

**FINDING OF NO SIGNIFICANT IMPACT  
FOR THE  
AIR PRODUCTS AND CHEMICALS, INC. WASTE ENERGY PROJECT  
AT THE AK STEEL CORPORATION MIDDLETOWN WORKS,  
MIDDLETOWN, OHIO**

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

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** DOE completed the *Final Environmental Assessment for the Air Products and Chemicals, Inc. Waste Energy Project at the AK Steel Corporation Middletown Works, Middletown, Ohio* (DOE/EA-1743). Based on the analyses in the Environmental Assessment (EA), DOE determined that its proposed action - awarding a federal grant to Air Products and Chemicals, Inc. (Air Products) to facilitate construction and operation of a waste energy recovery plant at the AK Steel Corporation (AK Steel) Middletown Works - 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. Additionally, beneficial local socioeconomic impacts could occur as a result of increased employment opportunities and spending in the project area.

**BACKGROUND:** As part of the *American Recovery and Reinvestment Act of 2009* (Recovery Act; Public Law 111-5, 123 Stat. 115), DOE's National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's Industrial Technologies Program, is providing up to \$156 million in federal funding for competitively awarded agreements to facilitate the deployment of district energy systems, combined heat and power systems, waste energy recovery systems, and energy-efficient industrial equipment and processes at single or multiple installations and sites.

The federal action of providing funding for these Industrial Technologies Program projects requires compliance with the *National Environmental Policy Act of 1969* (NEPA) (NEPA; 42 U.S.C. 4321 et seq.), the Council on Environmental Quality 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 Industrial Technologies Program.

**PURPOSE AND NEED:** The overall purpose and need for DOE action pursuant to the Industrial Technologies Program and the funding opportunity under the Recovery Act is to set up U.S. industry as the world leader in energy efficiency and productivity. The program's goal is to facilitate a 25-percent reduction in industrial energy intensity by 2017. The Industrial Technologies Program'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.

The strategy also calls for an 18-percent reduction in U.S. carbon intensity by 2012. DOE seeks to identify projects and suitable technologies that it can fund to meet this goal. Air Products' proposed project at AK Steel's Middletown Works would also contribute to the nation's economic recovery by creating or helping to retain manufacturing jobs in the United States in accordance with the objectives of the Recovery Act.

**DESCRIPTION OF THE PROPOSED ACTION:** DOE's proposed action is to provide a grant to partially fund Air Product's proposed project - construction and operation of a waste energy recovery plant at AK Steel's Middletown Works. The project would include: (1) minimal site preparation and removal of small foundations on two previously disturbed sites at the Middletown Works; (2) construction of a combined-cycle power generation plant and a management system for the blast furnace gas; and (3) production of steam and electricity from previously flared waste blast furnace gases. DOE would provide a \$30 million financial assistance grant in a cost-sharing arrangement in order to facilitate construction and operation of the project. The total cost of the project is estimated at \$315 million.

**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 that 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 14 environmental resource areas in the EA. However, not all areas were evaluated at the same level of detail. For nine of the resource areas, DOE determined there would be no impacts or 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 and occupational health and safety.

DOE focused its more detailed analyses of potential impacts on the following resources areas: air quality, water resources, wastes, socioeconomics, and occupational health and safety. For these areas, DOE determined that potential environmental impacts would be small, temporary, or both. Air emission and water use permits would require minor amendments to existing permits. Air emissions from the proposed project would remain at levels similar to current Middletown Works emissions, with the exception of a reduction in nitrogen oxides. The proposed project would generate enough electricity to serve about 80,000 households with no increase in greenhouse gas emissions because the plant would use existing waste gases to generate electricity, unlike conventional electricity generation plants that burn fossil fuels.

DOE also evaluated socioeconomic factors to determine the potential benefits of the proposed project on the surrounding communities. The project is anticipated to result in small increases in local employment and local spending, potentially providing a minor beneficial impact to the local communities.

The other environmental resource areas DOE evaluated for potential impacts were geology and soils; land use; aesthetics and visual resources; noise; biological resources; historic and cultural resources; environmental justice; transportation and utilities; and 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 either be delayed, as Air Products sought other funding sources, or abandoned altogether. The potential environmental consequences, if the project were delayed, could be different if the project were modified. If abandoned, the potential environmental consequences would not occur. Furthermore, the potential beneficial impacts would change or not occur.

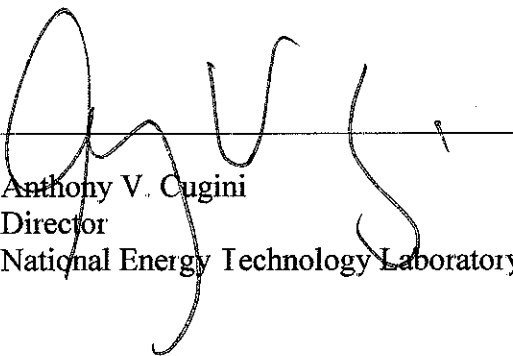
**PUBLIC AVAILABILITY:** DOE issued the Draft EA on May 9, 2010, and advertised its availability in the *Middletown Journal* on May 9, 10, and 11. In addition, DOE sent a copy of the Draft EA for public review to the Middletown Public Library. DOE established a 15-day public comment period that began May 9, 2010, and ended May 23, 2010 and announced it would accept comments by mail, e-mail, and facsimile. Copies of the Final EA and this FONSI are available at DOE's National Energy Technology Laboratory web site at [www.netl.doe.gov/publications/others/nepa/ea.html](http://www.netl.doe.gov/publications/others/nepa/ea.html).

The Draft EA was distributed to various federal, state, and local agencies with jurisdiction or special expertise. DOE conducted formal consultations by mail with the responsible U.S. Fish and Wildlife Service (USFWS) field office, the Ohio Environmental Protection Agency (OEPA), State Historic Preservation Office (SHPO), and Tribal contacts in Ohio. The USFWS commented that the project would occur within the range of the Indiana Bat, an endangered species, and listed its habitat requirements. However, DOE determined that the proposed site does not contain suitable habitat for the Indiana bat. The USFWS also recommended that DOE contact the Ohio Department of Natural Resources to determine whether any active bald eagle nests are near site. The state agency informed DOE that the closest nest is more than fifteen miles southeast of the project site. The OEPA commented that it is actively involved in discussions regarding air permitting for the project. OEPA also identified a section of the Middletown Works that is undertaking a Resource Conservation and Recovery Act (RCRA) corrective action, which could impact activities at the project site. The SHPO concurred with the Department's determination of no historic properties would be affected.

**DETERMINATION:** On the basis of the evaluations in the Final EA, DOE determined that its proposed action, to provide a \$30 million financial assistance grant, and Air Products' proposed project, construction and operation of a plant to recover waste energy, would have no significant impact on the human environment. Although the proposed project would require amendments to existing air and water permits, the waste energy recovery operations would comply with and operate within all amended permit requirements. All other potential environmental impacts DOE

identified and analyzed in the EA would be small, temporary or both. Therefore, preparation of an environmental impact statement is not required and DOE is issuing this Finding of No Significant Impact.

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