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Programmatic Environmental Assessment
for the
State Energy Conservation Program (SECP)

DOE/EA 1068

U.S. Department of Energy

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ABBREVIATIONS AND ACRONYMS

CAAA	Clean Air Act Amendments
CWA	Clean Water Act
DOE	U.S. Department of Energy
EPACT	Energy Policy Act of 1992
EPCA	Energy Policy and Conservation Act of 1975
FHA	Farmers Home Administration
NAAQS	National Ambient Air Quality Standards
NEE-NET	Nevada Environmental/Energy Education Network
NEPA	National Environmental Policy Act of 1969, as amended
NPDES	National Pollution Discharge Elimination System
PEA	Programmatic Environmental Assessment
PVE	Petroleum Violation Escrow
REA	Rural Electrification Administration
SECP	State Energy Conservation Program
SEEPIA	State Energy Efficiency Programs Improvement Act of 1990
SHIP	Senior Home Improvement Project

PREFACE

This programmatic environmental assessment (PEA) assesses the impacts associated with the U.S. Department of Energy (DOE) State Energy Conservation Program (SECP). As a PEA, this document does not analyze the environmental effects associated with individual energy conservation, energy efficiency, and renewable energy projects that might be funded under the SECP. Rather, it identifies and evaluates broad types of projects that can be funded under the SECP and establishes a bounding analysis for those projects relative to their potential impacts to man and the environment. As a result, the discussion of the environmental impacts of the proposed action reflect the generalized impacts of implementation of the SECP initiatives. For proposed actions falling within the general parameters of this PEA, no additional National Environmental Policy Act (NEPA) documentation would be necessary. For specific SECP projects which do not fall within those parameters, additional NEPA documentation would be prepared. When appropriate, such documents may tier from this programmatic environmental assessment.

1.0 INTRODUCTION

This PEA has been prepared by DOE in compliance with NEPA, to assess the general impacts associated with projects funded by DOE under the SECP.

The SECP was established in 1975 by the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6321 et seq.) to promote energy conservation and energy efficiency at the state level through Federal technical and financial assistance. The State Energy Efficiency Programs Improvements Act of 1990 (SEEPIA), Public Law 101-440, and the Energy Policy Act of 1992 (EPACT), Public Law 102-486, amended Title III, Part D of the EPCA to broaden the range of state initiatives qualifying for Federal assistance under the SECP to include renewable energy along with energy conservation and energy efficiency. SEEPIA also set a new SECP goal of increasing energy efficiency by ten percent by the year 2000 from 1990 levels. DOE promulgated final amendments to the SECP regulations pursuant to the SEEPIA at 10 CFR Part 420 on November 5, 1992 (57 FR 52942).

In 1976, the Federal Energy Administration assessed the programmatic environmental effects of the original elements of the SECP. This PEA addresses the programmatic environmental issues associated with the new energy efficiency goal of the SECP, and the expanded scope of projects permissible under the SECP resulting from enactment of SEEPIA and EPACT.

2.0 PURPOSE AND NEED

In the EPCA, SEEPIA, and EPACT, Congress authorized DOE to fund certain types of energy conservation, energy efficiency and renewable energy programs administered by the states. Under certain circumstances, states may choose to use Petroleum Violation Escrow (PVE) funds[1] to support SECP projects. Through this PEA, DOE is assessing the general impacts associated with state energy efficiency initiatives covered by the SECP, including new measures resulting from the 1990 SEEPIA and 1992 EPACT amendments.

The purpose of this document is not to assess the merits of developing a technical and financial assistance program nor is it to determine whether that program should be in the form of grants versus other types of financial aid. These decisions were made by Congress when it authorized DOE to fund SECP projects. DOE's only discretion is in deciding what types of projects to fund.

The purpose of this PEA is to identify the types of SECP projects that could be funded in the future, assess the potential impacts of those projects, and establish a set of parameters against which future projects can be evaluated to determine whether they fall within the boundaries of this PEA.

Future projects that fall within the impact parameters established in this PEA would not require future analysis under NEPA. Projects that do not fall within these parameters would be assessed in their own NEPA documents which, when appropriate, may tier from this programmatic environmental assessment.

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[1] PVE funds are funds that redress injuries that States' citizens suffered from violations of former Federal petroleum price and allocation regulations under the Emergency Petroleum Allocation Act. The States, acting as trustees, use these funds in energy-related activities under the SECP and other specific programs.

2.1 The State Energy Conservation Program

The purpose of the SECP is to promote energy conservation, renewable energy, and energy efficiency at the state level by providing Federal technical and financial assistance in developing and implementing comprehensive state energy conservation plans and programs. The original goal of the SECP was to achieve a five percent reduction in energy consumption. The new goal of the SECP established in SEEPIA is for states to increase energy efficiency by ten percent by the year 2000 from 1990 levels. State participation in the SECP is optional -- states may elect not to participate in the SECP at all. To be eligible for SECP funds, participating states are required to set qualitative and quantitative energy-savings goals as part of an annual energy conservation plan submitted to DOE. The energy conservation plan includes both mandatory and optional initiatives as follows.

