FINDING OF NO SIGNIFICANT IMPACT

Auburn Landfill Gas Electric Generators and Anaerobic Digester Energy Facilities
Auburn, New York

AGENCY: U.S. Department of Energy (DOE)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: In accordance with the Council on Environmental Quality (CEQ) regulations (Title 40, Code of Federal Regulations [CFR], Parts 1500-1508) and DOE's NEPA Implementing Procedures (Title 10, CFR, Part 1021), DOE National Energy Technology Laboratory (NETL) has prepared an Environmental Assessment (EA), DOE/EA-1624, that evaluates the potential environmental impacts to provide partial funding through a cooperative agreement with the City of Auburn for the design and construction of a centralized anaerobic digester facility for the production of approximately 3 Megawatts of renewable electric power in Auburn, New York (hereafter referred to as the "Plant" or "project").

Based on the analyses in the EA, DOE has determined that the Proposed Action is not considered a major federal action that would significantly affect the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), as amended. Therefore, preparation of an Environmental Impact Statement (EIS) for the Proposed Action is not required and DOE is issuing this FONSI.

COPIES OF THE EA ARE AVAILABLE FROM:

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BACKGROUND: This project would be consistent with DOE's mission to ensure energy availability and to develop domestic renewable energy resources. The lead organization for the Proposed Action, NETL, is dedicated to the research, development, and technology transfer of renewable energy and energy efficiency technologies. This project falls under the Industrial Technology Program under DOE's Office of Energy Efficiency and Renewable Energy (EERE), and is one of many projects to help the EERE accomplish its mission of strengthening the nation's energy security, environmental quality, and economic vitality.

The project is located on approximately 3.16 acres of land in Auburn (Cayuga County), New York, 30 miles west of Syracuse. The Plant would be located on land owned by the City of Auburn and adjacent the existing wastewater treatment facility, the Auburn Water Pollution Control Plant (WPCP). The Auburn landfill is located less than a mile north of the project site. Landfill gas (LFG) from the Auburn landfill is currently being recovered and, depending on fuel costs, is used as an alternate fuel to natural gas for the operation of the WPCP's existing sludge incinerator. Biogas would be produced in the proposed anaerobic digester system by processing municipal wastewater sludge from the City of Auburn and nearby communities. The City of Auburn intends to direct most or all of its LFG and dewatered sludge to the Plant to fuel the proposed cogeneration system and generate up to 3.18 MW of electric power and an almost equal energy equivalent of heat for use by the City of Auburn and local businesses.

DESCRIPTION OF THE PROPOSED ACTION: There would be three main activities at the Plant: (1) production of biogas from anaerobic digesters and associated equipment; (2) integration of Auburn's existing LFG collection and delivery system with the Plant's Fuel Conditioning and Management System, and (3) production of electric power and heat from three electric cogenerators fueled by the LFG and digester biogas. The following major tasks would be undertaken for the construction and operation of the Plant:

- Design, construct, and commission an anaerobic digester system to process incoming wastewater sludge – the proposed anaerobic digester system would receive and process dewatered sludge from the Auburn WPCP to produce biogas for the cogeneration of electric power and heat.
- Design and install new equipment to optimize LFG production and delivery to the Plant – new LFG piping and control equipment would be installed on the existing LFG delivery system to redirect the LFG flow to the Plant.
- Design and install fuel handling and conditioning system to upgrade and deliver LFG and biogas to the proposed electric cogeneration systems – the fuel system would: (a) interconnect the LFG Plant piping to Auburn's existing LFG distribution system; (b) interconnect the LFG and biogas piping systems to the gas conditioning equipment installed at the Plant; (c) condition the biogas and LFG as an acceptable fuel for an electric cogeneration system; and (d) control the delivery of the conditioned fuel to the Plant's cogeneration system.

- Install a 3.18-MW cogeneration system at the Energy Station – an existing maintenance building located on the lot of the project area would be retrofitted to house the Energy Station. The Energy Station would consist of three cogeneration unit engine generators to provide energy.
- Interconnect the proposed Energy Station with the existing city-owned electric distribution system and local grid – an overhead city-owned electric distribution system would be constructed onsite to deliver power to a city-owned electric distribution substation (located at the Auburn WPCP) and the local distribution grid.
- Install a thermal energy distribution system – heat recovery systems installed on the cogeneration system would be integrated into a high temperature hot water header. New piping and associated installations would distribute the heat to thermal circuits of the anaerobic digester and to local customers.

Upon commissioning of the Plant, the City of Auburn intends to shut down or curtail the processing of sludge in its incinerator and direct most or all of its LFG and dewatered sludge to the newly constructed Plant. The planned incinerator shutdown, or reduction in use, and the start up of the Plant's digester system and the cogeneration system would be coordinated to ensure proper operation and conformance with the Auburn WPCP's permit requirements, existing city contracts for sludge disposal, and operational protocol of the WPCP. Regardless of the final incinerator operating plan, the City intends to maintain the incinerator as a backup facility for the wastewater sludge processing of the proposed Plant.

