

# NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT FOR WOODBRIDGE ENERGY CENTER

DRAFT PREVENTION OF SIGNIFICANT DETERIORATION PERMIT,  
DRAFT TITLE V OPERATING PERMIT, AND DRAFT ACID RAIN PERMIT

Program Interest (PI): [18940](#) / Permit Activity Number: BOP110003

The New Jersey Department of Environmental Protection (NJDEP) is seeking public comment on its intent to approve a Prevention of Significant Deterioration (PSD) Air Quality Permit pursuant to the provisions of federal PSD rules promulgated at 40 CFR 52.21, an Air Pollution Control Operating Permit, pursuant to the provisions of Title V of the Federal Clean Air Act, the federal rules promulgated at 40 CFR 70, and the state regulations promulgated at N.J.A.C. 7:27-22, and an Acid Rain Permit pursuant to the provisions of Title IV of the Federal Clean Air Act, the federal rules promulgated at 40 CFR 72. These rules require facilities with a potential to emit major amounts of air contaminants to obtain an operating permit which specifies the air pollution control requirements that apply to the facility; the maximum amount of air pollutants which can be emitted; and the monitoring, recordkeeping, and reporting requirements to assure compliance.

## I. FACILITY INFORMATION

Woodbridge Energy Center (WEC), proposed at Riverside Drive in Woodbridge Township (Middlesex County), New Jersey, 07095, would be a new, highly efficient, 700 MW combined-cycle power generating facility with required state-of-the-art air pollution control technology. The facility would be owned and operated by Competitive Power Ventures Shore, LLC (CPV Shore, LLC).

The proposed WEC facility will consist of two General Electric (GE) combustion turbine generators (CTGs) that will utilize pipeline natural gas only. Heat recovery steam generators (HRSGs) downstream of the combustion turbines will recover heat from the exhaust gases to generate steam. The HRSGs will be equipped with natural gas-fired duct burners for supplementary firing and will share a single steam turbine generator (STG). Electricity generated in the CTGs and STG will be sold to the electric power grid. Supporting ancillary equipment includes a natural gas fired auxiliary boiler, one small dew point fuel gas heater (fuel gas heater), a mechanical draft cooling tower, an emergency diesel generator and an emergency diesel fire pump.

The facility is classified as a major facility based on its potential to emit 293.8 tons per year (tpy) of Carbon Monoxide (CO), 149.4 tons per year of Nitrogen Oxides (NO<sub>x</sub>), 33.6 tons per year of Volatile Organic Compounds (VOC), 33.1 tons per year of Sulfur Dioxide (SO<sub>2</sub>), 55.9 tons per year of Total Suspended Particulates (TSP), 98.7 tons per year of Particulate Matter less than 2.5 micros (PM<sub>2.5</sub>), 103.7 tons per year of Particulate Matter less than 10 micros (PM<sub>10</sub>), and 2.13 Million tons of Greenhouse Gases as Carbon dioxide equivalent (CO<sub>2</sub>e).

Woodbridge Energy Center will not be a major source of Hazardous Air Pollutants (HAPs). A HAP emitting facility is designated as major when the allowed emissions exceed 10 tons per year of any individual hazardous air pollutant or 25 tons per year of any combination of individual hazardous air pollutants that may be emitted simultaneously. The proposed total HAPs from the facility are 5.51 tpy, which are less than 25 tons per year, for WEC to be classified as a major source of HAPs. This permit allows individual HAP to be emitted at a rate not to exceed: 258.8 pounds per year of acrolein; 8.2 pounds per year of arsenic; 44.6 pounds per year of Cadmium; 5,326 pounds per year of formaldehyde; 10.6 pounds per year of mercury; 89 pounds per year of polycyclic organic matter, 20.3 pounds per year of lead, and 5,258 pounds per year of toluene.

In addition, the project is not expected to cause an odor problem.

## II. BACKGROUND AND HISTORY

The equipment that emits air contaminants from this facility include: two General Electric (GE) 207FA.05 combined cycle combustion turbine generators (CTGs), each having a nominal heat input rate of 2,307

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million British thermal units per hour (MMBtu/hr) at an ambient temperature of -8<sup>0</sup>F; two duct-fired heat recovery steam generators (HRSG) each having a maximum heat input rate of 500 MMBtu/hr, one 14-cell (2x7 configuration) wet mechanical draft cooling tower, and ancillary equipment. The combustion turbines will burn natural gas only.

