one in a billion (see Attachment D5 to Appendix D of the EIS). To put this temperature into perspective, steel used in a ship's structure buckles at around 700 degrees Kelvin (800 degrees F).

The EIS contains the results of an analysis of the effects of an accident that involves a severe fire (severity category 6), which does not reach the temperature to melt foreign research reactor spent nuclear fuel. Appendix D, Section D.5.3 of the EIS presents a detailed discussion of accident probabilities and radioactive material source terms and Section D.5.4 presents the results of the analysis.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

1. NATIONAL NEED FOR NUCLEAR NONPROLIFERATION "BUT ....."

**Nonproliferation Support** -- We support the U.S.'s nuclear nonproliferation objectives. No responsible, law abiding citizen in the U.S. wants to add to the potential for small, powerful nuclear explosive devices to get into the hands of a few terrorists or people deeply frustrated in the U.S. or elsewhere. The U.S. should take all reasonable and prudent steps to mitigate the spread of nuclear materials capable of being assembled into nuclear explosive devices. While all three alternatives can accomplish varying degrees of this objective, we believe Alternative 2, the foreign management alternative, is the best policy for the U.S. over the short and long term as explained below. *1265-9* *1265-10*

To successfully meet the nonproliferation objectives of this proposed foreign research reactor spent nuclear fuel policy, the U.S. needs to work diligently now with the affected parties on a plan that allows them to become self sufficient in a nonproliferating way as soon as possible. We reject the notion that resurrecting the highly subsidized, "return all your spent fuel to the U.S." policy (Alternative 1) for ten years will yield a lasting, acceptable nonproliferation strategy. At a minimum, the return strategy suggested as Alternative 1 will only serve to postpone the inevitable transition to responsible independence that must occur with these foreign research reactors. *1265-9 (Cont'd)*

**Problems With Alternative 1** -- Two problems exist with Alternative 1:

1) The U.S. doesn't have a workable storage and disposal plan yet for its own spent nuclear fuel and high level wastes. Alternative #1 attempts to gather up all U.S. enriched uranium in research reactors around the world (41 countries) and ship it to the U.S. for storage at DOE's nuclear weapons production sites until someone can figure out how and when to permanently dispose of it. Not having a workable domestic plan and having to use weapons production sites are setting two very bad examples as role models for our foreign research reactor friends. *1265-11*

2) The other problem is that there is no solid evidence that we will be any better off at the end of the ten year period than we are today. Foreign dependence on such a "return everything to the U.S." policy can demotivate and suppress meaningful progress towards responsible, self sufficiency on the part of our foreign research reactor friends. Complacency and procrastination can work against the real changes that need to occur for responsible self sufficiency to become a near term reality. The U.S. will, in the meantime, have realized unnecessary and extremely high storage and disposal costs, higher public and worker health risks, and higher environmental risks -- all without achieving the necessary shifts in foreign spent fuel management to a nonproliferating self sufficiency. *1265-12*

**Transition Now With Alternative 2** -- We support facing the transition issues now by adopting Alternative 2 (foreign management alternative). This means that the U.S. will not set any bad 'role model' examples. It also means that foreign spent fuel management issues will be addressed now on a case by case basis to find the best solutions for each party. It also means that the U.S. will not subject itself to whatever the risks there are of receiving and transporting foreign spent fuel within U.S. borders. Lastly it means that we will not have exacerbated an already untenable situation in our own domestic storage and disposal of spent domestic fuel and defense wastes -- at who knows what ultimate cost increases. *1265-13*

**Best Results With Alternative 2** -- Alternative 2 should provide the least cost, best overall short and long term nonproliferation result. Several acceptable foreign spent fuel management scenarios are available as *1265-14*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

In conclusion, although long duration ship fires are possible, and have occurred, they are uncommon events. Analyses in the EIS indicate that even in the event of a severe ship fire involving a transportation cask, neither the consequences nor risks are great (Appendix D, Section D.5.5 of the EIS).

### *Response to Comment No. 1265-4*

Based on the evaluation of impacts presented in Section 4 of the EIS, the risk associated with the shipments of foreign research reactor spent nuclear fuel through any of the ports identified is not greater than the risk associated with the handling of other hazardous cargos. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor fuel was accepted into the United States in the past. Under NEPA regulations, the socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel, such as the stigma referred to by the commentor. Based on this past experience, DOE considers that shipping foreign research reactor spent nuclear fuel through the Port of Tacoma would not create the stigma anticipated by the commentor.

### *Response to Comment No. 1265-5*

The commentor's assessment that Management Alternative 1 (Management of foreign research reactor spent nuclear fuel in the United States) is not the best, safest, fastest, and most economical way to achieve the goals of nuclear weapons nonproliferation, is noted. Management Alternative 1 is described in Section 2.2 of the EIS. Costs are described in Section 4.9 of the EIS.

### *Response to Comment No. 1265-6*

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS.

### *Response to Comment No. 1265-7*

The commentor's preference for upgrading overseas storage and treatment facilities, including those in Scotland, is noted. Overseas options are included under Management Alternative 2, which is discussed in Sections 2.3 and 4.4 of the EIS.

As for the commentor's concern that DOE did not fully analyze Management Alternatives 2 and 3, DOE considers that the analysis of the alternatives in the EIS fully complies with the requirements of NEPA.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

options in working through each foreign countries specific set of circumstances. Several of these are suggested for your consideration:

1) Over 70% of the foreign spent fuel resides in countries with spent fuel storage capabilities and expertise resulting from large, national commercial nuclear power programs. Interim storage within these countries saves time and money, reduces risk and can be done under IAEA nonproliferation safeguards and controls.

2) Nearly half of those that have major national commercial nuclear power programs also have spent fuel reprocessing capabilities. Where reprocessing is necessary to help transition the foreign research reactor program to low enriched uranium incapable of being made into nuclear bombs, this capability now exists with at least one reprocessor willing and capable of immediately processing and diluting the high enriched uranium.

3) The U.S. and its nonproliferation allies can begin immediately to help the remaining 34 countries that have 30% of the total spent fuel inventory find acceptable on-site or foreign off-site storage capability for the spent nuclear fuel or a nonproliferating reprocessing option. These efforts should be directed at both short term and long term solutions for the affected countries.

4) U.S. subsidies, if necessary, can be used to leverage the desired outcome of this effort.

Strong Preference -- Our strong preference is for the U.S. to work collaboratively with foreign sources of nuclear fuel services ranging from spent fuel storage, reprocessing, and permanent geologic disposal. By working with the research test reactor personnel and their political leaders, it should be possible to structure a mutually acceptable arrangement that provides foreign, self sufficient, responsible, nonproliferating, short and long term fuel management of foreign research reactor spent nuclear fuel.

*1265-14 (Cont'd)*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-8*

As discussed in Appendix D, Section D.1 of the EIS, both commercial and military ports were evaluated. Environmental effects of Management Alternatives 1 and 3 at candidate commercial and military ports were evaluated and found to be low (Sections 4.2.2 and 4.5). There is no reason to prefer commercial or military ports based on environmental consequences. As discussed in Appendix D, there is no environmental basis for preferring military vessels to commercial vessels.

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the spent nuclear fuel transportation casks would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in standard shipping containers; experience with handling containers is sufficient. Therefore, no special training of longshoremen is required.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

Selection of land transportation routes is, in part, selected based on the population along the routes. All routing is approved by the Nuclear Regulatory Commission at the time of the shipment to ensure that the best route has been chosen for the exact circumstances. The risk is low for all routes that would be taken by the foreign research reactor spent nuclear fuel (Sections 4.2.3.2 and 4.2.3.3 of the EIS).

### *Response to Comment No. 1265-9*

The commentor's support for nuclear weapons nonproliferation objectives of the United States is noted. As discussed in Sections 1.2 and 2.1 of the EIS, the intent of the proposed policy is to provide foreign research reactors with a limited time to arrange for disposition of their spent nuclear fuel, while avoiding disruptions in research reactor operations and encouraging the use of LEU fuel in research reactors. These arrangements will take time to develop, but they can be developed within the proposed policy period provided foreign reactor operators begin immediately. This EIS notifies foreign research reactor operators that immediate action to develop these arrangements is required.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**2. TRANSPORTATION SECURITY VS. FOREIGN SOLUTIONS**

**The Foreign Reprocessing Option Is Required** -- A large fraction, nearly 50%, of the foreign research reactors are still operating on high enriched uranium (HEU) and their spent fuel will require reprocessing until fully converted to low enriched uranium (LEU). Even after conversion to LEU, many reactor operators will find it advantageous to reprocess their low enriched uranium spent fuel. Many of these reactors are closer to the UK and France than they are the U.S. Thus, the overall spent fuel and HEU transportation routes, under Alternative 2, will be shortened considerably compared to the Alternative 1 case. *1265-15*

**Nonproliferation Objectives** -- The purpose of this proposed policy is to promote United States nuclear weapons nonproliferation policy objectives by seeking to reduce and ultimately eliminate highly enriched uranium from civilian commerce.

**Management Alternative 1** -- Accept and manage foreign research reactor spent nuclear fuel in the United States. This alternative could potentially require that the Port of Tacoma and the City, region and balance of State establish round-the-clock security to prevent theft, sabotage, and public/worker overexposure to harmful ionizing radiation emanating from the stored or transported shipping containers. *1265-16*

**Management Alternative 2** -- Facilitate the management of foreign research reactor spent nuclear fuel overseas, is a proposed new policy alternative that can be sold as the permanent or long term U.S. spent fuels policy.

**Two kinds of transportation nonproliferation problems under Alternative 1:**

1) Incoming Spent Nuclear Fuel -- The highly radioactive spent nuclear fuel is relatively secure because of its residual radiation levels and massive size and weight. Most of the security issues that the Port of Tacoma workers and transporters along the transportation route will have to face deal with safety issues associated with inadvertent contact or close proximity to the shipping casks by the general public or by workers handling or transporting the shipping casks. *1265-16 (Cont'd)*

2) Outgoing High Enriched Uranium -- The Draft EIS doesn't adequately address the fact that nearly half of the aluminum-based fuel (35 reactors) and 25% of the TRIGA reactor fuel (5 reactors) still operate with high enriched uranium. Somehow, until these reactors are converted, shipments of high enriched uranium (HEU) or fresh fuel elements containing HEU will continue to occur resulting in a significant potential security or proliferation issue. This virtually non-radioactive, bomb-grade material is the most proliferation sensitive material in the fuel cycle. Appropriately, details are not available in the Draft EIS as to how this material will be shipped or by whom. *1265-17*

**Management Alternative 2** -- Facilitate the management of foreign research reactor spent nuclear fuel overseas. A large fraction, nearly 50%, of the foreign research reactors are still operating on HEU and their spent fuel will probably require reprocessing until fully converted to low enriched uranium. Many of these reactors are closer to the UK and France than they are the U.S. Thus, the overall spent fuel and HEU transportation routes will be shortened considerably compared to the Alternative 1 case. Assuming similar care, due diligence, and oversight, Management Alternative 2 should provide the more proliferation resistant scenario.

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-10*

The commentor's preference for Management Alternative 2 is noted. Sections 2.3 and 4.4 of the EIS (Management Alternative 2) discusses the advantages and disadvantages of overseas storage and reprocessing.

### *Response to Comment No. 1265-11*

The commentor's concern that the U.S. does not have a storage and disposal plan for its own wastes is noted. Storage in the United States of the foreign research reactor spent nuclear fuel is Management Alternative 1 or 3, which are discussed in Sections 2.2, 2.4, 4.2, 4.3, and 4.5 of the EIS. Storage technologies are discussed in Section 2.6.5.1 of the EIS.

The impacts of ultimate disposition of the foreign research reactor spent nuclear fuel are discussed qualitatively in Section 4.2.7 of the EIS. DOE is currently evaluating the feasibility of construction of a disposal site at Yucca Mountain, NV. In the meantime, support for U.S. nuclear weapons nonproliferation policy requires DOE and the Department of State to consider other means of dealing with the foreign research reactor spent nuclear fuel (Section 1.1. of the EIS).

### *Response to Comment No. 1265-12*

The commentor's suggestion that implementation of Management Alternative 1 could demotivate and suppress meaningful progress towards self sufficiency on the part of foreign research reactor operators, is noted. On the other hand, DOE considers that the removal of the HEU covered by the ten year policy from civilian programs will be beneficial in reducing the risk of nuclear weapons proliferation. Given the financial cost discussed in Section 4.9 of the EIS, the relatively modest environmental impacts of the proposed action are fully justified in light of the nuclear weapons nonproliferation policy goals.

### *Response to Comment No. 1265-13*

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS.

DOE and the Department of State consider that accepting foreign research reactor spent nuclear fuel into the United States for the next 13 years would not set any bad 'role model' examples, as suggested by the commentor (see the response to Comment 1265-11, above). It would give the foreign nations and their reactor operators time to develop their own spent nuclear fuel management solutions, but the transition would still be required at the end of the policy period. Forcing each country to transition now could cause some

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**3. MARKET STABILITY AIDS NONPROLIFERATION – SHORT & LONG TERM**

**Market Stability: The Key to Nonproliferation** – 91 operating research reactors in 41 countries depend on stable, low cost supplies of fuel, reprocessing services, and assistance in fuel storage and high level waste storage/disposal. Management Alternative 2 (and perhaps Alternative 3) are the only means of achieving such stability. With U.S. assistance, these Alternatives can be tailored to meet the U.S. nonproliferation objectives and the reactor operator's objectives.

**Important Background Factors**

Nonproliferation Objectives – The purpose of this proposed policy is to promote United States nuclear weapons nonproliferation policy objectives by seeking to reduce and ultimately eliminate highly enriched uranium from civilian commerce.

Management Alternative 1 – Accept and manage foreign research reactor spent nuclear fuel in the United States, is a revisit of the former U.S. "Off Site Fuels Policy" that was terminated causing foreign reactor operators much grief after collaborating with the U.S. on its Reduced Enrichment for Research and Test Reactors (RERTR) program.

Management Alternative 2 – Facilitate the management of foreign research reactor spent nuclear fuel overseas, is a proposed new policy alternative that can be sold as the permanent or long term U.S. spent fuels policy.