ALTERNATIVES CONSIDERED:

Proposed Action: The Proposed Action is for DOE to provide partial funding through a cooperative agreement with the City of Auburn for the design and construction of the Plant. The Plant would be constructed, owned and operated by CH-Auburn Energy under an energy services agreement with the City of Auburn. Under this agreement the electric and heat output from the Plant would be purchased by the City for a period of 15 years, after which the ownership of the Plant would transfer to the City of Auburn. The City would be responsible for the supply of wastewater sludge (feedstock for the anaerobic digester) and LFG to the Plant and disposal of the liquid effluent and biosolids from the Plant's anaerobic digester.

No Action Alternative: The No Action Alternative is required under Section 1502.14(d) of NEPA and DOE implementing regulations (40 CFR 1021.321(c)). A No Action Alternative is considered in this EA and provides a benchmark, enabling decision-makers to compare the magnitude of environmental effects of the Proposed Action. Under the No Action Alternative, DOE would not provide funding for the construction and operation of the Plant. To create the basis for a meaningful analysis, it is assumed that under the No Action Alternative the proposed project would not be undertaken, no construction or operations of the Plant would ensue at the

proposed site or at an alternative site, no other alternative at the proposed site would be implemented, and the proposed site would remain unchanged.

ENVIRONMENTAL CONSEQUENCES: The EA evaluated potential environmental consequences with the Proposed Action and No Action alternatives and did not identify any significant potential impacts. Because most of the project site is disturbed, paved, located on property zoned as Industrial, and adjacent to an existing sewage treatment plant, it is expected that negligible to minor impacts on the following resource areas would occur: aesthetics; land use; geology and soils; cultural and archaeological resources; biological resources; waste management; and public health and safety. Development of the proposed project would not be expected to impact any Federal- or state-listed threatened or endangered species. Impacts to the existing wastewater facility are expected to be minor. An engineering report – based on the final digester design data – would be prepared and shared with the New York State Department of Environmental Conservation (NYSDEC) concerning potential connection points from the new digester to the Auburn WPCP and would resolve any potential changes, if any, to the WPCP's operating State Pollutant Discharge Elimination System (SPDES) permit. The most notable potential impacts from construction and operation of the Proposed Action would occur in the following areas:

Air Quality: The operations of the Plant would be undertaken in compliance with the Title V air permit that would be issued by NYSDEC. Air emissions from the Plant would be below federal and state regulatory limits and no significant impacts are expected to occur. Proposed odor control measures are expected to minimize potential for the Plant to be a nuisance to nearby commercial and industrial businesses, as well as to the closest residence, located approximately 1,500 feet south of the project site. Eliminating or reducing the use of the Auburn WPCP's incinerator would provide a beneficial impact to the local air quality and improve local public health conditions. Furthermore, this project would primarily utilize non-fossil fuel renewable energy sources. Methane (CH_4), which is a far more significant greenhouse gas than carbon dioxide (CO_2) with respect to global warming potential, from the existing LFG and in the biogas would be converted to CO_2 during combustion in the cogeneration system yielding recoverable electric energy and heat. Net CO_2 emissions would be reduced to the extent that electric power generated by this project would replace electric power otherwise generated using non-renewable fossil fuels. As a result, there would be a net positive benefit towards ameliorating global climate change.

Water Resources: There are no Federal Emergency Management Agency- (FEMA-) designated floodplains or floodways located on the project site. The site falls outside the 500- and 100-year floodplains. Based on a wetlands investigation, no state-regulated wetlands were identified as being located on or adjacent the project site. The existing storm drain system at the project site would remain, be protected, and be used during the pre- and post-construction phases. It is

anticipated that because the net increase of impervious area would be small and adherence to Best Management Practices would be implemented, as identified in the Storm Water Pollution Prevention Plan and SPDES permit, adverse impacts to water resources would be minor. Furthermore, because the returned effluent from the digester to the Auburn WPCP is expected to be of improved quality, overall water quality impacts to the Seneca River Watershed are expected to be beneficial (i.e., lower pathogens and biochemical oxygen demand).

Transportation: The net increase of approximately six delivery trucks per day would mainly add to the existing traffic volumes on Route 34, York Street and N. Division Street and would generally occur on the same routes currently being used for sludge deliveries to the Auburn WPCP. The increase of truck traffic is expected to have minor impacts to baseline traffic conditions as the truck deliveries would be distributed over a ten-hour period Monday through Friday) to minimize the potential for traffic congestion.