The SECP requires participating states to implement several mandatory conservation measures. The original provisions of the SECP require that states: 1) establish mandatory lighting efficiency standards for public buildings; 2) promote car pools, van pools, and public transportation; 3) incorporate energy efficiency criteria into procurement procedures; 4) implement mandatory thermal-efficiency standards for new and renovated buildings; and 5) permit right turns at red traffic lights after stopping. The 1992 EPACT amendments to the SECP also require that states allow left turns at red traffic lights from a one-way street onto one-way streets after stopping beginning in 1995.

The SECP also encourages participating states to pursue SECP goals by implementing other optional energy conservation and energy efficiency initiatives consistent with the SECP's intent. The categories of optional initiatives include: 1) restrictions on hours and conditions of operation of public buildings; 2) restrictions on the use of decorative or nonessential lighting; 3) transportation controls; 4) programs of public education to promote energy conservation; and 5) any other appropriate method or program to conserve and to improve efficiency in the use of energy.

In 1990, passage of the SEEPIA broadened the range of optional initiatives qualifying for Federal assistance. As a result, the amended DOE regulation for the SECP describes optional initiatives now qualifying under the SECP to include programs: 1) for public education to promote energy conservation; 2) to increase transportation energy efficiency; 3) for financing energy efficiency and renewable energy capital investments, projects, and programs; 4) for encouraging and for carrying out energy audits with respect to buildings and industrial facilities; 5) to promote the adoption of integrated energy plans; 6) to promote energy efficiency in residential housing; 7) to identify unfair or deceptive acts or practices which relate to the implementation of energy efficiency measures and renewable resource energy measures and to educate consumers concerning such acts or practices; 8) to modify patterns of energy consumption so as to reduce peak demands for energy and improve the efficiency of energy supply systems; 9) to promote energy efficiency as an integral component of economic development planning conducted by State, local, or other governmental entities or by energy utilities; and 10) to implement the Energy Technology Commercialization Services Program.

In addition, the 1992 EPACT amendments to the SECP made the following optional energy efficiency initiatives eligible for funding: 1) programs to provide training and education to building designers and contractors to promote building energy efficiency improvements; 2) programs for the development of building retrofit standards and regulations, including retrofit

ordinances enforced at the time of sale of a building; 3) support for prefeasibility and feasibility studies for projects that utilize renewable energy and energy efficiency resource technologies to facilitate access to capital and credit for such projects; and 4) programs to facilitate and encourage the voluntary use of renewable energy technologies for eligible participants in Federal agency programs, including the Rural Electrification Administration (REA) and the Farmers Home Administration (FHA).

Finally, the SEEPIA requires for the first time that states participating in the SECP submit to DOE, as a supplement to the state annual energy conservation plan, an energy emergency plan for dealing with an energy supply disruption. If a state does not have an energy emergency plan already in place, SECP funds may be used for its development.

2.2 Selection of Projects for SECP Funding

Unlike other grant programs where individual projects are funded separately, annual funding of the SECP is determined by a formula contained in 10 CFR 420, and by the availability of funds any fiscal year, as determined by Congress. The state need only show DOE how its share of the annual funding would be spent. This is accomplished by submittal of an annual state plan. States must submit a state plan through the appropriate DOE Regional Support Office (RSO) describing energy conservation and efficiency programs/projects showing how the proposed activities will address SECP goals and achieve the energy savings relative to these goals. The state plan must cover all mandatory program activities and those optional program activities the state proposes to undertake. Should any part of the annual plan be found not to comply with the goals and objectives of the SECP, the plan is returned to the state with comments for revision. DOE does not approve or disapprove individual projects within the plan.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

3.1 The No Action Alternative

Under the No Action alternative, DOE would not fund energy conservation, renewable energy, and energy efficiency programs. Without DOE funding, states would be unable to acquire SECP funds. Since other sources of energy conservation funding generally are scarce, it is unlikely that the goals of the federally mandated programs covered under the proposed action -- reduced energy consumption and increased energy efficiency -- would be accomplished by the no action alternative.

Under the No Action alternative, Federal funding would not be available to support state and local programs to: promote transportation efficient measures such as van pooling and alternative fuel vehicles; perform energy audits which assist in identifying energy-saving modifications to buildings and homes; promote investment in energy efficient technologies in industrial and commercial enterprises, or support studies to facilitate access to credit and capital for renewable energy and energy efficient technologies; promote public educational programs in energy conservation; or develop standards for and promote energy efficiency in residential and commercial buildings. While it is possible that some of the projects would be undertaken with private sector or state funding, they probably would be implemented at a slower pace and with less consistency than they would be under the proposed action. Under the No-Action alternative, energy consumption would continue to grow at a relatively faster rate, the demand for increased

energy generation would not be reduced, and the release of potential pollutants to the water and air associated with the generation of that energy would not be reduced.