Management Alternative 3 – A hybrid, or a combination of components of Management Alternatives 1 and 2.

The U.S. is already viewed as an unreliable trading partner. The U.S. has not accepted high enriched uranium (HEU) for six years now except for the recent "urgent relief" shipment of 153 spent fuel elements from four countries. Consequently, many foreign research reactor operators will soon run out of spent fuel storage capacity or face safety/regulatory issues. 1265-18

The U.S. has already announced its intention of being out of the foreign spent fuel storage and disposal business in 10 years, providing an appearance of short term fix.

The U.S.'s own commercial spent fuel disposal program and defense waste treatment and disposal program is in a shambles – not setting a good precedence for foreign partners.

**The Bottom Line** – Reprocessing spent research reactor fuel is an economic necessity when the enrichments are over 20% (HEU). Reprocessing, with today's fuel cycle costs, is probably uneconomical for enrichments down in the 2-3% range. The transition between uneconomical and economical reactor operations probably occurs in the range of 4-8% enriched. To achieve operational stability and achieve the U.S. nonproliferation objectives, some form of a long term commitment to reprocessing is a requirement. Management Alternative 1 must be rejected. 1265-19

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

of them to adopt crash programs. The best solution for each party may take time to develop. In the meantime, the risk of nuclear weapons proliferation can be reduced by eliminating existing inventories of HEU fuel overseas and converting reactors to the use of LEU fuel.

Sections 4.2.2 and 4.2.3 of the EIS demonstrate that the risks of receiving and transporting the foreign research reactor spent nuclear fuel within U.S. borders would be very low.

DOE considers it is reasonable to consider importing more spent nuclear fuel for the purpose of nonproliferation because the foreign research reactor spent nuclear fuel involved would increase DOE's total inventory by a small amount. The increase would be less than one percent of the mass of heavy metal and less than ten percent of the volume. The estimated costs are presented in Section 4.9 of the EIS.

### *Response to Comment No. 1265-14*

The commentor's preference for Management Alternative 2 is noted. Section 2.3 of the EIS discusses overseas storage of foreign research reactor spent nuclear fuel. It should be noted, however, that management in the United States would be technically, politically, and economically more advantageous than management in as many as 41 separate countries, especially in the countries with no spent nuclear fuel or nuclear waste handling, storage, or disposal infrastructure.

Because of scale economies associated with storing spent nuclear fuel, storage in the countries of origin would cost more than storage in the United States (and cost U.S. taxpayers more), would be technically difficult, if not impossible, in many countries, and would violate the laws of several of the countries. Also, many countries participated in the U.S.-led research reactor programs on the belief that the United States would eventually accept the spent nuclear fuel. Failure of the United States to accept the spent nuclear fuel could endanger the entire program to substantially eliminate civilian use of weapons-grade nuclear material.

### *Response to Comment No. 1265-15*

HEU spent nuclear fuel does not require reprocessing, as suggested by the commentor. There are advantages and disadvantages to reprocessing both LEU and HEU spent nuclear fuels. The commentor is correct that many of the reactors are closer to the United Kingdom and France than they are to the United States. Thus, shipping the spent nuclear fuel there under Management Alternative 2 would involve less ocean transport than would shipping it to the United States under Management Alternative 1.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**4.0 DESPITE THE EIS BIAS TOWARDS THE U.S. OPTION, FOREIGN OPTION IS BETTER**

**Issue -- There's a substantial price tag on any nonproliferation issue, especially this one. Since this program benefits all parties interested in resolving nonproliferation issues associated with high enriched uranium (HEU), two courses of action are recommended:**

**1) The least cost Alternative that meets the minimum nonproliferation policy guidelines should be selected to minimize everyone's costs. This means selecting Alternative 2 or Alternative 3. Management Alternatives 2/3 had the lowest estimated costs ranging from $750-$950 million (1996 $'s in 1996), and**

**2) Some sharing of specific costs should be pursued. The U.S. taxpayer should not have to accept the burden of paying for most of the HEU to LEU conversion costs (i.e., the RERTR) program. Furthermore, Management Alternative 1, the U.S. option, has the highest costs in the Draft EIS ranging from $850-1,850 million (1996 $'s in 1996) and should be abandoned immediately. When one figures in the recent cost overruns of several major DOE programs, Management Alternative 1 is probably 2-3 times more costly than Alternatives 2 or 3.** *1265-19*

**There is a definite bias throughout the Draft EIS slanted towards Alternative 1, and to a lesser extent, Alternative 3 (the hybrid alternative). This bias shows up a number of ways including the absence of clear flow diagrams for all three alternatives like those presented in Figure S-4 and S-5 for Alternative 1. Importantly, no cost data is clearly summarized for Management Alternative 2. A Hybrid Alternative is defined as one of the options and the only clearly defined cost analyses are for i) acceptance/storage in the U.S. (pure Alt. 1), ii) chemical separation/vitrification in the United States (option 6 for Alt. 1), and finally the Hybrid Alternative (Alts. 2 and 3). See Section F.7 beginning on page F-264 for additional proof of this gross bias and absence of key alternative assessments.** *1265-20*

**Examples of the hard costs associated with the proposed policy are:**

Converting foreign research reactors to the Reduced Enrichment for Research and Test Reactors (RERTR) program, i.e., a fuel/reactor design enriched to less than 20% U-235 to prevent the fabrication of nuclear bombs out of the fuel

Increased operating costs of running the reactor under the RERTR program

Greater quantity of fuel required to achieve same performance as the high enriched uranium (HEU)

Increased costs of storing, reprocessing & ultimately disposing of the low enriched uranium (LEU)

Cost of the incentives to get reactor operators to convert and operate under the RERTR program

An example of the higher costs can be obtained from the current prices that the Atomic Energy Authority (A.E.A.) is charging for reprocessing spent HEU fuel at the British facilities at Dounreay. Their reprocessing charge is in the $5,000 to $6,000 per kilogram of total metal (not Heavy Metal or Uranium as per many unit prices). A rough estimate for the total 'metal-to-heavy metal' ratio in the aluminum clad fuel is ~8. This means that the unit price to reprocess the HEU fuel at Dounreay is approximately $40,000 to $50,000 per kilogram of heavy metal (mostly uranium). *1265-21*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-16*

The analysis of the consequences and risk associated with an accident in port involving foreign research reactor spent nuclear fuel determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 and Appendix D, Section D.5 of the EIS) and that the risk associated with accidents in port for the entire proposed action was low. Likewise the consequences and risks associated with marine transport were found to be low (Section 4.2.1.3).

The radiation dose that anyone would receive handling, working or traveling near a transportation cask is below the limit that is allowed to the public in an unrestricted area by NRC regulations (10 CFR Part 20). As such, no special precaution would be required from anyone in the area of a cask carrying foreign research reactor spent nuclear fuel.

Security requirements are contained in 10 CFR Part 73. The shipper is required to ensure that the security requirements are met, including port and land transportation security requirements. Also, no additional responsibilities would be created for city, county, or State law enforcement agencies by DOE or other Federal agencies. However, some State and local governments impose additional requirements on shipments of foreign research reactor spent nuclear fuel. These additional requirements may impact State and local law enforcement agencies. Historically, shipments of foreign research reactor spent nuclear fuel were treated as any other hazardous material shipments and received no special attention.

No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in a cask that is inside of an ISO container. As to isolating the casks from other freight, this is not necessary for radiation or any other reasons. The small amount of radiation coming from the transportation cask is gamma radiation which does not irradiate nor contaminate other materials, so there is no need to isolate it.

See also the 5th paragraph of the response to Comment 1265-1, above.

### *Response to Comment No. 1265-17*

DOE recognizes the fact that many foreign research reactors continue to operate on HEU fuel. This fact supports the need for implementation of the proposed action in a manner that will encourage these reactor operators to convert to LEU fuels, thereby reducing the proliferation risks stated by the commentor. Under the proposed action, only spent nuclear fuel from those countries that agree to convert to LEU fuels would be considered for management. In accordance with the Energy Policy Act of 1992, the United States is not permitted to sell HEU fuel to foreign countries, except under very special circumstances. Since passage of the Act, no new export licenses for HEU have been issued by the United States.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**5. WHY ADD TO THE "OUT OF CONTROL" NUCLEAR COST LEGACY?**

**OR**

**"WHY DO WE WANT TO ADD MORE WHEN WE DON'T KNOW WHAT TO DO WITH WHAT WE'VE ALREADY GOT?"**

**Issue:** According to recent reports, the commercial spent nuclear fuel disposal program in the U.S. is in shambles with cost overruns of at least billions of dollars and a decade behind schedule (GAO/RCED-94-299 9/94). The high level waste cleanup efforts at the DOE's former production sites, including Hanford, just 200+ miles away is also in shambles (see Train Wreck ... below; Sen. Frank Murkowski P.R. 5/15/95; Sen. Bennett Johnston P.R. 5/26/95). Things are going so badly for DOE that the Congress has a major move underway to shut down DOE and extract and reassign some of its valuable parts to other agencies. GAO, groups of members from Congress, special audits by Congressional Committees, e.g., by the Senate Energy and Natural Resources ("Train Wreck Along the River of Money - An Evaluation of the Hanford Cleanup" March 1995), and others continue to severely criticize and search for ways to fix DOE and the system that got us where we are today. Exacerbating this dismal agency track record, are pressures from Congress and the Administration to balance the budget, reinvent better ways of doing things, do a major reorganization of the DOE, all this while steady and substantially reducing DOE's budget and personnel. Credibility appears to be at an all time low, while costs appear to be at an all time high. Paraphrasing Senator Murkowski's comment about the U.S. taking N. Korea's nuclear waste at taxpayer's expense... "I find it astounding that we apparently have the money to compound the problems at Hanford, but we lack the money to clean them up": **Why add to this alleged disaster by seriously considering an option of "buying" 41 countries spent nuclear fuel back so we could nearly double the spent commercial fuel that we still don't know what to do with?** 1265-22

**Serious examination and independent review needs to be made of any Alternative 1 (U.S. disposal option) considerations that are considered by the DOE.**

**Rejection of any Alternative 2 recommendations at this public meeting or elsewhere also need to be critically examined by an outside, independent reviewer.**

**DOE is obligated to present a balanced, even handed review of the Draft EIS providing European and Japanese reprocessors and commercial nuclear power countries to assess their willingness to participate in implementing an all "foreign" solution to the proposed policy (Management Alternative 2).**

**At the minimum, unless DOE does serious due diligence on Management Alternatives 2 and 3 (separately), Congress should hold hearings to get the facts and establish a public record before DOE makes its Record of Decision. The final decision to hold such hearings can be made as soon as DOE identifies its preferred alternative in the Final EIS. For whatever reason(s), DOE appears to be on a course of trying to justify a decision that it has already made. Perhaps the overwhelming majority of the many, diverse and prestigious recent critics of DOE are close to the mark. We prefer to believe not and that DOE is equally interested and attempting to find the best solutions relative to each of the three management alternatives. We sincerely hope so!** 1265-23

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-18*

The commentor's position that the United States is already viewed as an unreliable trading partner is noted. As evidenced by comments received from foreign research reactor operators concerning the draft EIS, the United States would be viewed as an unreliable trading partner if no action were taken to provide relief for foreign research reactor operators who have immediate disposition needs for their spent nuclear fuel. Section 1.1 of the EIS summarizes the history of support for foreign research reactors by the United States.

### *Response to Comment No. 1265-19*

Reprocessing would not be an economic necessity for LEU or HEU, either in the United States or Europe. As used in the EIS, reprocessing in Europe or chemical separation in the United States would be a means of converting the spent nuclear fuel to a form more suitable for geologic disposal. The economic benefits of reusing the uranium and the enrichment services would not be insignificant, but they were not the basis for the alternative.

The least costly alternative is a hybrid involving reprocessing at Dounreay in the 1996 to 2008 period, chemical separation at the Savannah River Site (assuming concurrent operations with other programs) during the 1997 to 2003 period, and management at the Idaho National Engineering Laboratory. Since no other programs are currently envisioned to be using the chemical separation facilities in the period immediately after 2003, either the receipts after this period would be managed or the program would bear the full costs to operate a Canyon. In all cases, the management alternatives that involve receipt of the spent nuclear fuel by the United States include management at the Idaho National Engineering Laboratory.

The EIS does not address the costs of HEU to LEU conversions under the RERTR program as a component of the cost to the U.S. taxpayer under the foreign research reactor spent nuclear fuel program.

### *Response to Comment No. 1265-20*

In terms of detailed cost data for options that were either addressed in less detail than might be possible or that were not described as possible options, the following points are relevant:

- Management of the spent nuclear fuel in the countries of origin would cost many hundreds of millions of dollars more than management of the fuel in the United States The two major non-shipping phases of the program — storage/chemical separation and spent nuclear fuel/high-level waste disposal — have very large economies of scale.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**6. PORT, TACOMA & REGION GET ALL THE RISKS AND COSTS BUT NO GAIN**

**Issue: Generally for anything to be mutually satisfactory, each of the parties have to perceive something of value. At the present time, here's what the balance sheet looks like from a local citizen's perspective:**

**Perceived Negatives (of Alternate 1 or 3 if Port of Tacoma is selected for shipping):**

1. **NO NATIONAL IMPERATIVE! Nonproliferation arguments are unconvincing especially with apparent solution of all concerns via Management Alternative 2 (foreign option)** — *1265-24*
2. **Health and safety risks to workers and public** — *1265-25*
3. **Financial risk to business owners and employees if there's any kind of accident** — *1265-26*
4. **Financial drain and business disruptions, even without any accidents, from training, readiness, practice sessions, extra administration, extra security, false alarms, etc.**
5. **Financial losses due to increased negative image or stigma associated with farm produce or clean cargo co-located with "dangerous" radioactive spent fuel**
6. **Contamination of shipping channels into/out of the Port due to cask lost @ >200 meters** — *1265-27*
7. **Security risks - Port becomes a target for terrorists, disgruntled people, pranksters** — *1265-28*
8. **Crippling health, safety, environmental, and business costs if abnormal accident breaches** — *1265-26 (Cont'd)*
9. **Taxpayer costs are high and not justified by Draft EIS**
10. **Incomplete information in Draft EIS prevents assessment of life cycle costs, justifications**
11. **Philosophically opposed to "buying" problem from strong, nuclear allies who should help** — *1265-29*
12. **Distrust, fear -- don't know what to do with what we've got; why "buy" more**

**Perceived Positives (of Alternate 1 or 3 if Port of Tacoma is selected for shipping):**

1. **none - no jobs, increased business, quality of life, reduced nuclear threat, nothing!** — *1265-26 (Cont'd)*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

Any management alternative that substitutes tens of sites for the two or three in the EIS increases costs substantially. The EIS already addresses the practical, legal, political, etc. difficulties with such an approach. It did not address costs since desegregated storage/disposal was not considered economically plausible.

