

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE
NORWICH COGENERATION INITIATIVE,
NORWICH, CONNECTICUT**

RESPONSIBLE AGENCY: U.S. Department of Energy (DOE or the Department)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: DOE's National Energy Technology Laboratory (NETL) completed the *Final Environmental Assessment for the Norwich Cogeneration Initiative, Norwich, Connecticut* (DOE/EA-1836, EA). Based on the analyses in the Environmental Assessment (EA), DOE determined that its proposed action—awarding a federal grant to Norwich Public Utilities (NPU) to facilitate installation and operation of a high-efficiency natural-gas-fired cogeneration facility—would result in no significant adverse impacts. DOE further determined that the proposed project would have potential beneficial impacts to the nation's energy efficiency and local air quality. In addition, the project would demonstrate the use of the cogeneration technology in a partnership between a utility and an industrial customer and promote a energy efficiency.

BACKGROUND: This proposed grant is based on a Congressional earmark. It supports the research and development portfolio of the Office of Energy Efficiency and Renewable Energy's Industrial Technologies Program (ITP).

The federal action of providing funding for these ITP projects requires compliance with the *National Environmental Policy Act of 1969* (NEPA; 42 U.S.C. 4321 et seq.), the Council on Environmental Quality's regulations (40 CFR Parts 1500 to 1508), and DOE's NEPA implementing procedures (10 CFR Part 1021). DOE prepared an EA to evaluate the potential environmental consequences of providing a grant for this proposed project under the ITP.

PURPOSE AND NEED: The overall purpose and need for DOE action pursuant to the ITP is to establish U.S. industry as the world leader in energy efficiency and productivity. The ITP's three-part strategy intends to achieve this objective by:

- Sponsoring research, development, and demonstration of industry-specific and crosscutting technologies to reduce energy and carbon intensity;
- Conducting technology delivery activities to help plants access today's technology and management practices; and
- Promoting a culture of energy efficiency and carbon management within industry.

This Congressionally directed grant supports the mission of the ITP through advancing the research, development, and demonstration of industrial energy-efficient technologies that reduce fossil fuel use. The proposed cogeneration project would provide thermal energy to the

adjoining Atlantic City Linen Supply New England (ACLS) facility, substantially raising the efficiency of the generating process and matching the generation with the needs of the customer, thereby reducing the costs to both partners. The project also would demonstrate the use of cogeneration technology for a specific customer and energy efficiency.

DESCRIPTION OF THE PROPOSED ACTION: DOE's proposed action is to provide a grant to the project proponent, NPU, for its proposed Norwich Cogeneration Initiative in New London County, Connecticut. NPU would design, construct, and operate a 540-kilowatt cogeneration facility in partnership with one of its largest consumers, ACLS. NPU would construct the plant on the ACLS site adjacent to a parking lot at 5 Consumers Avenue in the Norwich Business Park. The cogeneration plant would consist of a closed-loop 540-kilowatt natural gas reciprocating engine that would provide electricity directly to NPU's local distribution system and thermal energy through a closed-loop hot water heat exchanger to ACLS.

ALTERNATIVES CONSIDERED: In addition to the proposed action, DOE considered the no-action alternative as required under NEPA. Under the no-action alternative, DOE would not provide funds for the proposed project. For the purposes of the EA, DOE assumed the project would not proceed without DOE funding. This assumption established a baseline against which the potential environmental impacts of the proposed project were compared.

ENVIRONMENTAL CONSEQUENCES: DOE evaluated the potential environmental consequences of the proposed project and the no-action alternative. DOE considered 16 environmental resource areas in the EA. However, not all areas were evaluated at the same level of detail. For some of the resource areas, DOE determined there would be no impacts or that the potential impacts would be small, temporary, or both, and therefore did not carry these areas forward for additional analysis. DOE focused its more detailed analyses on those resources that could require new or amended permits, have the potential for significant impacts or controversy, or interest the public, such as socioeconomics. DOE conducted more detailed analyses of potential impacts on the following resources areas: air quality, water resources, noise, socioeconomics, and environmental justice.