3.2 The Proposed Action: DOE Funding of the SECP

Under the proposed action, DOE would provide SECP grants to states, as mandated under the EPCA, SEEPIA, and EPACT. For purposes of assessing the potential environmental impacts of the proposed action, SECP programs qualifying for Federal technical and financial assistance have been divided into the following broad categories:

- Transportation efficiency initiatives;
- Energy audits, feasibility studies, evaluation and planning;
- Investment in industrial and commercial energy efficiency;
- Public education; and
- Residential and commercial building efficiency programs.

Table 1 identifies the types of SECP projects within these five general categories, under which Act the program is authorized, and whether the project type is, by statute, an optional or mandatory initiative.

TABLE 1. MANDATORY AND OPTIONAL INITIATIVES COVERED BY THE SECP

Category	EPCA	SEEPIA	EPACT
Transportation Efficiency	M promote car pools, van pools, and public transportation M allow right turns at red lights	O increase transportation energy efficiency	M allow left turns at red lights from one-way streets on to one-way streets
Energy Audits, Feasibility Studies, Evaluation & Planning	M incorporate energy efficiency into procurement practices	O perform energy audits for buildings and industrial facilities O promote adoption of integrated energy plans O modify energy consumption patterns to reduce peak demands and improve efficiency of energy supply systems O promote energy efficiency as integral component of economic development planning conducted by government M develop an energy emergency plan for an energy supply disruption	
Investment in Industrial & Commercial Energy Efficiency		O finance energy efficiency and renewable energy capital investments, projects, and programs O implement the Energy Technology Commercialization Services Program	O support prefeasibility and feasibility studies for projects that use renewable energy and energy efficient technologies to facilitate access to credit and capital for such projects O facilitate and encourage voluntary use renewable energy technologies for participants in REA and FHA
Public Education		O promote energy conservation O identify unfair or deceptive acts or practices related to energy efficiency and educate consumers about those acts	O provide training and education to building designers and contractors to promote energy efficiency improvements
Residential & Commercial Building Efficiency	M implement thermal-efficiency standards M establish lighting standards for public buildings	O promote energy efficiency in residential housing	O develop building retrofit standards and regulations

O = Optional Initiatives, M = Mandatory Initiatives

The following are brief discussions of each energy conservation, renewable energy, and energy efficiency category, including example initiatives that reasonably would be covered under the SECP's scope.

Transportation Efficiency

Americans spend approximately $77 billion on fuel each year. In fact in some states transportation alone accounts for almost half of the state's energy consumption. For this reason, transportation efficiency initiatives are included in the measures qualifying for funding under the SECP. DOE funding of transportation efficiency projects under the SECP may include supporting initiatives such as advanced technology demonstration, conversion of street lights to more energy efficient technologies, public education on right turns at red lights, incentives to encourage van pooling or use of mass transportation, alternative fuel use demonstration, and improved management of fleet vehicles.

Programs in Connecticut, Texas, and New Hampshire are representative of state efforts to increase energy efficiency in the transportation sector. Connecticut and Texas are making progress in decreasing the number of lone commuters on the states' roads, while New Hampshire is bringing greater energy efficiency to privately and publicly owned fleet vehicles.

Connecticut estimates that 40 percent of the state's energy is used for transportation. State officials estimate that traffic volume will increase by 31 percent by the year 2010. Therefore, state energy grant funds are targeted to promoting ride-sharing. Officials estimate that this program saves the citizens of Connecticut 11 trillion Btu per year. Similarly, Texas has operated a van pool program since 1978. The state estimates that the program resulted in 25,000 Texans commuting to work through the van pool system, with commuters saving $13 million per year at the program's peak. The state program was so successful that the state ended its role in the well-established vanpool system in 1989, leaving the management to employers and third-party operators.

The New Hampshire FLEET program also has enjoyed measurable success. The program provided technical assistance and training to vehicle fleet managers, mechanics, and drivers in an effort to reduce energy consumption and lower operating costs. New Hampshire officials estimate that total fuel savings of 200,000 gallons per year achieved solely by school districts can be attributed to the FLEET program. On-site technical assistance has been credited with achieving savings of 532,000 gallons annually for an additional 113 vehicle fleets. Another 140,000 gallons saved per year is believed to have been the result of workshops and other training efforts.