- All logistically realistic hybrids that involve chemical separation at the Savannah River Site and reprocessing at Dounreay cost about the same as the hybrid described in Management Alternative 3. Costs can be significantly reduced only through accelerated receipt of spent nuclear fuel at the Savannah River Site for chemical separation concurrently with materials from other programs and long-term usage of existing storage facilities at the Idaho National Engineering Laboratory. The reason more hybrids were not costed in great detail is that they all depend on the timing of the receipts at the Savannah River Site, the acceptability of concurrent operations and the use of marginal costing at the Savannah River Site, and the usage of existing facilities at the Idaho National Engineering Laboratory. Subject to constraints on the rate at which Dounreay can reprocess spent nuclear fuel, other issues (e.g., the split between United States and overseas management, between LEU and HEU, between aluminum-based fuel and TRIGA fuel, between developed countries and developing countries, etc.) would not substantially affect costs. The key cost drivers were fully and completely outlined in Appendix F. Uncertainties were treated separately.

### *Response to Comment No. 1265-21*

The ratio of total metal to heavy metal in the aluminum-based spent nuclear fuel would be closer to 5 than to 8. The cost per kg of heavy metal using this conversion factor is misleading since parts of the non-spent nuclear fuel matrix (e.g., supports, tube ends) could be sheared off before reprocessing to reduce the total metal.

### *Response to Comment No. 1265-22*

The Record of Decision for Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement issued on May 30, 1995 designates the Savannah River Site and the Idaho National Engineering Laboratory as management sites for domestic and foreign research reactor spent nuclear fuel. The Hanford Site was not selected.

Spent nuclear fuel from North Korea is not included in the proposed action (Tables 2-1 and 2-2 of the EIS), and would not be managed under any of the management alternatives (Sections 2.2.2.3 or 2.4 of the EIS).

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

7. "EVEN-SMALL RISKS ARE TOO MUCH WITHOUT NATIONAL IMPERATIVE"

Issues: If there's no benefit for me, my business, my association, why take any risks -- no matter how small? *1265-26 (Cont'd)*

If there's no benefit for the Greater Tacoma Area, why take any risks -- no matter how small? *1265-29 (Cont'd)*

If there's no national imperative, why take any risks -- no matter how small? *1265-30*

If there are alternatives that accomplish virtually the same or better result without imposing risks on me or the region, why take any risks -- no matter how small?

To the informed or even the uniformed observer, Management Alternative 2 (the foreign option) does not ship highly radioactive fuel into the Port of Tacoma and it does or can satisfy this Nation's nuclear nonproliferation objectives.

If Management Alternative 2 doesn't do it, Management Alternative 3 (hybrid option) certainly can. It too can avoid shipments to Tacoma because of the greatly reduced number of shipments. It should be possible to get a 70% to 90% reduction in DOE's Alternative 1 quantities. Note however, DOE uses an estimate of reducing the "basic Alternative {1}" only about 40%. We completely disagree with DOE's low reduction estimate. *1265-31*

It's highly speculative whether or not the real risks have been adequately identified. Clearly the benefits of Management Alternative 2 have not been identified very well by DOE! *1265-32*

Sometimes, "NIMBY" or Not In My Back Yard is justified. This is one of those times.

## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

Acceptance of spent nuclear fuel from foreign research reactors would increase the existing spent nuclear fuel inventory by approximately one percent in mass and ten percent in volume (Section 2.2.1.3 of the EIS). As discussed in Section 4 of the EIS, foreign research reactor spent nuclear fuel could be safely managed at one or more of the interim management sites pending final disposition.

### *Response to Comment No. 1265-23*

The basic purpose of this EIS is to provide an evaluation of environmental effects which would result from implementation of the proposed action and its alternatives. Implementation of Management Alternative 2 (overseas management, Section 2.3 of the EIS) would have no significant environmental impacts within the United States (Section 4.4 of the EIS). As discussed in Section 4 of the EIS, none of the policy options would, if implemented, result in significant benefits or risks to human health or the environment. DOE considers that overseas management and the hybrid alternative (Management Alternative 3) are discussed in enough detail to allow a decision maker to utilize this EIS in the decision process.

### *Response to Comment No. 1265-24*

The commentor's support for overseas management of spent nuclear fuel from foreign research reactors is noted. Overseas management (Management Alternative 2) is discussed in Section 2.3 of the EIS. All of the management alternatives described in Section 2 of the EIS are intended to support nuclear weapons nonproliferation objectives of the United States. As discussed in Section 4 of the EIS, no significant benefits or risks to human health or the environment would result from implementation of any of the management alternatives.

### *Response to Comment No. 1265-25*

Section 4.2 of the EIS demonstrates that health and safety risks to workers and the public at the Port of Tacoma would be low. No significant environmental risks were found to result from the implementation of the proposed action.

### *Response to Comment No. 1265-26*

The commentor enumerates a number of perceived negatives if the Port of Tacoma is selected for shipping. Among these, financial risk from accidents, incident-free activities, and stigma associated with the shipping activities. DOE acknowledges that, in many instances, the perception by the public of the risks associated with spent nuclear fuel may be greater than the actual risk, or the risk from other even more hazardous activities. However, adverse impacts have not been observed during the 30 plus years foreign research reactor fuel was accepted into the United States in the past. Under NEPA regulations, the

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

8. ABNORMAL ACCIDENTS: "RISK ASSESSMENTS NOT IN SYNC WITH ANGRY FEW"

Issues: DOE performed this risk assessment based on the traditional principles of combining an estimate of the frequency at which such a situation is expected to occur with consequence estimates.

While this method of weighting the probability of an occurrence with the consequence estimates may be scientifically correct, the real issue for the people of Tacoma is "what happens if a major, even abnormal, severe breach of the fuel occurs in the vicinity of the Port or Tacoma's populated areas along the transportation routes."

The reason for understanding the worst case accident is simply one of prudent management and planning. The Valdez, Three Mile Island, Chernobyl, Oklahoma bombing, plane crash landing on the White House lawn, etc., accidents or events all had very low estimates of risks associated with them. However, when they occurred the probability of the occurrence went to 1 or 100%.

We simply want DOE to tell us what happens when the probability goes to 100% that a severe breach occurs in the spent fuel shipping cask while it's in a populated area. 1265-33

We asked for this answer because of the "angry few" theory. We used to worry some about armed, vicious terrorists doing substantial harm to someone or something. Today, we've learned that unfortunately we've also got to take into account the angry or disgruntled few who, maybe without even knowing the full consequences of what they are doing, will do something unthinkable. Such was the Oklahoma bombing -- unthinkable and extremely low risk -- until it happened.

Drive around federal buildings today. You will see vehicle barriers being installed. Concrete blocks, "Jersey" barriers, and in DC., even large potted reinforced concrete "potters" around the Capitol and the White House. Pennsylvania Avenue may have to be renamed because these "potters" now block or interrupt the Avenue.

All we know today is the consequences of a major breach of the spent fuel cask are "very severe." Mr. Patrick Schwab, Science Applications International Corporation, provided that qualitative assessment at the May 22, 1995 public meeting with DOE. Mr. Schwab was one of the principals who wrote the Draft EIS under contract to DOE.

Rough extrapolated estimates of the consequences of a high level waste cask breach were approximated in the Draft EIS. The estimate was made for high level waste (vitrified?). It was assumed that only 0.000001 or 1 part per million of the radioactive material would be released from its packaging, 5 percent of the aerosolized release was respirable, and a buoyant plume rise resulted from an assumed fire. The worst (urban) case resulted in 970 person-rem and 0.48 LCF consequence for the population, and a dose of 0.29 rem and a 0.00015 LCF consequence for the maximum exposed individual. Estimates of the radioactive releases from breaches in spent nuclear fuel casks are estimated in the next issue paper. 1265-34

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

socioeconomic effects evaluated for this EIS do not include those associated with psychological fear of receiving spent nuclear fuel, such as those enumerated by the comment.

The commentor cites crippling health, safety, environmental, and business costs if abnormal accidents should occur. Several accident scenarios, including severe accidents were analyzed during preparation of the EIS. Results of the accident analysis at the ports are given in Section 4.2.2 of the EIS with supporting detail in Appendix D, Section D.5. No catastrophic effects were found to result from severe accidents involving foreign research reactor spent nuclear fuel.

### *Response to Comment No. 1265-27*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been modified to include this assurance of recovery in coastal waters. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

### *Response to Comment No. 1265-28*

See the 4th and 5th paragraphs of the response to Comment 1265-1, above.

### *Response to Comment No. 1265-29*

Many of the foreign research reactor operators have no immediate means for disposition of their spent nuclear fuel, including research reactors operated by our close allies (Section 1.2 of the EIS). Thus the intent of the proposed action is to provide foreign research reactor operators with a limited period of time to arrange for disposition of their spent nuclear fuel outside of the United States, while avoiding research reactor shut downs and encouraging the continued use of or conversion to LEU fuel (Section 1.2 of the EIS). It is in the national interest of the United States to do so because it reduces the risk of weapons-grade materials falling into the hands of nations that would seek to develop a nuclear weapons capability.

### *Response to Comment No. 1265-30*

The EIS evaluates environmental effects that would result from four basic policy alternatives. Sections 2.2 through 2.5 describe these policy alternatives and the advantages and disadvantages for implementation of each option. As discussed in Section 4 of the EIS, implementation of the proposed action would pose no significant risks to human health or the environment. Thus, there is no environmentally preferred alternative, and the Record of Decision for this action will be based on non-environmental considerations.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**9. "RELEASE FRACTIONS FROM SPENT NUCLEAR FUEL 'ABNORMAL' INCIDENT APPEAR UNREALISTICALLY LOW"**

**Issue:** A worst case "credible" accident is not the same as a worst case incident. A worst case incident can assume sabotage and other forms of human intervention, unlikely but possible accidents (like long term, high temperature ship board fires), and combinations of the two. Despite repeated questions of the DOE, including a letter to Mr. Charles Head by the Port, there still is not an adequate answer to the question of what are the consequences to Tacoma area citizens and the environment from a severe breach of the cask and fuel rods, i.e., a breach that substantially exceeds the design limits of the cask such as a fire, with air flow, that raises the spent fuel temperatures well above 1,160 degrees Fahrenheit for a period of hours?

DOE has analyzed release fractions from spent nuclear fuel in its Draft EIS (Table E-6, page E-44) for worst case "credible" accidents. However, the release fractions appear low for any fire that substantially exceeds the cask and spent fuel design limits or a combination of fire and explosion. Such releases are based on what appear to be minor breaches in the integrity of the spent fuel shipping cask. DOE has not responded to the question of what happens if a major breach occurs, i.e., shipboard fire of such intensity and duration that the shipping cask design limits are substantially exceeded? Worst case "credible" release fractions in DOE's Draft EIS are:

| Substance | Aluminum Clad Fuel | TRIGA Fuel |
|---|---|---|
| Inert Gas | 63% | 63% |
| Iodine | 0.006% | 4.3% |
| Cesium | 0.001% | 0.2% |
| Ruthenium | 0.00024% | 0.048% |
| Particulate | 0.00001% | 0.002% |

While these releases are higher than for the case of vitrified high level waste reported earlier, they remain based on a worst case "credible" accident.

The Port of Tacoma Commissioners and others are interested in knowing what the consequences are of "abnormal" radioactive releases, e.g., say 50% releases or many orders of magnitude higher than the above "credible" range, for a single shipping cask at the Port of Tacoma carrying an average load of spent fuel elements from the foreign reactors.

*1265-34 (Cont'd)*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-31*

The commentor's preference for any management alternative that would avoid shipments through the Port of Tacoma, is noted.

As discussed in Section 4.5 of the EIS, the hybrid alternative that was used as an example in the EIS (Section 2.4 of the EIS) would require approximately 63 percent of the number of shipments required under the basic implementation of Management Alternative 1 (a 37 percent reduction). Other hybrid alternatives, not specifically evaluated in the EIS, may require a higher or lower number of shipments depending on the scenario.

### *Response to Comment No. 1265-32*

DOE considers that the real risks have been adequately identified, estimated, and presented in Chapter 4 of the EIS. The benefits of Management Alternative 2 are discussed along with other policy considerations in Sections 2.3 and 4.4.2.1 of the EIS.

### *Response to Comment No. 1265-33*

The commentor's opinion that the DOE's risk assessment is scientifically correct, but still inadequate, is noted. The commentor's focus on the consequences of what happens if scenarios is also noted.

Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions. In addition, Section D.5.9 has been added to Appendix D of the EIS to address the issue of attack by an angry few disgruntled persons or terrorists.