Operation of the proposed system would increase emissions of PM₁₀, PM_{2.5}, sulfur dioxide, carbon monoxide, nitrogen oxides, and volatile organic compounds to a small extent. Based on its potential to emit, the proposed project would be a minor source whose emissions would be insignificant by definition, and whose effects on air quality would be negligible. As such, its emissions and air quality impacts would be insignificant or negligible with respect to the regulatory requirements for Class I Prevention of Significant Deterioration areas, the closest of which is about 112 miles to the north-northwest. These emissions do not account for the reduction of ACLS's use of natural gas for hot water; total emissions would therefore be lower.

Because the proposed project would displace much of the energy currently supplied to the ACLS boilers, the effect of the proposed cogeneration facility would be to reduce carbon dioxide emissions from the ACLS plant on average by 110 pounds per megawatt-hour of engine generation, resulting in an annual reduction of 238 tons of carbon dioxide emissions from what would otherwise be released to the atmosphere.

The remotely operated cogeneration facility would not use groundwater, and only minor amounts of potable water, purchased from the Norwich municipal water system, would be necessary for routine maintenance and cleaning. The proposed project would not generate waste other than a limited amount of construction debris that NPU would send to Norwich's Rogers Road municipal landfill. The proposed project would not generate hazardous waste. Noise levels during operations would not be audible at the nearest receptor.

The project would create six to eight temporary jobs during approximately 2 months of construction. Operation of the cogeneration plant would be unlikely to create any long-term direct jobs, but it could help to preserve existing jobs and community resources by improving the cost efficiency of ACLS operations. DOE determined there would be no adverse impacts to socioeconomics or environmental justice. The project could result in a small, one-time boost to the local economy from the expenditures to construct and operate the plant.

The other environmental resource areas DOE evaluated for potential impacts were geology and soils; land use; wild and scenic rivers; floodplains; aesthetics and visual resources; biological resources; historic and cultural resources; occupational and public health and safety; transportation; and utilities, energy, and materials. DOE determined that there would be no adverse impacts for these resource areas, or that the impacts would be small, temporary, or both. The EA provides more detail on the reasons DOE did not conduct more detailed evaluations of these areas.

Under the no-action alternative, DOE assumed the project would not proceed without the financial assistance from the grant. If abandoned, the potential environmental consequences would not occur. Furthermore, the potential beneficial impacts would not occur.

PUBLIC AVAILABILITY: DOE issued the Draft EA on January 21, 2011, and advertised its availability in *The Day* of New London County on January 21, 22, and 23. In addition, DOE sent copies of the Draft EA for public review to the Otis Library in Norwich. The Department established a 30-day public comment period that began January 21, 2011, and ended February 19, 2011, and announced it would accept comments by mail, email, or facsimile. Copies of the Final EA and this FONSI are available at DOE's NETL website at www.netl.doe.gov/publications/others/nepa/ea.html and on the DOE National Environmental Policy Act website at http://nepa.energy.gov/DOE_NEPA_documents.htm.

The Draft EA was distributed to various federal, state, and local agencies and tribes with jurisdiction or special expertise. DOE conducted formal consultation by mail with the Connecticut State Historic Preservation Officer, who concurred with DOE's determination that the proposed project would have no effect on cultural resources. The Department also consulted with the U.S. Fish and Wildlife Service and followed its instructions for assessing the existence of federally listed threatened and endangered species. DOE similarly consulted with the Connecticut Department of Environmental Protection. Both of these agencies were sent a copy of the Draft EA. Neither agency provided comments on the Draft EA.

DOE sent consultation letters to the Mashantucket Pequot Tribe of Connecticut and the Mohegan Indian Tribe of Connecticut to determine if there could be properties of traditional religious or cultural significance near the proposed facility. The Tribal Historic Preservation Officers of both

tribes asked for additional information, which DOE provided. Both of these tribes were sent a copy of the Draft EA. The Tribal Historic Preservation Officer of the Mashantucket Pequot Tribe of Connecticut indicated that the tribe had no further comments. The Mohegan Indian Tribe of Connecticut did not provide a reply or comments.

DETERMINATION: On the basis of the evaluations in the Final EA, DOE determined that its proposed action, to provide a financial assistance grant of approximately \$718,000, and NPU's proposed project, the installation and operation of a cogeneration facility, would have no significant impact on the human environment. Operation of the cogeneration facility would comply with all permit requirements. Therefore, preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

Issued in Pittsburgh, Pennsylvania, this 18th day of March 2011.



Anthony V. Cugini
Director
National Energy Technology Laboratory