Energy Audits, Feasibility Studies, Evaluation, and Planning

A second category of actions qualifying under the SECP is energy audits, evaluation, and planning designed to increase productivity, energy conservation, renewable energy, and energy efficiency. Often, outside technical expertise is needed to evaluate the comparative advantages of different means of achieving these goals and reducing costs. Technical assistance may be provided through audit assistance programs that provide on-site assessments of possible energy-saving measures. Long-term planning programs to evaluate and manage energy use in particular areas could also be funded under this category.

Georgia's program to leverage industry investment in energy efficiency measures is an example of how SECP and other funding can be used to conduct energy audits. In the Georgia program,

staff from the Georgia Institute of Technology conduct on-site audits and recommend cost-effective energy conservation measures. In addition, training workshops are conducted to educate industry personnel further.

Investment in Industrial and Commercial Efficiency

In 1990, the SEEPIA added investment programs in industrial and commercial energy efficiency to the optional measures qualifying under the SECP.

Despite significant gains in industrial and commercial efficiency over the past fifteen years, DOE estimates that energy efficiency still can be increased by up to fifty percent in some industries. State and local programs aimed at the industrial and commercial sector can be catalysts for business investment. Such programs may help businesses identify technically sound, cost-effective energy measures and create an economic environment conducive to investing in energy efficiency. This may involve offering incentives, such as financing assistance, or removing such barriers to action as lack of information or unfamiliarity with products and technology.

For example, Idaho's comprehensive Energy Conservation Loan Program encourages energy investment in businesses, farms, schools, health care facilities, and government buildings. The Micron Technology project demonstrates how investment in the commercial sector through the SECP program can spur energy efficiency. Micron Technology of Boise is a semiconductor manufacturing company which, like most semiconductor plants, operates 24 hours a day. Heat generated by production equipment must be removed year-round. For most plants this means running water chillers even during the coldest months of the year. Through a $100,000 loan from the Idaho SECP, combined with a $50,000 investment of its own, Micron Technology designed and installed a wet-side economizer. This system diverts water around chillers to cooling towers during the winter so that outdoor air chills the water. Use of this technology at Micron Technology saves the company $38,000 in annual energy costs.

Public Education

Public education programs also are eligible under the SECP. Because energy is an inherent component of many areas of study in our schools, programs to introduce or improve the quality of school curricula dealing with energy and energy efficiency issues and to train teachers are eligible under the SECP. Academic training also may be combined with on-the-job training. For example, a West Virginia youth conservation corps provides residential energy-audit training to high school students. Similarly, the District of Columbia works with a utility to supply training, providing students the experience of accompanying a utility employee on an official visit. These participants may go on to obtain summer positions as audit assistants.

Nevada's Environmental/Energy Education Network (NEE-NET) is representative of exceptional state energy education programs that could be conducted under the expanded SECP. Nevada's program focuses on instruction, youth programs, and information dissemination. The instruction component includes teacher workshops and training, parent training, community workshops, technical assistance, and public presentations. Summer camps that feature leadership training in energy and environmental management are a major part of the youth programs component. Youth programs also include national workshops for youth leaders, a student newsletter, student legislative delegates, and interstate student networking. The third major component of Nevada's energy education program, information dissemination, consists of development and distribution of a resource directory, a newsletter, teaching materials, and a reference list. The Learning Resource

Center is a clearinghouse which maintains a library of materials for loan to teachers and operates a hotline to answer citizen questions.

Residential and Commercial Energy Efficiency

Under this category, programs for weatherization, improving construction practices and standards, using more efficient technology, increasing renewable energy use, and promoting consumer awareness are eligible under the SECP.

Florida's award-winning Senior Home Improvement Program (SHIP) exemplifies the type of residential housing programs that SECP may support. Started by the Center for Women in Tampa in 1980, SHIP is designed to meet the weatherization and emergency home repair needs of the elderly. Roof repairs, plumbing repairs, and insulation work are examples of the work SHIP performs. Evidence indicates that SHIP results in senior citizens experiencing increased comfort levels and lower energy bills and contributes to the increased length of time a house is habitable.

Existing conservation programs in other states focus on the installation of weatherstripping, double plastic storm windows, compact florescent light bulbs, efficient showerheads, and faucet aerators.

3.3 Alternative Actions

Other than the No Action alternative, no additional alternatives to the proposed action of funding projects are identified. DOE's funding of SECP initiatives is authorized by Congress under the provisions of the EPCA, SEEPIA, and EPACT. DOE's only discretion is in deciding whether state plans for which grant applications are submitted meet the criteria of the SECP program (see program initiatives in Table 1).

4.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

This section identifies the areas of the environment likely to be affected by implementation of the SECP initiatives. The impacts of such activities -- or how actions have the potential to affect the environment -- are described in Section 5.0, "Environmental Impacts of the Proposed Action."

4.1 Geography

Geographic areas that might be affected include those areas in any state in the United States which qualifies for funds under these programs. This covers a wide range of climates and terrain from the Alaskan tundra to the hot and humid southern coast. Special provisions also are included under Section 2701 of EPACT for programs in insular areas.