Noise: The main source for noise impacts to receptors outside the proposed facilities would be from the exhaust air from the electrical generators. Although specific noise mitigation is not available at this time, it is likely that noise abatement would implement the use of silencers for the exhaust system. The Process Building housing the generators would include materials that would significantly attenuate noise. Exhaust fans, biogas safety flare, and similar equipment would be selected with the consideration of minimizing resulting noise levels so as not to be a nuisance to residential areas. Thus, it is anticipated that any incremental noise increases from the Plant would not be discernable to any residential properties. Noise impacts from truck deliveries are expected to be minor and intermittent and would not significantly increase the noise levels above and beyond the current noise level characteristic of the region (i.e., high industrial and commercial activities).

Socioeconomic & Environmental Justice: The Plant could provide electricity and heat to local businesses, may also attract additional businesses to the industrial park close to the project site, and/or help retain businesses that would otherwise consider relocating to other, more favorable locations. Also, it is anticipated that the Plant would provide electricity at lower rates and, thus, would likely provide the City of Auburn energy savings and associated economic development benefits to the local economy. It is not expected that operation of the Plant would have any significant impacts on housing or labor pools nor is it expected that any minority populations or below-poverty level households would face adverse environmental consequences disproportionate to their level of representation in the local population.

PUBLIC PARTICIPATION: The Draft EA was distributed for review and commenting to officials of federal and state agencies and to the general public. Comments on the Draft EA were invited for a period of 30 days in two local newspapers: the Auburn *Citizen* and the Syracuse *Post-Standard*. Copies of the Draft EA were also made available in Auburn at the Seymour

Public Library, the Auburn WPCP, and the Memorial City Hall. No comments were received by members of the general public. Comment letters during the Draft EA review period were received from three agencies and are summarized below:

On October 6, 2008, Ruth Pierpont, Director of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), submitted a letter to DOE stating that consultation should take place with OPRHP per requirements under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law and with the State Historic Preservation Office (SHPO) per requirements under Section 106 of the National Historic Preservation Act. DOE contacted OPRHP and noted that the OPRHP office had reviewed the project in accordance with Section 14.09 and submitted a letter to the project applicant on February 13, 2008, stating that the project "will have No Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places." (This consultation letter was included in Appendix B of the Draft EA.) A follow-up letter from Ms. Pierpont was sent on October 30, 2008 and re-iterated their opinion regarding their *No Impact* statement on cultural resources. This second letter also stated that their comments did not include potential environmental impacts to New York State parkland that may be involved in or near the project and must be considered as part of the environmental review pursuant to the State Environmental Quality Review Act. DOE has reviewed the Public GIS program located at the New York State Historic Preservation Office web site and confirmed that the project is not located on or adjacent to any New York State parkland.

On October 27, 2008, Joanne March, Deputy Regional Permit Administrator of NYSDEC's Division of Environmental Permits (Region 7), submitted a letter to DOE stating that the Department reviewed and concurred with the environmental assessment of the project. The letter also stated that CH-Auburn Energy and the City of Auburn have started the permit application process, but as of October 27, 2008, the application was still incomplete. A notice regarding the incomplete application was attached to the comment letter. NYSDEC's letter also commented on the possibility (and enclosed two articles regarding this issue) that the City of Auburn may be taking over the construction and management of the proposed digester. To date, the applicant continues to work with the NYSDEC on the permit application review process and will resolve issues, as identified in NYSDEC's comment letter.

On October 24, 2008, Grace Musumeci, Chief of the Environmental Review Section at the U.S. Environmental Protection Agency (Region 2), submitted a letter to DOE stating that the EPA concurs with the EA's finding of no significant impact for the project. Per EPA recommendation, DOE did distribute the Draft EA to the Cayuga and Onondaga Nations over the comment period and did not receive any comments from either nation. EPA's comment letter also included a couple of recommendations to further reduce air emissions, which the applicant will consider as mitigation measures to minimize air quality impacts:

- Non-road construction equipment should use ultra-low sulfur diesel fuel during construction of the facilities; and
- On-road sludge delivery vehicles should reduce engine idle times whenever appropriate, especially during the waiting period in the designated parking area until such time when the driver is instructed to proceed to the Receiving Station entrance to unload the sludge.

The FONSI and the EA, on which it is based, will be distributed to all persons and agencies known to be interested in, or potentially affected by, the Proposed Action. Additional copies of the FONSI and the EA can be obtained from NETL at the address previously identified.

DETERMINATION

Based upon the information and analysis provided in the EA, DOE has determined that the proposed federal action, to provide partial funding through a cooperative agreement with the City of Auburn for the design and construction of the Auburn Landfill Gas Electric Generators and Anaerobic Digester Energy Facilities, does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS is not required and DOE is issuing this Finding of No Significant Impact.

ISSUED IN MORGANTOWN, WV ON THIS 29th DAY OF DECEMBER 2008.

Regis A Carabetta (for)

Carl O. Bauer
Director
National Energy Technology Laboratory