### *Response to Comment No. 1265-34*

CEQ regulations and guidance do not require a worst case analysis of accidents in an EIS. For the purpose of analysis in this EIS, there is no such thing as a worst case scenario, because for any worst case that is postulated, a still more severe accident can be postulated by adding one more drum of gasoline, one more wrecked rail car, one more terrorist, etc. In addition, for each assumption that is made to make a postulated accident more severe, the probability of the accident becomes smaller. The EIS does not contain a worst-case scenario, but a broad range of port accident scenarios, including severe accidents, is discussed in Section 4.2.2.3 of the EIS. Appendix D, Section D.5.4.3.2 of the EIS presents the risks of a very high temperature fire that engulfs a cask, which was part of a sensitivity study on release fractions.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**10. WHERE'S THE DOE ANALYSIS OF THE WORST DISASTER CASE?**

**At the public meeting on May 22, 1995 the Port Commissioners repeatedly asked the question of Mr. Edward Fei (DOE), Mr. Patrick Wells (DOE), and Mr. Patrick Schwab (SAIC) as to what would be the consequences of a serious breach of the shipping cask in a populated area.**

**No substantive answer was provided, although DOE did commit to respond in writing as soon as they got back to DC As of June 13, no response has been received from DOE. Consequently, a follow-up fax was sent to DOE's offices (Mr. Charles Head) on Monday afternoon, June 12 to apprise him of our serious interest in receiving a DOE response to the Commissioners' question.** *1265-35*

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

***Response to Comment No. 1265-35***

DOE responded to the question in a fax dated June 16, 1995. Also see the response to Comment 1265-33, above.

**RESPONSE TO QUESTION RAISED DURING THE MAY 22 PORT OF TACOMA COMMISSIONER'S MEETING**
June 16, 1995

**QUESTION:** What is the estimated effect of released radiation on humans and the environment should a shipping cask and the spent fuel rods contained therein be severely breached* in the vicinity of the Port of Tacoma?

* Discussion at the meeting covered a range of "breaching" mechanisms including shipboard, storage or transportation fires in the vicinity of the harbor, dock or Tacoma transportation routes that substantially exceeded the design limits of the shipping casks; explosions resulting from hazardous cargo transported to/from the Port or handled at the Port, and acts of terrorism or revenge by terrorists or disgruntled persons, respectively.

**ANSWER:**

1. Port accidents are discussed in the *Draft Environmental Impact Statement on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel* (the draft EIS) in Section 4.2.2.3 of Volume 1, and in Appendix D. The consequences of credible port accidents are discussed starting on page 4-21. The most severe credible accident is a cask breach followed by a Category 6 fire that engulfs the shipping cask. This fire is not hot enough and long enough to raise the fuel temperature up to the point (about 1,160°F) at which the TRIGA fuel would burn and the aluminum-based fuel would melt. However, this accident is defined to include long duration airflow surrounding the cask. The accident which breaches the cask would be expected to also breach the spent fuel cladding and allow some of the fission products in the spent fuel to escape, while the air flow would disperse these fission products.

   An Oklahoma-type bomb explosion right next to a cask would be less severe (radiologically) than an accident involving a Category 6 fire because there would be no long duration air flow surrounding the cask. Thus, even if the spent fuel cladding were damaged, there would be no mechanism to disperse any radioactive material released. The explosion would probably move the cask laterally, and perhaps, depending on the strength of the explosion, breach the cask, and break some of the cladding on the spent fuel. However, there would be no fire to drive radioactive material up into the air. Furthermore, the spent fuel would probably still be in the cask and the cask's shielding.

2. The Port of Tacoma question also requested that DOE assume the accident occurs at the worst of three possible locations (in the vicinity of the harbor, dock or Tacoma transportation routes). The port analysis in the draft EIS covers the first two locations. The EIS does not contain such analysis for specific points on Tacoma transportation routes because the ground transport calculations are based on summations of the total risk to the public along the entirety of representative routes. Specific individual locations for ground transport accidents were not selected and airborne dispersion calculations from those points have not been performed.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

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The consequences of an accident followed by Category 6 fire in the vicinity of the harbor and at the dock for the Port of Tacoma are presented in Table 4-6 on page 4-22 of Volume 1.. The consequences are worst if the accident occurs at the dock. In this case, the consequence is estimated to be 0.8 latent cancer fatalities. This means that, if the accident occurs, there would be an 80 percent chance one additional cancer would occur among all the people exposed to the radioactive material. The chance of two additional cancers occurring among all the exposed people would be significant, but lower than 80 percent.

These calculations were based on the unrealistic assumption that people do not evacuate the area.

3. We further understand that the Port of Tacoma is interested in the consequences of accidents that would be even more severe than those discussed in the draft EIS. We have performed calculations on such an accident and we present the results here, but we wish to emphasize that we consider that this accident scenario is not credible. The scenario that we analyzed is simply that a full cask load of thirty of the hottest possible spent nuclear fuel elements is sitting on a dock, with no cask around it. We also ignored not only the effects of any shielding from dock structure, surrounding buildings, equipment or other materials, but also the effect of self-shielding (i.e., spent fuel elements in front block radiation from any spent fuel behind them). Thus, the calculation unrealistically assumes that there is no shielding of any kind and that anyone in the area would be exposed to direct radiation from all of the spent fuel.

The calculations show that, in this unrealistic case, the dose rate on contact with the spent fuel would be on the order of hundreds of thousands of rem per hour. Anyone exposed at this unrealistic rate would probably die within an hour or two. However, the radiation dose rate would decrease with distance, so that, even in this unrealistic case, at about 6/10 of a mile (one kilometer) away from the unshielded spent nuclear fuel, the dose rate would be down to 10 mrem/hr. This dose rate was selected because it is the regulatory limit for anyone standing two meters away from a truck carrying a cask of spent nuclear fuel under normal conditions. In effect, the cask provides the same shielding as about a kilometer of air.

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**11. U.S. OPTION (ALTERNATIVE 1) RELIES TOO MUCH ON ADMINISTRATIVE CONTROLS**

**Excluding medical diagnostics, the radiation limit from man-made sources for the general public is 100 millirem per year. In contrast radioactive materials workers' limit is 5,000 millirem per year. The best estimate of the radiation field at about 2 meters distance is about 2 millirem. Therefore a truck driver who exceeds 50 hours of driving/traveling time will exceed the maximum licensed exposure limit of 100 millirem. DOE plans to use "administrative controls" to regulate and monitor the exposed workers.** 1265-36

**Administrative controls should be used as the last resort in situations like this. Administrative controls should be accompanied by personnel dosimeters to permit individual monitoring, especially as one approaches closer to the license limit.**



## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

*Response to Comment No. 1265-36*

Personnel dosimeters would permit individual monitoring of onsite radiation workers and truck drivers for radiation exposure. The use of such personnel dosimeters is generally part of an administrative controls system.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**12. MORE WORK NEEDS TO BE DONE ON THE 'FOREIGN' ALTERNATIVES #2 AND #3**

**Issue: The 'bring it all back to the U.S.' case (Alternative 1) was analyzed in substantial detail. The alternative cases involving all or partial foreign solutions were analyzed less thoroughly. For example in the Summary, page 5:**

**1. *"Currently, overseas reprocessing results in separated HEU that is placed back into commerce for use as new reactor fuel."*** 1265-37

**Nothing is mentioned about potential changes in this current policy to one that is proliferation-proof, i.e., tri-party agreements (U.S., foreign reprocessor, reactor owner) that requires the High Enriched Uranium to be diluted to Low Enriched Uranium before it is shipped back to the foreign reactor.**

**2. *"The overseas reprocessing facilities (e.g., Dounreay in Scotland) currently do not have the capability to reprocess the high-density LEU fuels that the United States is encouraging foreign research reactors to use to replace the HEU fuels."*** 1265-38

**A phone call to the Dounreay facilities in Scotland indicated that a) the Dounreay facilities can handle now the bulk of the HEU fuels and with modifications or added facilities could handle all of the HEU fuels (including the TRIGA fuel rods), and b) with modifications or added facilities could handle the high-density LEU fuels that the U.S. is encouraging foreign research reactors to use to replace the HEU fuels!**

**3. *"Thus, any foreign research reactor that wishes to use reprocessing to control its inventory of spent nuclear fuel must continue to use, or convert back to, fuel containing HEU."*** 1265-39

**Not true. A short term storage solution needs only to be found to allow Dounreay or any other foreign reprocessor (others in the UK, France, or Japan) time to make the necessary modifications to their reprocessing facilities. In the interim the storage solutions include, at least, the foreign countries with the research reactors, one or more of the seven countries having major commercial nuclear power programs and existing spent fuel storage areas (Canada, France, Germany, Japan, Sweden, Switzerland, UK), and the potential reprocessors (France, Japan, and the UK).**

**4. *"For most foreign research reactor operators, construction of a new storage facility would not be practical due to the very high cost of storing small amounts of spent nuclear fuel and the long time required to design, license, and construct facilities."*** 1265-40

**The U.S. commercial reactor operators are facing the same problems: either shut down needed nuclear electrical power generators, construct new storage facilities, or ship their spent nuclear fuel offsite for storage and ultimate disposal. The best short term and long term solution is for the U.S. to help the foreigners find a foreign solution while the U.S. is helping the U.S. reactors find a U.S. solution!**

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

### *Response to Comment No. 1265-37*

As discussed in Section 2.3 of the EIS, certain arrangements in support of U.S. nuclear weapons nonproliferation policy would have to be established with the foreign reprocessors and research reactor operators before overseas reprocessing could be implemented with U.S. assistance. These could include steps such as blending the HEU down to LEU, developing the capability to reprocess high-density LEU spent nuclear fuel, and converting the research reactors to the use of LEU. There is no guarantee that such arrangements can be worked out, but DOE and the Department of State are discussing these issues with the appropriate parties.

### *Response to Comment No. 1265-38*

DOE acknowledges that the Dounreay Site has the capability now to reprocess the bulk of the existing inventory of foreign research reactor spent nuclear fuel. The current lack of capability applies to the new high-density LEU fuel made of a uranium-silicon-aluminum alloy. As stated in Section 1.1 of the EIS, it is not clear whether the modifications necessary to reprocess this new fuel will be installed at the Dounreay Site.

### *Response to Comment No. 1265-39*

The sentence cited by the commentor has been revised in response to this comment and also in response to Comment 311-4, above.

### *Response to Comment No. 1265-40*

The commentor's preference for Management Alternative 2 is noted again. The disadvantages of overseas storage are discussed briefly in the Summary, and more thoroughly in Sections 2.3 and 4.4.1 of the EIS.

As discussed in Section 1.2 of the EIS, it is in the self interest of the U.S. to implement the proposed action as a means of reducing and eventually eliminating the use of highly-enriched (weapons-grade) uranium in civil programs worldwide. No such considerations apply to the storage of spent nuclear fuel from domestic U.S. nuclear power plants.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

**Comments on the US Department of Energy**

**Draft Environmental Impact Statement**
**on a**
**Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel**

I. The Department of Energy ( DOE ) used outdated information on the Port of Tacoma. The DEIS lists only one terminal through where these shipments would potentially be shipped. The Port of Tacoma has 6 Container Terminals. The map displayed in the DEIS is incorrect in that the configuration of these terminals is shown in a state in existence in the year 1980 or before. On-dock rail yard configurations are not shown at all and waterways are shown incorrectly. Similar mistakes are made for the Port of Seattle map. 1265-41
Given these errors in analyzing facilities for handling these shipments there certainly is no guarantee that the nearby population centers were shown correctly and evaluated correctly. In addition transport routes in the Port area may also be incorrect.

II. DOE described in the DEIS that it would be very difficult or impossible to recover fuel casks from depth greater than 200 meters in case of an accident. The DEIS states that those depths are only found in the ocean. DOE did not correctly research this matter since there are several areas in the Puget Sound region showing water depth of over 200 meters in major shipping lanes to and from the Port of Tacoma. 1265-42

III. Commencement Bay and the Port of Tacoma are located in a federally designated Superfund site. This site is on the National Priority list for cleanup under the Comprehensive Environmental Response, Compensation and Liability Act ( CERCLA). Over two hundred million dollars have and will be spent in efforts to clean up this environmentally sensitive area. DOE did not recognize that the shipment of nuclear materials would contribute to the "Dirty Port " stigma. 1265-43

IV. DOE did not properly evaluate and determine the impact of a severe fire or explosion involving a shipping cask of nuclear spent fuel, which would cause severe damage and have long-term effects on a large area near the disaster site. Further more the effects of crippling many businesses in the area effected was also not determined. 1265-44

V. DOE did not adequately address the security requirements for these shipments. This material is useable in nuclear weapons and therefore highly attractive to terrorists. Proper security measures to counter possible acts by terrorists were not provided for in the DEIS. 1265-45

VI. DOE did not properly address first response capability of the local fire and emergency agencies in case of a shipping cask breach and the spread of radiation from the accident site. No provision were made in the DEIS for upgrading and training of local first response teams. 1265-46

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## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

***Response to Comment No. 1265-41***

Updated information of the Port of Tacoma has been incorporated into Appendix D, Section D.2.1.9 of the EIS.

Besides the known outdated information on the Port of Tacoma, DOE is unable to address the commentor's concern about inaccurate information on the Port of Seattle without knowing which information the commentor feels should be included.

***Response to Comment No. 1265-42***

See the response to Comment 1265-27, above.

***Response to Comment No. 1265-43***

The acceptance of foreign research reactor spent nuclear fuel through the Port of Tacoma would neither affect the activities being conducted in Commencement Bay as a result of being a Superfund Site, nor would it add any additional burden to this designation. The transport of the foreign research reactor spent nuclear fuel on the Bay would not add any hazardous material to the Bay or the environment. DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS recognizing the designation of the Commencement Bay as a Superfund Site. The notion that the spent nuclear fuel shipments, but not other more hazardous material shipments, passing through the Port of Tacoma would add to the designation stigma is an unjustified fear. The analysis of impacts, as documented in Section 4 of the EIS, shows that there would be no significant adverse impacts on the port, people, or natural environment from shipments of foreign research reactor spent nuclear fuel through any of the ports of entry.

***Response to Comment No. 1265-44***

See the response to Comment 1265-3, above.

***Response to Comment No. 1265-45***

See the 4th and 5th paragraph of the response to Comment 1265-1, above.

***Response to Comment No. 1265-46***

See the response to Comment 1265-2, above.

## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

VII. DOE did not analyze the effects of an accident classified as a disaster on the local area infrastructure and population. *1265-47*

VIII. DOE did not address effects and costs incurred in the local area should an accident occur. *1265-48*

XI. DOE fully ignored fairness and equity issues by selecting smaller Ports. *1265-49*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1265: PORT OF TACOMA (CONT'D.)