4.2 Land Use

Lands potentially affected by energy conservation, energy efficiency, and renewable energy measures covered under the SECP initiatives include: 1) lands targeted for highway expansion and mass transportation; 2) lands where energy resources exist on which resource exploration is intended to occur; 3) lands selected for new energy production facilities to absorb the current growth in energy demand; and 4) lands where power production facilities currently exist but may potentially be shut down as a result of a reduction in energy demand. Power producing facilities with the most potential to be shut down are those that currently serve only during peak hours;

those facilities generally are older and less efficient than other plants. In addition, many projects would occur on previously disturbed sites and involve existing commercial and public buildings.

4.3 Air Quality

The Clean Air Act Amendments of 1990 (CAAA) require air quality regions in the United States to meet minimum National Ambient Air Quality Standards (NAAQS). Many air quality regions frequently exceed NAAQS allowable limits for various air pollutants. Urban areas are found out of compliance with the NAAQS most frequently. This is the case for a variety of reasons, primarily because urban areas often contain numerous large industrial facilities and because the cars driven by suburban commuters emit regulated pollutants daily. Those pollutants include volatile organic compounds, carbon monoxide, hydrogen sulfides, nitrogen oxides, ozone, and particulates. Ozone is a major contributor to urban smog.

Any of the air quality regions could be affected by actions taken under the SECP initiatives. However, the air quality in urban centers is likely to be affected the most as a result of efforts to encourage transportation efficiency and reduce transportation-related emissions.

4.4 Water Quality, Wetlands, and Floodplains

The measures covered under the SECP most likely would affect water quality in areas where industry is located. In industrial areas, water often is used for cooling and processing and also may receive effluent discharges from facilities. By implementing energy conservation and energy efficiency programs, an industry's need for cooling and processing water may change and its effluent discharge levels also may be altered.

Water quality in the United States is regulated by the Clean Water Act (CWA). Section 401 of the CWA has given individual states the responsibility for administering a water quality permitting system, the National Pollutant Discharge Elimination System (NPDES), on a facility-by-facility basis. The CWA also regulates the development of wetlands under a permitting process outlined in Section 404.

Consideration must be given to potential new releases of pollutants and the regulation of those pollutants under the Clean Water Act and other pertinent Federal and state statutes. Impacts on surface waters and ground waters must be considered from the perspectives of both the operation of implemented projects and from activities that may impact these resources during any related construction activities. Potential impacts on wetlands and floodplains also must be considered in these assessments.

4.5 Endangered and Threatened Species

Although a wide variety of endangered and threatened species live in the states and areas eligible for funding under these programs, most projects would take place in areas and buildings which already are developed; it is not likely that project activity at these sites would disturb endangered or threatened species further. The resulting decrease in exploration for new sources of energy may reduce the effects on endangered and threatened species on lands targeted for resource exploration and/or energy resource retrieval.

4.6 Archeological/Historical Resources

Some buildings affected by programs funded under the SECP and related EPACT provisions may be considered historic or of archeological significance. Private residences targeted for weatherization programs are the most likely category of affected buildings to be considered historical. Also, buildings of historical value to the communities in which they exist may be involved in, for example, a weatherization component of their state plan, a lighting efficiency component, or another energy efficiency or energy conservation component.

Native American lands and insular areas are especially likely to have lands of historic/archaeologic significance. However, since most affected areas would be those already developed and since construction is not a primary use of these program funds, project sites are not likely to affect historical artifacts. The decrease in energy demand brought about by conservation programs may result in a decrease in exploration for new sources of energy. This may reduce the effects on undiscovered historical/archeological sites on lands targeted for resource exploration and/or energy resource retrieval.

4.7 Socioeconomics

On February 11, 1994, the President issued Executive Order No. 12898, Federal Action To Address Environmental Justice in Minority Populations and Low-Income Populations. This order requires that all Federal agencies identify and address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. Low-income and minority communities may be concentrated near project sites due to the lower costs associated with living in proximity to the industrial facilities where projects could be implemented.

Some individuals may be affected by the proposed action at their place of business and as residents in their homes. Business owners would be affected as a result of programs to conduct audits and to invest in commercial and industrial energy efficiency. Workers would be impacted by the implementation of these types of programs, as well as by lighting efficiency programs and other energy conservation programs at their places of work. In addition, energy industry owners and workers would be affected by the decrease in demand for new energy resources. Residents would be affected through programs to improve residential energy efficiency such as weatherization and lighting efficiency projects. Public education programs also are likely to target residents through pamphlets on ways to conserve energy and reduce electric and heating bills.

5.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The SECP initiatives, consisting of both the mandatory and optional elements as discussed in Section 2 of this PEA, allow grant recipients some flexibility in deciding which components are to be a part of their program. The environmental impacts of these programs are limited to a discussion of the potential impacts to the environment as a result of the conservation measures which may be employed by grant recipients in working toward the SECP goals.

Conservation actions funded by these programs are undertaken in pursuit of a common goal -- a measurable decrease in the consumption of energy in the United States or a measurable increase in efficient use of the energy consumed. Programs intended to reduce energy production and consumption, such as the right turn on red, also are intended to improve environmental conditions. These programs, along with subsequent programs intended to improve energy efficiency, also are intended to reduce the need for waste disposal, decrease air and water quality

impacts, reduce the need for exploration and development on land, reduce potential human impacts on endangered and threatened species, and reduce the possibility that archeological resources will be disturbed. Additional indirect benefits could be realized in delayed need for new generating facilities and transmission lines and reduced need for the import of foreign oil. The reduction of dependency on imported fuel is the primary goal of the programs associated with insular areas and reservations.

Projects funded with SECP grants must fall into one of the categories listed previously and have as a goal a reduction in energy consumption or an increase in energy efficiency. Furthermore, the SECP program supports only those projects which already have demonstrated positive results in these areas. Based on these SECP Program requirements, it is expected that the majority of projects would have no adverse environmental impacts and that they would fall within the boundaries established by this PEA. If a particular project has any distinctive characteristics that would create the potential to significantly affect the environment, then an environmental assessment or an environmental impact statement would be prepared. Tiering from this PEA, as appropriate, and all potential impacts, including the potential for disproportionate impacts to minority and low-income populations, would be evaluated.

5.1 Land Use

Most projects under the SECP or related EPACT provisions would occur within existing structures, or adjacent to them, in previously disturbed areas. Further, individual projects would be of a small size and dispersed throughout the country and its territories. As a result, there is no expectation that land use impacts would be significant. There may be a decrease in the exploration and production of energy resources due to increases in energy efficiency resulting in a reduction in projected energy demand; as a result, lands expected to be developed for energy resources (i.e., for coal and petroleum) may remain undisturbed. It is possible that some power facilities may be shut down as a result of reductions in energy demand, but these facilities likely would be older and less efficient power-generation facilities. Transportation efficiency projects could decrease the need for new roads, reducing the possibility that land development to expand the highway system would take place. Projects under the public education programs category, primarily administrative in nature, likely will cause an increased demand for paper products; however, the resulting demand for forest products is not expected to be significant and can be mitigated through the use of recycled paper products. Further, the positive environmental impacts of educational programs are expected to outweigh the minimal negative environmental impacts of paper usage.

5.2 Air Quality

Projects under several of the SECP categories likely would have air quality impacts, most of them positive.

Under the transportation efficiency category, SECP initiatives provide for several mandatory and optional elements which would reduce automobile usage and improve efficiency in gasoline consumption. These include provisions to encourage carpools, vanpools, and the use of public transportation and alternative fuels; traffic laws permitting right turn on red after stopping and left turn on red from a one-way street onto another one-way street after stopping; energy efficiency standards to govern procurement of state and local government vehicles; and other transportation controls. Reducing the number of vehicles on the road should improve the flow of traffic and result in less energy usage and less emissions arising from less vehicle operation and idling in congested areas. In particular, carbon monoxide, volatile organic compounds, ozone,

particulates, nitrogen oxide, and hydrogen sulfide emissions would be reduced. Urban areas frequently exceeding NAAQS levels could experience an increase in overall air quality, including a decrease in smog.

The negative impacts associated with SECP transportation projects would involve increased air emissions from buses or large vehicles used for mass transportation. However, although increases in public transportation may lead to increased vehicle emissions and fuel usage from buses, car pool vans, subway systems, and other forms of public transportation, it is expected that the decrease in automobile emissions would far exceed any increase in emissions from vehicles providing public transportation.

Industrial and commercial endeavors to improve energy efficiency should lead to a reduction of air emissions generated through the burning of fossil fuels, most likely causing local air quality to improve.

Although audits, evaluations, and planning, all administrative in nature, would not impact the environment directly, changes made as a result of such projects' more efficient procedures are expected to result in improvements to air quality.

Projects for increasing residential and commercial building energy efficiency are expected to decrease adverse air quality impacts as a result of decreased requirements for space heating and a decreased demand for electricity.

The possibility exists that projects under the public education programs category, primarily administrative in nature, would generate a greater short- to middle-term requirement for paper products, which in turn could have slight impacts on air quality; however, those impacts not mitigated through use of recycled paper are expected to be minimal and to be outweighed by the positive benefits of enhanced public awareness concerning energy efficiency and energy conservation issues, benefits that include long-term decreases in energy consumption and environmental impacts caused by energy consumption.