***Response to Comment No. 1265-47***

See the response to comments 1265-33, -34, and -35 above.

***Response to Comment No. 1265-48***

The EIS contains an analysis of the risk of accidents at the potential ports of entry (Section 4.2.2.3), along the ground transport routes (Section 4.2.3.3), and at the management sites (Section 4.2.4.3 and Appendix F, Section F.4). In all cases, the risk was found to be low. Furthermore, DOE would not expect that the local population would incur any cost in the case of an accident.

Under the Price-Anderson Act, DOE would indemnify contractors for public liability with respect to spent nuclear fuel if there is a nuclear incident, as defined under law. In pertinent part, a nuclear incident is one that causes, for example, injury or sickness or property damage, resulting from radioactive, toxic, explosive, or other hazardous properties of the material. DOE does provide funding to States and Tribes, as described in Section 2.7.3.1 of the EIS, for transportation related issues. Such funding can enhance a jurisdiction's emergency management and planning capabilities.

***Response to Comment No. 1265-49***

The Port of Tacoma was one of ten ports that has been determined to be acceptable to receive the foreign research reactor spent nuclear fuel, if the material is to be accepted into the United States. Population of the port and surrounding areas is one of the considerations of the port selection criteria, and one of the reasons some other more populous ports were not included in the final list of ports. It should also be noted that the 1993 National Defense Authorization Act requires that low port population be a criteria for port selection for the receipt of foreign research reactor spent nuclear fuel. The population criteria for port selection (Criterion 5) is discussed in more detail in Appendix D, Section D.1.9.5 of the EIS.

## COMMENTOR NO. 1274: PORT OF ANACORTES

A WASHINGTON PUBLIC PORT OWNED BY THE RESIDENTS OF THE LOCAL COMMUNITY

PORT OF ANACORTES EST. 1926

FIRST AND COMMERCIAL AVENUE · P.O. BOX 297 · ANACORTES, WA 98221 USA
(206) 293-3134 · FAX (206) 293-9608

July 18, 1995

Mr. Charles Head
Office of Spent Nuclear Fuel Management (EM-37)
US Department of Energy
1000 Independence Avenue
Washington, DC 20585

Dear Mr. Head:

As an elected body, the Port of Anacortes Commission is responsible for the health, safety, security, efficiency and economic viability of our Port District, as well as the thousands of people employed by businesses that operate in and around our state's waterways. It is with these responsibilities in mind that the Port of Anacortes Commission unanimously supports the opposition of the Port of Tacoma's listing as a possible port of entry for spent nuclear fuel from foreign research reactors.

The Port of Tacoma should not be required to accept spent nuclear fuel shipments. 1274-1

The Port of Anacortes has joined the Port of Tacoma in opposing the proposed shipments. There is simply no demonstrable benefit to the Port of Tacoma or the community it serves. Indeed, the proposal contains a number of drawbacks including risks to the health, safety and well-being of workers, the general public and the environment. From the standpoint of Port operations, receiving the shipments would place unacceptable burdens on the Port related to costs, scheduling, security and interruption of regular commerce.

In addition, the training and equipment costs related to preparing the Tacoma Fire Department to deal with the possibility of an accident involving spent nuclear fuel would, in effect, be an unfunded federal mandate placed upon the taxpayers of Tacoma. 1274-2

Furthermore, the Department of Energy has never fully addressed the risks posed by shipboard fire. Although the draft EIS states that the shipment casks have been tested to withstand fires that reach temperatures as high as 1,160 degrees and lasted much longer that 30 minutes, DOE has never clearly stated what the results would be if a fire were to breach a cask and airborne radioactive smoke, steam and dust escaped into the environment. This worst-case scenario must be thoroughly investigated and a credible answer must be provided. 1274-3

In addition to the real problems these shipments would cause, there is the issue of perception. The Port of Tacoma and the citizens of the Tacoma - Pierce County area have indicated that they are particularly sensitive to the stigma these shipments would attach to the community. 1274-1 (Cont'd.)

Federal, state and local governments have spent millions of dollars to clean up a number of contaminated sites in and around Commencement Bay. The community is just now beginning to reap the benefits of cleanup efforts. Shipments of spent nuclear fuel would jeopardize the progress that has been made in cleaning up both the environment and the image of Tacoma - Pierce county.

## RESPONSE TO COMMENT
## COMMENTOR NO. 1274: PORT OF ANACORTES

### *Response to Comment No. 1274-1*

The Commissioners of the Port of Anacortes' opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

Candidate ports were chosen from among commercial and military ports along the eastern seaboard, western seaboard, and the Gulf of Mexico. The selection process is described in Appendix D, Section D.1 of the EIS. No significant human health, safety, or environmental risk were found to exist at any of the candidate commercial or military ports selected (Section 4.2.2 of the EIS). Spent nuclear fuel from foreign research reactors is shipped in standard containers, and does not require special handling techniques (Section 2.6.3.2.2 of the EIS) or additional security beyond that required by NRC regulation (which can readily be provided in any of the commercial or military ports). No special precautions are required by the U.S. Coast Guard (Section 2.6.3.2.2 of the EIS).

The benefit to the citizens of the United States from the proposed action, including those in potential ports of entry, along transportation routes, or near potential management sites, is less risk that weapons grade uranium from civil programs could be diverted into the production of nuclear weapons that might be used against us or our allies. On the other hand, the analyses recorded in the EIS (Section 4) demonstrate that the risks from the proposed action are low.

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. Nor should it contribute to any dirty port stigma because the analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years of experience shipping spent nuclear fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' status with respect to their clients. This belief is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States

## COMMENTOR NO. 1274: PORT OF ANACORTES (CONT'D.)

Page Two
Mr. Charles Head, Office of Spent Nuclear Fuel Management (EM-37)

But concern over this issue goes far beyond the desire to prevent these shipments from passing through the Port of Tacoma. While the Commission supports the goals of nuclear nonproliferation, careful research and consideration has led to the conclusion that Alternative 1, as presented in the Draft EIS, is not the best, safest, fastest, most economical way to achieve those goals. 1274-4

The Commission strongly urges DOE to reconsider Alternative 2. We believe Alternative 2 will achieve the goals of nuclear nonproliferation faster, at a lower cost and with less risk to the environment, the health of US citizens, and the economies of communities along possible transportation routes within the US. 1274-5

The draft EIS does not dispute the fact that Alternative 1, which is clearly favored in the Draft EIS, would cost nearly $1 billion more than Alternative 2. Even more alarming is the fact that the costs for upgrades to DOE facilities and equipment are not charged against the storage and treatment of the fuel in modernized US facilities. Consequently, the costs of Alternative 1 could spiral to well over $1 billion more than Alternative 2 (see footnote, page F-269 DEIS). Indeed, the Draft EIS states that the cost of Alternative 1 could be 5 to 10 times greater than Alternative 2. 1274-4 (Cont'd)

There is no evidence in the Draft EIS that the foreign reprocessing option has a significantly higher nonproliferation risk than storing the fuel in the US, provided bilateral agreements can be reached to assure that the High Enriched Uranium is diluted to Low Enriched Uranium.

While the Draft EIS does discuss upgrading US storage and reprocessing facilities, there is no evidence that DOE explored upgrading overseas storage and treatment facilities (e.g., Dounreay, Scotland). By not fully analyzing Alternatives 2 and 3, DOE has demonstrated a lack of fairness and due diligence which tends to discredit the Draft EIS. It may also provide grounds for successful technical challenges. 1274-5 (Cont'd.)

In the event that DOE determines that Alternative 1 will be a significant part of its foreign spent fuel policy, the Commission urges you to consider staging the fuel in secure, temporary overseas storage facilities. At periodic intervals the fuel could be shipped to the US through military ports by properly trained personnel under appropriate security conditions. Carefully controlled overland transportation through minimally populated corridors could bring the fuel to its final destination. Although this approach would keep the fuel out of the Port of Tacoma, we believe it is inferior to the more permanent solution achievable under Alternative 2. 1274-6

Thank you for the opportunity to communicate our opposition to the Port of Tacoma's listing as a possible port of entry for spent nuclear fuel shipments and to comment on the Draft EIS. We look forward to seeing a Final EIS that addresses the deficiencies described in this letter and the attachments.

Sincerely,
The Commissioners of the Port of Anacortes:

Francis Barcott, President
Ken Moore, Secretary
Stan Kurowski, Vice President
Merrill Thibert, Commissioner
Richard T. Nelson, Commissioner

cc: Port of Tacoma Commissioners

## RESPONSE TO COMMENT
## COMMENTOR NO. 1274: PORT OF ANACORTES (CONT'D.)

in standard shipping containers that would require no special handling or precautions. As such, there should be no adverse commercial or economic reaction to the use of the port. Historically, there were no significant adverse commercial impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was received.

### *Response to Comment No. 1274-2*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency management and security issues specific to the communities that would be affected. These issues include capabilities and training of first emergency responders. Funding for special needs, if necessary, would be addressed during this interface.

### *Response to Comment No. 1274-3*

The fire scenario that the commentor is referring to has been analyzed in the EIS. The details of the analysis is documented in Appendix D, Section D.5.4.3.2 and Attachment D5, of the EIS. The results indicate that the risk associated with an on-board ship severe fire is very small (See Table D-39 of Appendix D).

### *Response to Comment No. 1274-4*

The commentor's assessment that Management Alternative 1 (management of foreign research reactor spent nuclear fuel in the United States) is not the best, safest, fastest, and most economical way to achieve the goals of nuclear weapons nonproliferation, is noted. Management Alternative 1 is described in Section 2.2 of the EIS.

***Response to Comment No. 1274-5***

The commentor's preference for Management Alternative 2 is noted. This alternative is discussed in Sections 2.3 and 4.4 of the EIS. As to the nuclear weapons proliferation risks under Management Alternative 2 versus Management Alternative 1, Section 4.8.1 addresses the amount of HEU that would be removed from commerce under each of the alternatives and compares the risks of diversion of the material under each alternative. As for the commentor's concern that DOE did not fully analyze Management Alternatives 2 and 3, DOE considers that the analysis of the alternatives in the EIS fully complies with the requirements of NEPA.

***Response to Comment No. 1274-6***

As discussed in Appendix D, Section D.1 of the EIS, both commercial and military ports were evaluated. Environmental effects of Management Alternative 1 and 3 at candidate commercial and military ports were evaluated and found to be low (Sections 4.2.2 and 4.5 of the EIS). There is no basis to prefer commercial or military ports based on environmental consequences. As discussed in Appendix D, there is no environmental basis for preferring military vessels to commercial vessels.

Although the foreign research reactor spent nuclear fuel is radioactive material, the dose rates from the spent nuclear fuel transportation casks would be low. No special handling or loading/unloading procedures would be required for the foreign research reactor spent nuclear fuel when it is contained in approved shipping containers; experience with handling containers is sufficient. Therefore, no special training of longshoremen is required.

Section 2.8 of the EIS addresses the security measures that would be taken to ensure that there would be no unacceptable risks of terrorism or theft of materials. DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security measures employed at any port would meet or exceed all the security requirements in the Code of Federal Regulations (10 CFR Part 73). DOE supports these regulations as being adequate to protect the foreign research reactor spent nuclear fuel in any commercial port. If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security.

Appendix H has been added to the final EIS to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

## COMMENTOR NO. 1274: PORT OF ANACORTES (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 1274: PORT OF ANACORTES (CONT'D.)

The Port of Anacortes Commission's preference for Management Alternative 2 is noted.

***Response to Comment No. 1274-7***

With respect to the comments on costs, the following comments are material:

- Management Alternative 1 is distinguished from Management Alternative 2 on the basis of the site of the activities. Storage or chemical separation in the United States would not cost $1 billion more than storage or reprocessing outside the United States. Storage and disposal in the individual countries would be the most costly alternative, as described in the final EIS.

- Chemical separation of foreign research reactor spent nuclear fuel at the Savannah River Site would take place only if a Canyon (H or F) were in operation (at least during the 1997 to 2003 period) pursuant to other requirements. Restarting one or more canyons under the Interim Management of Nuclear Materials EIS is considered possible. In this case, the foreign research reactor spent nuclear fuel program would bear only the marginal costs of additional processing during the period of concurrent operations and the full cost during any subsequent period. Using the IMNM EIS as a reference, the period of concurrent operations would be 1997 through 2002 or earlier. Processing on a stand-alone basis without a period of concurrent operations is economically infeasible. Processing on a stand-alone basis after concurrent operations is possible. Under no circumstances would the foreign research reactor spent nuclear fuel program be the cost driver for upgrades. Only in the pure stand-alone mode, would foreign research reactor spent nuclear fuel be the cost driver for operations. All costs in the EIS were based on the marginal effect of the foreign research reactor spent nuclear fuel, not the average effect.

## *Commentor No. 1275:*
## *Jerry Rubier, Mayor, City of Rio Vista*

# CITY OF RIO VISTA

One Main Street P.O. Box 745 RIO VISTA, CALIFORNIA 94571-0745

July 17, 1995

COUNCIL
MAYOR
Jerry Rubier
MAYOR PRO TEMPORE
Helen Madere
Carl Brown
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Matthew Bidou
CITY MANAGER
Joseph Mulloy
CITY CLERK
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DIRECTOR OF FINANCE
Joseph Mulloy
POLICE CHIEF
Larry Prefitt
FIRE CHIEF
Keith Tadewald
PUBLIC WORKS SUPT.
Donald DeSilva

Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
U.S. Department Of Energy
1000 Independence Avenue
Washington, D.C. 20585-0001

Dear Mr. Head:

The City of Rio Vista cannot support the selection of the Concord, California Naval Weapons Station as a port of entry for foreign reactor nuclear waste. The Environmental Impact Statement prepared in connection with this proposal is inadequate in that it lacks information needed for local review and support. First, there is no description of the incoming forty miles of waterway between the Pacific Ocean and the port, an area containing five major bridges and subject to heavy ship and recreational boat traffic. Second, the use of State Highway 12 as a truck route for spent fuel has not been addressed. This highway is the only way in and out of Rio Vista and has a high occurrence of accidents. Its use as such a truck route would increase the risk of hazardous material exposure to the citizens of Rio Vista and the surrounding area. Third, the impact statement fails to consider the likelihood and consequence of an earthquake. The elaborate fault structure found in this area and the resulting high earthquake potential has not been carefully considered in connection with the proposed use of the Concord location.

The public does not fully understand the complexities of nuclear waste transport, and the inadequacy of the Environmental Impact Statement makes it impossible for the Council to fully assess the risks associated with the occurrence of this activity in or near our community. It is, therefore, respectfully requested that you eliminate Concord from consideration as a port of entry for foreign spent nuclear fuel.

*1275-1*

*1275-2*

*1275-3*

*1275-1 (Cont'd.)*

## *Response to Comment*
## *Commentor No. 1275:*
## *Jerry Rubier, Mayor, City of Rio Vista*

### *Response to Comment No. 1275-1*

The physical constraints of the passage from San Francisco Bay to Concord NWS was considered as part of the port selection process and did not alter the determination that it meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS). The volume or size of the local marine traffic (present or future) was not considered in the calculation of risk associated with the shipment of foreign research reactor spent nuclear fuel. In general, the number of ship mishaps is not proportional to the amount of ship traffic because port ship traffic is slow, and even when heavy, is normally a small number of ships per hour. Historically, increasing the volume does not significantly increase the probability of an accident. Rather, the number of ship mishaps is associated with navigational hazards and distances from the port to the open ocean or a large bay (Appendix D, Section D.1.9.2). Appendix D, Section D.5.3.1.3 presents a discussion of the determination of the probability of ship accidents used in the EIS. In regard to the size of vessels, increased volumes of hazardous cargos, say gasoline, would not change the accident consequences because the most severe accidents analyzed already assumed a collision with a tanker and that the resulting fire was not limited by quantity of fuel available (Attachment D5 to Appendix D).

DOE does not agree that the draft EIS is inadequate for evaluating the risks associated with the use of the Concord NWS. The EIS considers that the incident-free impacts would be negligible (Section 4.2.1.2 of the EIS) and the accident risk to the health and safety of potentially affected populations around the Concord NWS and along the routes to the management site(s) is low (Section 4.2.1.3).

### *Response to Comment No. 1275-2*

DOE has not yet selected ground transportation routes, or transport modes for the foreign research reactor spent nuclear fuel. If the Concord NWS is selected, then DOE would choose the best route to I-680 in accordance with Department of Transportation regulations (49 CFR Part 397.101 (a)(2)). That route could use Route 4, Route 24, Route 12, and/or Waterfront Road. These are the local Concord streets that the trucks would probably use. The State of California routing agency can designate a preferred route, which the shipments would be required to follow, in accordance with 49 CFR Part 397.103.

### *Response to Comment No. 1275-3*

The EIS evaluates the risk associated with marine and port activities and ground transportation in Section 4.2 of the EIS. The impacts are evaluated for both incident-free and accident conditions. Earthquakes were not analyzed separately in the EIS because seismic activity would not result in greater damage to a transportation cask than that caused by a ship collision and subsequent fire. Rather, the consequences from the worst plausible accidents involving foreign research reactor spent nuclear fuel transportation

## COMMENTOR NO. 1275:
## JERRY RUBIER, MAYOR, CITY OF RIO VISTA (CONT'D.)

July 17, 1995
Mr. Charles Head, Program Manager
Office of Spent Nuclear Fuel Management (EM-37)
Page 2.

Sincerely,

JERRY RUBIER
Mayor

cc: Congressman Fazio

Hazel R. O'Leary
Secretary of Energy

Board of Supervisors
Contra Costa County

JR:vs

## RESPONSE TO COMMENT
## COMMENTOR NO. 1275:
## JERRY RUBIER, MAYOR, CITY OF RIO VISTA (CONT'D.)

casks were evaluated, regardless of what initiated them. An earthquake could be the initiator of either a ship or road accident and thus effect the probability of such accidents, however, the number of earthquake-induced ship and road accidents is small compared to other causes.

## COMMENTOR NO. 1275:
## JERRY RUBIER, MAYOR, CITY OF RIO VISTA (CONT'D.)

RESOLUTION NO. 95-36

RESOLUTION OPPOSING THE USE OF CONCORD NAVAL WEAPONS STATION AS A PROPOSED PORT OF ENTRY FOR FOREIGN SPENT NUCLEAR FUEL

WHEREAS, it has been proposed that the Concord, California Naval Weapons Station be used as a port of entry for foreign spent nuclear fuel; and,

WHEREAS, the Environmental Impact Statement prepared in connection with said proposal is inadequate in many areas including but not limited to the following:

1. The effect of implementation of the proposal on traffic and transportation on the major highways and waterways in the area has not been addressed; 1275-2 (Cont'd.)

2. The elaborate fault structure in the area and the potential impact of earthquakes has also not been addressed. 1275-3 (Cont'd.)

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RIO VISTA, that said Council does not support the use of the Concord Naval Weapons Station as a port of entry for foreign spent nuclear fuel. 1275-1 (Cont'd.)

I, ANITA REINEKE, CITY CLERK OF THE CITY OF RIO VISTA and ex-officio Clerk of the City Council of said City, do hereby certify the above and foregoing to be a full, true and correct copy of a Resolution of said City Council which was regularly introduced, passed and adopted by said City Council at a regular meeting thereof, by the following vote:

AYES: COUNCILMEMBERS Harris, Bidou, Madere, Brown, Rubier
NOES: COUNCILMEMBERS None
ABSENT: COUNCILMEMBERS None

WITNESS my hand and seal of said City this 20 day of July, 1995.

Anita Reineke
ANITA REINEKE, CMC, CITY CLERK

## RESPONSE TO COMMENT
## COMMENTOR NO. 1275:
## JERRY RUBIER, MAYOR, CITY OF RIO VISTA (CONT'D.)

## *Commentor No. 1279: Contra Costa County Board of Supervisors*

The Board of Supervisors
County Administration Building
651 Pine Street, Room 106
Martinez, California 94553-1293
Jim Rogers, 1st District
Jeff Smith, 2nd District
Gayle Bishop, 3rd District
Mark Bellenghi, 4th District
Tom Torlakson, 5th District

Contra Costa County

Phil Batchelor
Clerk of the Board
and
County Administrator
(510) 646-2371

July 12, 1995

The President
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Mr. President:

The Board of Supervisors of Contra Costa County requests your help in opposing the U.S. Department of Energy and Department of State proposal to use the Concord Naval Weapons Station (in Contra Costa County) as a port of entry for the importation of foreign research reactor spent nuclear fuel originally provided by the United States. Our Board is opposed to the proposal because Contra Costa County is already disproportionately impacted by nuclear programs at federal facilities in and near our county and by the operations of several oil refineries and chemical plants. A number of upsets have occurred at the refineries and chemical plants in recent years.

Additionally, our Board is concerned because the Draft Environmental Impact Statement on the proposed federal policy to re-import the spent nuclear fuel scarcely addresses the local impacts of using the Concord Naval Weapons Station. We have asked the U.S. Department of Energy to include local information in the Final Environmental Impact Statement, but it is not apparent how local officials and the public will have the opportunity to review and comment on it before a decision is made on the proposal. *1279-1*

Our Board already has asked local governments in Contra Costa County and adjoining counties to join us in opposing the proposal. We are now asking you and those who represent us in the federal government to aid us.

Sincerely,

Gayle Bishop

Gayle Bishop
Chair, Board of Supervisors

c.c.: Charles Head, Program Manager
Office of Spent Nuclear Fuel Management
U.S. Department of Energy

GB:GKlaw
BCBSpresident.ltr

## *Response to Comment Commentor No. 1279: Contra Costa County Board of Supervisors*

### *Response to Comment No. 1279-1*

The port selection process that determined that Concord NWS was an acceptable port considered the population of the port and surrounding areas (Appendix D, Section D.1.9.5). Additionally, all population within a fifty mile radius of the Concord NWS was considered when analyzing the potential impact of a range of hypothetical port accidents. The risks were found to be low (Appendix D, Section D.5).

The passage from San Francisco Bay to Concord meets the requirements of Criterion 2 (Favorable Transit From Open Ocean) for port selection (Appendix D, Section D.1.9.2 of the EIS). Land-based facilities, such as refineries, have no direct impact on the risk associated with the shipment of foreign research reactor spent nuclear fuel because the addition of some mishap at a land-based facility would not add to the severity of the worst plausible accident, which is considered to be the collision of the ship carrying the foreign research reactor spent nuclear fuel with a petroleum tanker. In this accident, the transportation cask is damaged in the collision, then subjected to a fire that resulted from the collision (Appendix D, Section D.5). Section 4.2.2.3 discusses the assumptions that went into the port accident analysis and the results of those analyses. Land-based facilities themselves are not a threat to the transportation cask due to the distance from any of the facilities to the ship and the robustness of the cask.

## COMMENTOR NO. 1279:
## CONTRA COSTA COUNTY BOARD OF SUPERVISORS (CONT'D.)

Thank you for your letter. I appreciate your concern about spent nuclear fuel management, as it particularly affects the Concord Naval Weapons Station in Contra Costa County.

My Administration remains committed to developing a plan for permanent nuclear waste disposal. I am working with Secretary O'Leary to carry out the program in a way that is technically and economically feasible and that will lead to the safe, fair, and permanent disposal of high-level waste as soon as possible. I have forwarded a copy of your letter to Secretary O'Leary, and I know that she will take your views into careful consideration. You should be getting a response from the Department of Energy that addresses your concerns.

I value your insight on issues involving spent nuclear fuel transportation, and I hope you will continue to share your thoughts.

## RESPONSE TO COMMENT
## COMMENTOR NO. 1279:
## CONTRA COSTA COUNTY BOARD OF SUPERVISORS (CONT'D.)

## COMMENTOR NO. 1280: PORT OF ANACORTES

A WASHINGTON PUBLIC PORT OWNED BY THE RESIDENTS OF THE LOCAL COMMUNITY

PORT OF ANACORTES EST. 1925

FIRST AND COMMERCIAL AVENUE · P.O. BOX 297 · ANACORTES, WA 98221 USA
(206) 293-3134 · FAX (206) 293-9608

July 18, 1995

Hazel O'Leary
Secretary
US Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Secretary O'Leary,

We are writing to express our concerns over the alternatives proposed in the Department of Energy's (DOE) Draft Environmental Impact Statement (DEIS) on the management of spent nuclear fuel (SNF) from foreign research reactors. We are concerned about the proposed option of importing the foreign SNF through commercial ports such as Tacoma, WA. *1280-1*

While the desire to encourage other nations' research reactors to switch to low-enriched uranium (LEU) from high-enriched uranium (HEU) is an integral component of the United State's overall nuclear nonproliferation policy, importing foreign SNF through commercial ports may not be necessary. The DOE DEIS lists two military ports among the ten possible ports of entry for the SNF. We feel the DOE should limit further consideration of importing SNF to these or other appropriate military ports because of the considerable concern among citizens and city officials about importing SNF through commercial ports. *1280-2*

First, there is significant apprehension created about the threats to public health by importing this SNF through commercial ports. DOE has stated that the threats to public health are not significant given the state of the material and the overly cautious design of the storage casks. We feel a public health risk still exists. There is public concern that longshoremen, sailors, and average citizens could potentially become exposed to significant radiation levels. Whether this risk is real or only perceived is irrelevant. Importing foreign SNF through commercial ports would at best threaten public confidence and citizen's sense of security and at worst pose a significant threat to public health. *1280-3*

Second, the DEIS states: "Primary responsibility for emergency response to a foreign research reactor SNF incident would reside with local authorities." Although the port and city of Tacoma have emergency response plans for hazardous materials, neither the Police and Fire Departments or the Port workers are properly equipped or trained to contend with a significant radiation emergency. Proper equipment and training of these people would add a significant and unnecessary cost to the overall proposal. In addition, it is not clear that Tacoma police officers, fire fighters, and port workers would be willing to undergo such training, knowing that it opens them up to potential future radiation exposure. In fact, port workers in Tacoma may declare their unwillingness to handle the material during even a routine transport procedure, let alone emergencies. *1280-4*

Third, importing SNF through commercial ports runs contrary to the overall policy objective of reducing the world-wide availability of HEU and other nuclear waste. If lengthy, unnecessary and relatively low-security transportation of SNF occurs through commercial ports, the increased opportunities for theft, hijacks, and sabotage could result in greater accessibility to the SNF than desired. As current events have *1280-5*

## RESPONSE TO COMMENT
## COMMENTOR NO. 1280: PORT OF ANACORTES

### *Response to Comment No. 1280-1*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment No. 1280-2*

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security such as might be present at military bases. The security provided for the foreign research reactor spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted.

### *Response to Comment No. 1280-3*

The commentor's opposition to the use of commercial ports is noted. DOE considers, however, that the real risk is important. DOE has estimated the real risk, found it to be low, and presented it to the public in a straightforward manner in this EIS. (Section 4.1.4 of the EIS)

### *Response to Comment No. 1280-4*

As discussed in Section 2.7.3.2 of the EIS, DOE provides funding to States and Tribes through the Office of Environmental Management and the Office of Civilian Radioactive Waste Management to assist with transportation related issues. This funding has been used in the past to enhance a jurisdiction's emergency management and response capabilities. Besides funding, much of DOE's assistance is provided in the form of technical assistance, for which DOE bears the cost. Assistance may be provided through DOE's Radiological Assistance Program and under the National Contingency Plan, as well as through training, DOE sponsored meetings, informal discussions, and informational materials.

Appendix H, which was added to the final EIS in response to public comments, contains the general provisions for emergency preparedness and security measures associated with the transportation of foreign research reactor spent nuclear fuel in the United States. The provisions include an interface between DOE and State, Tribal, and local authorities, prior to the implementation of the policy, for the identification and resolution of emergency

## COMMENTOR NO. 1280: PORT OF ANACORTES (CONT'D.)

Page Two
Secretary O'Leary, US Department of Energy

unfortunately revealed, the United States is not immune to foreign or domestic terrorism. The fact is that this material could be used in the making of nuclear weapons. Transporting this material through commercial ports would create an unnecessary threat to national security.