5.3 Water Quality, Wetlands, and Floodplains

There would be some impacts upon water quality and wetlands anticipated as a result of SECP and EPACT-provision projects. Most projects would occur within existing buildings in areas previously disturbed and would not require further disturbance to any wetlands or floodplains. Wetlands are expected to be affected only as a result of potential decreases in energy exploration and retrieval. Projects within the category of industrial and commercial energy efficiency are expected to result in water quality improvements due to a reduced need for cooling water in industrial facilities and power generating facilities. Reduced wastewater discharge could occur at power generating facilities in response to reduced power demand. As with air quality, although audits, evaluations, and planning, all administrative in nature, would not impact the environment directly, changes made as a result of such projects' more efficient procedures are expected to result in improvements to water quality. Projects for increasing residential and commercial building energy efficiency are expected to decrease adverse water quality impacts as a result of decreased requirements for space heating and a decreased demand for electricity. The possibility exists that projects under the public education programs category, primarily administrative in nature, would generate a greater short- to mid-term requirement for paper products, which in turn could have slight impacts on water quality; however, those impacts not mitigated through use of recycled paper are expected to be minimal and to be outweighed by the positive benefits of enhanced public awareness on energy efficiency and energy conservation issues, benefits that

include long-term decreases in energy consumption and environmental impacts caused by energy consumption.

5.4 Endangered and Threatened Species

Although a wide variety of endangered and threatened species live in the states and areas eligible for funding under these programs, most projects would occur in areas and buildings already developed. As a result, it is unlikely that projects at such sites would disturb endangered or threatened species further. Projects could be beneficial to species habitat over a longer term should lands containing energy resources remain undisturbed as a result of project success.

In the short term, construction activities associated with SECP projects have the potential to affect one or more listed species if a project is located within the species' range. Where listed endangered and threatened species exist on a proposed project's site as proposed in a state plan, DOE would participate in the interagency consultation process required under Section 7 of the Endangered Species Act and, if necessary, direct the grantee to implement appropriate mitigative actions. Projects which have the potential for significant impacts would not fall within the bounding analysis of this PEA and separate NEPA documentation would be required.

Positive impacts also could occur for endangered and threatened species as a result of reduced releases of pollutants to surface and ground water.

5.5 Archeological/Historical Resources

Of the few projects expected to involve construction most would occur within existing structures, or adjacent to them, in previously disturbed areas. Thus, it is unlikely that SECP projects would have adverse impacts on areas of cultural, archeological, or historical significance. As noted in Section 4, private residences targeted for weatherization programs or commercial/public buildings of historical value to the community involved in weatherization, lighting efficiency, or other energy efficiency energy conservation components of state plans are the most likely categories of buildings that could be affected. In all cases involving known or potential cultural, historical, or archeological resources, the state historic preservation office would be contacted to determine whether such resources exist at the site, and, if necessary, DOE would direct the grantee to implement appropriate mitigative actions.

5.6 Socioeconomics

Overall, individual SECP projects would have limited socioeconomic impacts. Increases in energy efficiency as a result of the program may lead to lower utility costs for energy consumers; however, it is unlikely that there would be noticeable impacts given the scale of the SECP. Individual projects will affect different socioeconomic groups depending on a variety of factors.

Regional and local impacts would depend primarily on the location of projects that are funded. Business owners and workers may be affected by the proposed action at their place of business and as residents in their homes. Business owners would be affected as a result of programs to conduct audits and to invest in commercial and industrial energy efficiency. Workers would be impacted by the implementation of these types of programs, as well as by lighting efficiency programs and other energy conservation programs at their places of work. In addition, energy industry owners and workers would be affected by the decrease in demand for new energy resources. For some projects, local construction and related consulting firms may realize slight, temporary upturns in business. Because these are impacts of a general nature, disproportionate

adverse impacts on minorities and low-income communities are not expected. However, projects whose impacts do not fall within the bounding analysis established by this PEA would be subject to an independent NEPA review, which would include, as appropriate, separate environmental justice analysis.

5.7 Health and Safety

Most SECP and EPACT-provision projects would have no human health and safety impacts. As an exception, those projects falling under the category of transportation efficiency are likely to have such impacts. Fatalities, injuries, and loss of property from accidents would decrease, except possibly in the measures allowing right or left turns at red lights. Reducing the number of vehicles on the road should improve the flow of traffic, resulting in fewer emissions arising from idling in congested areas; this, in turn, should reduce threats to human health and safety. Similarly, reduced emissions resulting from industrial and commercial endeavors and residential housing and commercial building projects are expected to reduce threats to human health and safety. Over a longer term, projects under the categories of audits, evaluations, and planning and public education are expected to result in reduced threats to human health and safety.