These concerns present a compelling case for DOE to preclude further consideration of commercial ports like Tacoma, WA, for importation of foreign SNF. While removing HEU and other nuclear waste from the global marketplace is an essential aspect of nuclear nonproliferation, importing this material through military ports may prove more reasonable, given the increased protection that could be provided to public health, safety and national security. 1280-5 (Cont'd)

In summary, we would appreciate DOE limiting further consideration of this proposal to military ports. Thank you for your consideration. 1280-2 (Cont'd)

Sincerely,
The Commission of the Port of Anacortes:

Francis Barcott, President

Ken Moore, Secretary

Stan Kurowski, Vice President

Merrill Tilbert, Commissioner

Richard T. Nelson, Commissioner

cc: Port of Tacoma Commissioners
Gov. Mike Lowry
Sen. Slade Gorton
Sen. Patty Murray
Sen. Harriet Spanel
Rep. Norm Dicks
Rep. Jim McDermott

## RESPONSE TO COMMENT
## COMMENTOR NO. 1280: PORT OF ANACORTES (CONT'D.)

management and security issues specific to the communities that would be affected. These issues would include capabilities and training of first emergency responders. The commentor's assessment that the Tacoma port workers and emergency preparedness personnel would not be willing to participate in any training activities, or routinely handle the cargo, is noted.

### *Response to Comment No. 1280-5*

Neither acts of terrorism nor theft of materials by a determined group or individual can be completely precluded. However, proper security measures greatly reduce the risk of such actions. Security would be provided for all shipments of foreign research reactor spent nuclear fuel, as required by the Code of Federal Regulations (10 CFR Part 73). The security provisions are summarized in Appendix H of the EIS. This appendix presents the general provisions of the Transportation Plan, which is a document that would be prepared for each foreign research reactor spent nuclear fuel shipment to specify details of the transportation process, including security provisions in port and during transit. For discussion of commercial port security, refer to response to Comment 1280-2, above.

# Section 2.4
# Native American Groups

## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS

**Puyallup Tribe of Indians**

May 22, 1995

The Honorable Hazel O'Leary
Secretary
United States Department of Energy
1000 Independent Avenue S.W.
Washington, D.C. 20585

RE: DEIS for Proposed Nuclear Weapons Non-Proliferation Policy Concerning Foreign Research Reactor Fuel

Dear Madame Secretary:

Enclosed are the preliminary comments of the Puyallup Tribe of Indians concerning the possible selection of the Port of Tacoma to receive spent nuclear fuel rods from research reactors from 41 countries.

The Puyallup Tribe of Indians Reservation is located on the east side of Puget Sound in the vicinity of what is now the City of Tacoma (Figure 1. Location of Puyallup Reservation). The Treaty of Medicine Creek in 1854 and Executive Order of January 20, 1857 set aside a reservation for the Tribe at the mouth of the Puyallup River.

Just seven years ago, the United States approved the Puyallup Land Claims Settlement Act. This Agreement provides approximately 400 acres of industrial property within the eight waterways of the Port of Tacoma. Additionally, a small Tribal residential community is located immediately south of the Blair Waterway.

Members of the Puyallup Tribe rely upon Commencement Bay's fishery resources for our economic, subsistence, and spiritual livelihood. We have been and always will be stewards of the Bay's fishery and natural resources.

During the past 100 years, we have witnessed a dramatic decline in the Bay's fishery resources. Part of this decline was caused by habitat modifications related to municipal and industrial development, however, a substantial and continuing cause of decline in the Bay's fishery is chemical pollution. 70-1

Health advisories warn against consumption of Commencement Bay's fish and shellfish resources due to chemical contamination. Loss of these resources takes food off our tables and puts the Tribe's commercial fishermen out of work. Chemical pollution in the Commencement Bay area impacts the quality of life in our community, and reduces recreational fishing and boating. The 70-2

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## RESPONSE TO COMMENT
## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS

### *Response to Comment 70-1*

The Puyallup Tribe's concern over the impact on Commencement Bay's fishery resources is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk of bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports, bays, or waterways that the spent nuclear fuel might pass through or near. Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. As stated in Section 2.6.2 of the EIS, to date, after more than 30 years of spent nuclear fuel shipments, no spent nuclear fuel transportation cask has ever released any of its contents (radioactive material). Based on this past experience, DOE considers that transportation casks passing through the Port of Tacoma would not release their radioactive contents, and would thereby not affect the quality of the water. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality.

### *Response to Comment 70-2*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant fish and shellfish resources in Commencement Bay. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). Historically, there were no adverse economic or cultural impacts to the ports that received foreign research reactor spent nuclear fuel for the 30 plus years it was accepted into the United States in the past. This is based on the fact that the foreign research reactor spent nuclear fuel would be accepted into the United States in standard shipping containers that would require no special handling or precautions.

## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS (CONT'D.)

The Honorable Hazel O'Leary
Page 02

presence of this contamination also stigmatizes and unfairly limits the economic development potential of businesses such as the Tribe's Chinook Landing Marina on the Hylebos Waterway developed by the Tribe under the Puyallup Land Claims Settlement Act approved by Congress in 1989. 70-3

The Settlement Act approved by Congress in 1989 ratified the Puyallup Land Settlement Agreement of August 27, 1988, which had as its twin goals strengthening Commencement Bay's economy and restoration of Commencement Bay fishery resources. Parties to the Settlement Agreement included the State of Washington, the Cities of Tacoma, Fife and Puyallup, Pierce County, the Port of Tacoma, Union Pacific and Burlington Northern Railroads, private parties, and the United States. Thus, the Tribe's goals of restoring Commencement Bay's fishery resources and economy enjoy wide support in the public and private sectors of Commencement Bay.

In 1980, the Environmental Protection Agency placed Commencement Bay on the NPL Superfund List. Since that time the Puyallup Tribe in cooperation with the EPA, State of Washington Department of Ecology and many of the potentially responsible parties have spent hundreds of millions of dollars to clean up the Bay. The Natural Resource Damage Trustees (of which the Puyallup Tribe is a member) are moving ahead successfully negotiating settlements and initiating the first Superfund NRD restoration project in Commencement Bay. Furthermore, the Trustees have started the process of preparing a comprehensive restoration plan and EIS for future restoration projects. Implementation of the Superfund cleanup as well as well-planned, cost-effective restoration projects at the earliest possible date is of critical importance to the Puyallup Tribe and its members as well as all user groups and stakeholders in Commencement Bay.

With this in mind the Puyallup Tribe of Indians is astonished that the U.S. DOE is proposing to select the Port of Tacoma as a possible site to transport spent nuclear fuel. To date, no one from your office has notified the Tribe of this proposal. The federal government has a fiduciary responsibility to Indian Tribes. Under federal law, a Trust relationship exists between the federal government and Indian Tribal governments. The Puyallup Tribe of Indians respectfully requests that your office take immediate steps to correspond with our Tribe on a government to government basis and that you send copies of the DEIS to the tribe for their review and comment. We also request that the formal meeting scheduled for May 24, 1995 in the City of Sea-Tac be postponed for at least one month. This meeting should be held in the city and county affected: Tacoma, Pierce County, Washington. The Puyallup Tribe needs sufficient time to review the DEIS in order to safeguard the interests of our Tribal members and natural resources. 70-4 70-5

Finally, it is inconceivable to our Tribe that this area is being considered as a site to transport nuclear waste. The Puyallup Tribe has endured decades of every environmental injustice known to mankind except for nuclear waste. The Tribe, community, industry and local and state governments have made great progress in the cleanup and restoration of the Commencement Bay environment. We can't believe that we have spent hundreds of millions of dollars to clean up and restore this environment only to have spent nuclear fuel transported to and from the Port of Tacoma. The stigma of having nuclear waste transported to and from our Reservation is totally 70-6

Puyallup Tribe of Indians
Comments on DEIS for Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Fuel
May 22, 1995

## RESPONSE TO COMMENT
## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS (CONT'D.)

### *Response to Comment 70-3*

DOE agrees that chemical contamination could have detrimental effects on the economic development of the area. However, there is no identifiable mechanism by which transportation activities of foreign research reactor spent nuclear fuel would affect the existing levels of chemical contamination in the areas of question. As discussed in the response to Comment 70-8 below, the shipments would have no effect on the quality of the marine environment.

### *Response to Comment 70-4*

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.

### *Response to Comment 70-5*

The interest and concern of the Puyallup Tribe of Indians in this matter is noted. Agency coordination with the Puyallup Tribe of Indians was initiated by letter from J. Lytle of DOE to W. Sullivan on June 6, 1995. At the request of the Puyallup Tribe of Indians and others, a second public meeting in the Tacoma area was held on June 19, 1995. The period for acceptance of public comments was expanded from 60 days to 90 days, ending on July 20, 1995.

### *Response to Comment 70-6*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. DOE considers that the use of any of the ports indicated by the port selection process, including Tacoma, would not impact normal commercial operations, and therefore not endanger the ports' economic development. Nor should it contribute to any stigma based on the EIS analysis which indicates that there would be no significant

## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS (CONT'D.)

The Honorable Hazel O'Leary
Page 4B

unacceptable. This action may adversely impact the Tribe's ability to develop our Settlement Properties within the Port of Tacoma. 70-6 (Cont'd.)

The health, safety and welfare of our Tribal membership is of utmost importance. Protection of the Reservation environment is basic to the survival of our people. The importance of clean water, air, and land cannot be overstated. The endless cycle of life would be broken if our Reservation lands and waters could no longer sustain the living resources upon which our members rely. 70-7

Pollution of the Reservation environment is not only detrimental to the health and safety of tribes, but to the their economic survival and that of the adjacent non-Indian communities. Moreover, for the Puyallup Tribe to meet the obligations of the Settlement Act of 1989 including economic development, jobs and necessary services, on-Reservation business opportunities must be pursued without the stigma and impacts associated with the siting and transportation of spent nuclear fuels. 70-8

For these reasons, the Puyallup Tribe unanimously registers its opposition to receiving these shipments based on the information available.

Sincerely,

William C. Sullivan

William C. Sullivan
Director of Environmental Programs
Puyallup Tribe of Indians

bc: Tribal Council
Port of Tacoma
Secretary of Interior
Congressman Tate
Congressman Dicks
Senator Murray
Senator Gorton

Puyallup Tribe of Indians
Comments on DEIS for Proposed Nuclear Weapons Non-Proliferation Policy Concerning Foreign Research Reactor Fuel
May 22, 1995

## RESPONSE TO COMMENT
## COMMENTOR NO. 70: PUYALLUP TRIBE OF INDIANS (CONT'D.)

adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). See also response to Comment 70-1, above.

### *Response to Comment 70-7*

DOE agrees with the commentor's concerns about the importance of a clean environment. Section 4.2 of the EIS demonstrates that accepting foreign research reactor spent nuclear fuel into the United States probably would not adversely affect Tribal members, nor any other potential population.

### *Response to Comment 70-8*

The environmental impacts associated with port activities and ground transportation of foreign research reactor spent nuclear fuel, if managed in the United States, are discussed in Sections 4.2.2 and 4.2.3 of the EIS, respectively. The risk to the environment or the health and safety of nearby workers or members of the public as a result of the radioactive nature of the spent nuclear fuel has been demonstrated to be low. In addition, as discussed in Section 4.2.2.2 of the EIS, the shipments would have no impact on the air and water quality at the port or along the transportation route other than the effects expected from conventional marine or ground transportation traffic.

## *Commentor No. 335: Puyallup Tribal Council*

**Puyallup Tribe of Indians**

**PUYALLUP TRIBAL COUNCIL**
**RESOLUTION NO.** 150695

**A RESOLUTION** to express strong opposition to the United States Department of Energy and United States Department of State to jointly adopt a policy to accept and manage spent nuclear fuel from foreign research reactors by shipment through the Port of Tacoma, Washington; and the declaration of the Puyallup Tribe of Indians Reservation as a NUCLEAR FREE ZONE.

**WHEREAS**, the Puyallup Tribe of Indians has existed since creation as the aboriginal people, located on the east side of Puget Sound in the immediate vicinity of what is now the city of Tacoma and Port of Tacoma; and

**WHEREAS**, the Puyallup Tribe is an independent sovereign nation having historically negotiated with several foreign nations including the United States in the Medicine Creek Treaty; and

**WHEREAS**, the Puyallup Tribal Council is the governing body of the Puyallup Tribe of the Puyallup Reservation in accordance with the authority of their sovereign rights as the aboriginal owners and the guardians of their lands and waters as reaffirmed in the Medicine Creek Treaty, and their Constitution and By-Laws as amended and approved by the Tribe and the Assistant Secretary of the Interior on the first day of June, 1970; and

**WHEREAS**, the Puyallup Tribe has authority, responsibility, and jurisdiction to protect our natural environment and resources; and

**WHEREAS**, the lives, health, survival and cultural values, and economic security of members of the Puyallup Tribe depend on the natural resources in and around Commencement Bay; and

**WHEREAS**, the United States Department of Energy and the United States Department of State are jointly proposing to adapt a policy to manage spent nuclear fuel from foreign research reactors; and

**WHEREAS**, nuclear fuel containing uranium enriched in the United States Department of State would be covered by this policy; and

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## *Response to Comment*
## *Commentor No. 335: Puyallup Tribal Council*

## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

Puyallup Tribal Resolution No._____
Page 2

WHEREAS, the purpose of this policy is to promote U.S. nuclear weapons nonproliferation policy objectives, specifically seeking to reduce highly enriched uranium from civilian commerce; and

WHEREAS, the Puyallup Tribe of Indians is not opposing the nonproliferation policy objectives of the United States of America; and

WHEREAS, the environmental effects and policy is to promote U.S. nuclear weapons nonproliferation policy objective, specifically seeking to reduce highly enriched uranium from civilian commerce; and

WHEREAS, alternative number one would be the acceptance and management of the spent nuclear fuel by the Department of Energy in the United States; and

WHEREAS, under alternative number one the spent nuclear fuel would be shipped by ocean going vessels from foreign countries to the United States of America; and

WHEREAS, the Port of Tacoma is considered one of ten ports through which the shipment of spent nuclear fuels would occur; and

WHEREAS, the Draft Environmental Impact Statement (DEIS) was prepared to address the Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel, and the DEIS

A. Has ignored information about the Puyallup Tribe of Indians, its Reservation, people, natural resources and environmental justice impacts, 335-1

B. Did not consider the deep water depth in the Puget Sound Area, which will cause substantial problems in recovery of nuclear fuel shipping containers in case of an accident, 335-2

C. Fully ignored the harm which can be caused to the population and environment of the area in case of an explosion and fire aboard a vessel navigating the Puget Sound,

D. Did not recognize the status of Commencement Bay as a Superfund site, the stigma attached to this designation and the expansion of this stigma by alternative one,

E. Ignored the significant cleanup effort by the Port of Tacoma, the City of Tacoma and the industries in Commencement Bay, and the associated crippling business interruption issues, 335-3

F. Did not consider the impacts of this proposal on the federally approved Settlement Act of 1989 between the Puyallup Tribe, Port of Tacoma, City of Tacoma, State of Washington and United States,

G. Did not consider the impacts on the federally protected treaty rights of the Puyallup Tribe of Indians, 335-4

H. Did not consider the security aspect of these shipments through the Puyallup Tribe's Reservation Port of Tacoma, the City of Tacoma, Pierce County and the State of Washington,

## RESPONSE TO COMMENT
## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

### *Response to Comment No. 335-1*

The potentially affected environment surrounding the Port of Tacoma is described in Section 3.2.1.9 of the EIS. The racial and ethnic composition of the population in the potentially affected area is shown in Figure 3-34 of the EIS. As discussed in Appendix A, demographic data for the environmental justice analysis were obtained from U.S. Bureau of the Census data files. These data files provide racial and ethnic information for any given geographic area of the United States based on the latest census, but do not provide information on individual Tribes which responded to the 1990 census. Environmental effects were evaluated and the risks to the general population, including minority populations and low-income populations were determined to be low (Section 4.2.2 of the EIS). Environmental justice at candidate ports is discussed in Section 4.2.2.6 of the EIS with supporting analysis in Appendix A.

### *Response to Comment No. 335-2*

In the unlikely event that a transportation cask loaded with foreign research reactor spent nuclear fuel were to sink in any U.S. coastal waters, it would be recovered, even from the deepest portions of Puget Sound, which reaches depths of 305 meters (1,000 feet). Section 4.2.1.3 of the EIS has been revised to include the above clarification. Appendix C, Section C.5.5 of the EIS presents information on the probability of a cask sinking in coastal and deep ocean waters.

Appendix D, Section D.5.3.1 of the EIS describes several accident scenarios that involve fire. The results of the analysis of these accidents can be found in Section D.5.4. The analysis shows that even in the event of a severe ship fire, neither the consequences nor risks are great (Section D.5.5). Although such a catastrophic accident would obviously impact the local environment, no significant impacts are predicted due to the presence of foreign research reactor spent nuclear fuel. In fact, the analysis of impacts associated with an accident involving foreign research reactor spent nuclear fuel also determined that no decontamination, interdiction, or condemnation of property would result from the worst plausible accident (Section 4.2.2.3 and Appendix D, Section D.5 of the EIS).

The effects of a severe explosion on a foreign research reactor spent nuclear fuel transportation cask were not evaluated because the radiological impacts of the fire discussed above would be worse, or bound the results of an explosion. The energy content of a severe fire greatly exceeds that of a severe explosion. With a severe fire not only is the cask violated, as it might be by a large explosion, but the heat of the fire would lift what is released from the cask, spreading the radioactive material farther, affecting more people. The impacts of an explosion followed by a severe fire is equivalent to the category 6 accident which results in a violated cask being engulfed by a severe fire (Appendix D, Section D.5.3.1.1), which is discussed above.

## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

Puyallup Tribal Resolution No. 150695
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I. Did not adequately address life cycle costs, benefits and risks of the proposed alternatives, 335-5

J. Fully ignored the fairness and equity issues of selecting the smaller ports in lower population areas after implying the risks were virtually inconsequential, and 335-6

WHEREAS, the record for the safe operation and handling of nuclear material in U.S. Department of Energy regulated facilities is less that satisfactory, and there are facilities owned and operated by the U.S. Government capable of receiving and handling this nuclear material, and 335-7

WHEREAS, the U.S. House Budget Resolution eliminates the U.S. Department of Energy thereby creating funding uncertainties, and 335-8

WHEREAS, the U.S. Department of Energy is failing to provide adequate procedural due process in that it is not making a record of its hearings thereby foreclosing individuals' abilities to challenge the adequacy of the EIS, and 335-9

NOW THEREFORE IT BE RESOLVED by the Puyallup Tribal Council of the Puyallup Tribe of Indians that it opposes shipments of spent nuclear fuel through any facilities of the Port of Tacoma. 335-10

BE IT FURTHER RESOLVED, that the Puyallup Tribal Council declares that the Puyallup Reservation be declared a NUCLEAR FREE ZONE and the Tribe unanimously registers its opposition to the transportation,storage and/or disposal of any nuclear wastes on or through the exterior boundaries of the Puyallup Reservation. 335-11

**CERTIFICATION**

I, Sherry Richardson, Secretary of the Puyallup Tribal Council, hereby certify that the above resolution was duly adopted at a regular meeting of the Puyallup Tribal Council on the 15 day of June, 1995; a quorum being present with the vote of 6 FOR, 0 AGAINST, and 0 ABSTAINING.

Sherry Richardson
Sherry Richardson, Secretary
Puyallup Tribal Council

ATTEST:

Herman Dillon
Herman Dillon, Chairman
Puyallup Tribal Council

## RESPONSE TO COMMENT
## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

Sections 4.2.1 and 4.2.2 of the EIS provide an evaluation of consequences and risks of on-board ship fires. Supporting details are given in Appendix D. If a policy to accept foreign research reactor spent nuclear fuel is adopted, fuel elements would be shipped in casks which are resistant to destruction by collision and fire (Section 2.6.2). In the unlikely event that a cask is breached by collision and/or fire, the radiological consequences would be small and the associated risks would be low (Section 4 of the EIS).

DOE has added a sentence to Appendix D, Section D.2.1.9 of the EIS regarding Commencement Bay being a Superfund Site. The analysis of impacts for Management Alternative 1 in Sections 4.2 and 4.3 of the EIS demonstrate that there would be no significant adverse impacts on the ports, people, or natural environment from shipments of foreign research reactor spent nuclear fuel and the overall impacts to Commencement Bay would be unchanged by the various management alternatives.

### *Response to Comment No. 335-3*

Shipment of foreign research reactor spent nuclear fuel would not jeopardize the significant cleanup effort undertaken in the area of Commencement Bay and the Port of Tacoma as noted by the commentor. The analysis in the EIS indicates that there would be no significant adverse impacts to any of the ports or bays, or the quality of water or air (Section 4.2.1.1 and Appendix C, Section C.2 of the EIS). Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. Based on over 30 years of experience shipping spent nuclear fuel, DOE considers that spent nuclear fuel transportation casks passing through the Port of Tacoma, Commencement Bay, or any other port or waterway analyzed in the EIS would not affect air or water quality. A paragraph has been added to Section 4.2.2.2 of the EIS to make this point and to emphasize the no-impact nature of these shipments on air and water quality. Similarly, DOE considers that based on the experience of ports that have received spent nuclear fuel in the past, there would be no significant adverse impacts to any businesses or industry in the Commencement Bay/Port of Tacoma area from shipments of foreign research reactor spent nuclear fuel.

### *Response to Comment No. 335-4*

The EIS demonstrates that the receipt of foreign research reactor spent nuclear fuel at the Port of Tacoma (Section 4.2.2.3 of the EIS) and its transportation through the Puyallup reservation (Section 4.2.3.3 of the EIS) poses essentially no risk to the lives or health, and economic security of members of the Puyallup Tribe in or around the port and Commencement Bay.

On the issue of air and water quality as it pertains to the proposed policy of managing foreign research reactor spent nuclear fuel, DOE considers that there would be no significant adverse impacts to any of the ports that might be used to accept the material.

Spent nuclear fuel transportation casks are designed and built to preclude release of radioactive material. To date, no radioactive material has ever been released from a spent nuclear fuel transportation cask as a result of an accident. Since the transportation of foreign research reactor spent nuclear fuel would not impact the air or water quality, it would not violate the Commencement Bay fishery resources and should not, therefore, violate the Settlement Act. Likewise, nonpolluting use of the Port of Tacoma should not violate the other thrust of the Settlement Act which is strengthening Commencement Bay's economy, because increased traffic increases port and area income.

Appendix H has been added to the final EIS in response to public comments to better describe the security and emergency preparedness associated with transportation of the foreign research reactor spent nuclear fuel. This appendix presents the general provisions of the Transportation Plan, which is a document that provides all of the details associated with the transportation of the foreign research reactor spent nuclear fuel, including the security arrangements in port and in transit to the management site.

***Response to Comment No. 335-5***

Section 4 of the EIS and associated Appendices D, E and F address in detail the risks and benefits from the proposed action under the three management alternatives described in Sections 2.2, 2.3 and 2.4 of the EIS. A comparison of these alternatives is addressed in Section 4.8. The costs associated with the alternatives is discussed in Section 4.9.

***Response to Comment No. 335-6***

DOE considers that the port selection criteria successfully indicate ports that can safely handle foreign research reactor spent nuclear fuel. The EIS concludes that the use of any of the ports indicated by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel or the population near the port. The port selection process only indicates ports that are acceptable for the receipt and handling of foreign research reactor spent nuclear fuel, it does not determine which ports are best.

Section 3151 of Public Law 103-160 (the National Defense Authorization Act for the Fiscal Year 1994), requires that the Secretary of Energy shall, "if economically feasible and to the maximum extent practicable, provide for the receipt of spent nuclear fuel...at a port of entry in the United States which...had the lowest human population in the area surrounding the port of entry..." While the National Defense Authorization Act was written specifically to regulate the receipt and management of foreign research reactor spent nuclear fuel at DOE's Savannah River Site, DOE elected to apply this criterion, among others, in identifying potential ports of entry, to the maximum extent practicable.

Since the EIS demonstrates that there are no significant impacts of the proposed action (other than the beneficial support of United States nuclear weapons nonproliferation policy), DOE considers that there is no fairness or equity issue.

## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

***Response to Comment No. 335-7***

DOE has safely received and handled foreign research reactor spent nuclear fuel for over 30 years, most of it through commercial ports.

DOE considers that foreign research reactor spent nuclear fuel could safely be received at commercial ports, as it has in the past, without additional security that might be present at military bases. The security provided for the spent nuclear fuel shipments would be required to meet or exceed all the applicable security requirements in the Code of Federal Regulations (10 CFR Part 73). If any port did not already provide security sufficient to satisfy these requirements, it would be the responsibility of the shipper to provide the required additional security. Nevertheless, the commentor's preference for the use of military ports is noted. Sections 4.2.2.2 and 4.2.2.3 of the EIS provide the analysis on impacts of incident-free operation and consequences of port accidents, respectively.

***Response to Comment No. 335-8***

If DOE were abolished in response to action by Congress, the current DOE programs for management of spent nuclear fuel would have to be transferred to some other Federal government agency to protect the health and safety of the public. Since the spent nuclear fuel will not simply go away, these programs cannot simply be abolished.

***Response to Comment No. 335-9***

DOE did request that comments be submitted in writing, however, all oral comments presented at each hearing were summarized and have been addressed along with the written comments in this Volume 3 of the final EIS. All comments, written and oral, are part of the public record.

***Response to Comment No. 335-10***

The Puyallup Tribe Council's opposition to the use of the Port of Tacoma for receipt of foreign research reactor spent nuclear fuel is noted. Based on the port selection process described in Appendix D of the EIS, the Port of Tacoma is among the ten candidate ports listed in Section 2.2.1.6 of the EIS which could receive foreign research reactor spent nuclear fuel under Management Alternative 1 or 3. The analyses provided in the EIS indicate that the use of any of the ports indicated by the port selection process, including Tacoma, would not pose any significant risk to either the port personnel, local environment, or the population near the port. The analysis in the EIS indicates that the risks associated with an accident are low (Sections 4.2.2.3 and 4.5 of the EIS) and that the risks associated with incident-free handling of the foreign research reactor spent nuclear fuel are also low (Section 4.2.2.2 and 4.5 of the EIS).

## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

## RESPONSE TO COMMENT
## COMMENTOR NO. 335: PUYALLUP TRIBAL COUNCIL (CONT'D.)

***Response to Comment No. 335-11***

The commentor's opposition to transportation, storage and/or disposal of nuclear waste on Puyallup Reservation Land, is noted.

## COMMENTOR NO. 412: PUYALLUP TRIBE FISH COMMISSION

**Tell the Department of Energy what you think about nuclear waste coming through Tacoma.**

I AM A PUYALLUP INDIAN, ~~A~~ CHAIRMAN OF THE PUYALLUP TRIBE FISH COMMISSION, AS A FISHERMAN I DONT EVEN WANT TO THINK WHAT THIS KILLER POISON WOULD DO TO OUR SALMON ~~A~~ OTHER SEA FOOD. IF THERE WAS A ACCIDENT WITH THIS KILLER POISON. OUR SALMON SMALLER ~~SMALLER~~ ~~#~~ FEWER AS IT IS 412-1

Name and Address: VERNON LOUIE CHAIRMAN
PUYALLUP TRIBE FISH COMMISSION.
3314 96 ST. S. TACOMA WA 98409
PH 206-581 4636

## RESPONSE TO COMMENT
## COMMENTOR NO. 412: PUYALLUP TRIBE FISH COMMISSION

***Response to Comment No. 412-1***

The commentor's opposition to bringing foreign research reactor spent nuclear fuel through the Port of Tacoma is noted. However, analysis in Sections 4.2.2 and 4.5 of the EIS indicates that the risk associated with bringing spent nuclear fuel to the Port of Tacoma, or to any of the ports analyzed in the EIS, is low.