5.8 Waste Management

There are no major waste management impacts anticipated from any SECP project. The principal waste management issue would be for those projects requiring management of wastes generated during construction. For such projects, these wastes would be disposed of in accordance with applicable Federal, state, and local regulations, policies, procedures, and practices.

In addition to a reduction in demand for energy resources, implementing energy efficient procedures as a result of audits, feasibility studies, evaluations, and planning would lead to indirect environmental benefits in improved air and water quality and waste reduction.

5.9 Energy Consumption

Transportation efficiency programs under the SECP are estimated to result in substantial energy savings. The majority of energy savings in the transportation program category are expected to be achieved through substitution of alternative fuels. Altering the use of traffic signals, such as allowing right turns at red lights, also is estimated to result in additional energy savings. Left turns at red lights, from a one-way street onto a one-way street, scheduled to go into effect in 1995, will result in still further savings.

Industrial and commercial endeavors to improve energy efficiency, establish programs which promote the voluntary use of renewable energy resources, or establish energy efficiency and renewable energy capital investment projects are expected to lead to a reduction in the use of energy resources, particularly fossil fuels.

Investment in industrial and commercial projects also has the potential for considerable energy savings. Examples of energy savings from such projects include: (1) the potential for energy savings in fossil fuel use by substituting wind-powered energy and (2) additional annual savings resulting from cogeneration projects at petroleum refineries.

Energy savings achieved from the audits, evaluations, and planning category of SECP programs have the potential for substantial energy savings.

Residential housing and commercial building energy efficiency programs are estimated to result in energy savings. For example, changes in building standards and codes to promote energy efficiency are estimated to reduce energy consumption by as much as several hundred billion Btus per year.

Public education programs on energy conservation have the potential to result in savings of a few hundred million Btus per year. Other educational programs on recycling could result in additional energy savings of over a trillion Btus per year.

5.10 Cumulative Impacts

Because of the limited number of projects that would be funded annually and their limited size and scope, and the fact that they would occur over such a wide expansive area, it is not expected that there would be any cumulative, or overlapping, impacts from one project to another other than cumulative energy savings.

The Department participates in another program that is similar to the SECP but that involves funding for the demonstration of innovative technologies that encourage cleaner production and manufacturing processes in the United States. Pursuant to this program, known as the National Industrial Competitiveness through Energy Efficiency, Environment and Economics ($NICE^3$) Program, only state agencies, on behalf of or in conjunction with an industry partner(s), can apply for $NICE^3$ funding. In order for a project to be considered for a grant, it must demonstrate the ability to improve industrial efficiency, reduce industry's costs, and lower pollutant emissions to the environment. The $NICE^3$ Program would result in improved overall environmental conditions in the long term through an increase in energy efficiency and a reduction in the need for waste treatment and disposal. Accordingly, the $NICE^3$ program would not result in any negative cumulative impacts to the environment.

5.11 Programmatic Environmental Impact Boundaries

The following summarizes the parameters, or boundaries, within which proposed SECP projects must fall in order not to require additional NEPA documentation. For projects which do not fall within these parameters, a project-specific environmental assessment (EA) or an environmental impact statement (EIS) must be prepared. When appropriate, such documents should tier from this PEA.

Air Quality

The project must:

- Within the category of Industrial and Commercial Energy Efficiency, decrease existing permitted effluent discharges;
- Under the Transportation Efficiency category, any increases in emissions from buses, car pool vans, subway systems, and similar public transportation vehicles must be offset by reduced automobile emissions;
- Not result in new releases that are not within existing permit limits.

Water Quality

The project must:

- Not increase existing permitted discharges;
- Not result in additional discharges beyond National Pollutant Discharge Elimination System (NPDES) limits;
- Not result in additional discharges in excess of permit limits;
- Not affect surface or ground waters.
- Not occur within floodplains or wetlands without completion of a proper floodplain/wetlands assessment in accordance with 10 CFR 1022.

Waste Management

The project must:

- Not result in an increase in waste treatment, storage, or disposal needs;
- Not involve a treatment, storage, and disposal facility(ies) other the one(s) presently permitted and utilized.

Land Use

The project must:

- Occur within previously disturbed areas;
- Occur within or within close proximity to existing residential or commercial buildings or industrial facilities;
- Reduce expected land use through less development for energy resources/energy production;
- Not involve disturbance of virgin land beyond that which is consistent with minor construction activities;
- Be in conformance with all local and state construction permits; and
- Not directly or indirectly impact endangered or threatened species or their habitats.

Endangered and Threatened Species

The project must:

- Not threaten endangered or threatened species or their habitats.

Cultural/Archeological/Historical Resources

The project must:

- Not result in activities that disturb, destroy, or otherwise impact upon cultural or archeological resources or historically significant areas.

Socioeconomics

The project must:

- Not adversely and disproportionately impact minority or low-income populations.

6.0 LIST OF AGENCIES AND PERSONS CONSULTED

None.