Ancillary equipment will include a 91.6 MMBtu/hr (HHV) auxiliary boiler equipped with low NOx burners and will operate on natural gas exclusively for 2000 hrs. per year or less, one small 9.5 MMBtu/hr (HHV) natural gas fired fuel gas heater operating for 8760 hrs/yr, a 1500 KW (13.5 MMBtu/hr HHV) emergency diesel generator, and a 315 HP (2.1 MMBtu/hr HHV) diesel fire pump. The emergency diesel generator and fire pump will be operated for 100 hrs per year or less, per equipment, and would use ultra low sulfur distillate (ULSD) fuel oil with sulfur content of 15 ppm by weight or less. Ancillary equipment will also include storage tanks.

WEC has proposed to use only clean burning fuels i.e. natural gas and ULSD oil to minimize air pollutant emissions. Dry Low NOx burners (DLN) along with a Selective Catalytic Reduction System (SCR) will be installed on the combustion turbines, to comply with Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) to reduce inlet NOx concentrations. WEC is also proposing the use of oxidation catalyst as BACT to reduce inlet CO concentrations, and to reduce the VOC emissions during all steady state operations.

### III. CASE-BY-CASE DETERMINATIONS

#### a. State of the Art (SOTA) pursuant to N.J.A.C. 7:27-22.35

The facility is required to comply with State of the Art Control Technology (SOTA) of New Jersey Air Pollution Control Regulations (N.J.A.C. 7:27-22.35), for auxiliary boiler and fuel gas heater. The facility will comply with SOTA limits for NOx, VOC and CO in State of the Art (SOTA) Manual for Boilers and Process Heaters.

#### b. Lowest Achievable Emission Rate (LAER) pursuant to N.J.A.C. 7:27-18.3(b)

This facility is determined to be subject to Non Attainment New Source review requirements at N.J.A.C 7:27-18 (Subchapter 18 Control and Prohibition of Air Pollution from New or Altered Sources Affecting Ambient Air Quality (Emission Offset Rules)) for NOx, and VOC. This is because the potential emissions of NOx and VOC which are precursors for ozone are greater than the N.J.A.C 7:27-18 thresholds of 25 tpy (the threshold for severe ozone non-attainment, which applies to the entire State of New Jersey). The combustion turbines at WEC will meet the current LAER emission limit for NOx and VOC of 2 ppmvd @15% oxygen. The emission limits for NOx and VOC proposed by WEC for all other combustion equipment will also meet LAER.

#### c. Best Available Control Technology (BACT) pursuant to 40 CFR 52.51

WEC is considered a new major source of Federal Prevention of Significant Deterioration of Air Quality (PSD) under 40 CFR 52.21. This is because pursuant to 40 CFR 52.51, WEC is one of the 28 named source categories (i.e. fossil fuel-fired steam electric generating plant of greater than 250 MMBTU/hr heat input), with emissions of NOx, CO and PM<sub>10</sub> over 100 tons per year, the threshold for PSD applicability. The facility is also subject to PSD for sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) and Green House Gasses (GHG), and is required to perform BACT analysis for all pollutants subject to PSD. The detailed BACT analysis is presented in the Fact Sheet.

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### IV. EMISSION OFFSET REQUIREMENTS

Pursuant to N.J.A.C 7:27-18, the facility is required to obtain 195 tons of NO<sub>x</sub> offsets, at an offset of 1.3 tons reduction to 1.0 ton of NO<sub>x</sub> emission increase, and 44 tons of VOC offsets at an offset of 1.3 tons reduction to 1.0 ton of VOC emission increase.

The applicant has proposed to obtain 44 tons of VOC offsets from:

- General Motors Corporation, Linden, Union County

The applicant has proposed to obtain 195 tons of NO<sub>x</sub> offsets from one or more of the following sources:

Offsets from New Jersey:

- a. Chevron USA Products Company, Perth Amboy, Middlesex County
- b. Gerdau Ameristeel, Perth Amboy, Middlesex County

Offsets from New York

- a. Warbasse Houses and Power Plant, Brooklyn, New York
- b. BICC Cables Co. Yonkers, New York
- c. National Grid – (formerly KeySpan Gen. LLC), Glennwood Landing, New York
- d. Con-Edison – Astoria, Astoria, New York
- e. Covanta Babylon, West Babylon, New York

Any offsets from New York would require agreement by New York Department of Environmental conservation (NYDEC) that emissions reductions are enforceable. Such an agreement must be obtained by NJDEP prior to final approval of offsets. If this permit is approved, all offsets would need to be verified and acceptable to NJDEP, and secured and transferred to the applicant prior to initiation of operation pursuant to N.J.A.C. 7:27-18.3(f).

### V. AIR QUALITY ANALYSIS

The Department has reviewed the ambient air quality impact of the proposed facility. Based on the air quality modeling analysis, the Department found that air contaminant emissions from the proposed facility would not exceed Federal or New Jersey Ambient Air Quality Standards.

Emissions of NO<sub>x</sub>, CO, VOC, SO<sub>2</sub>, and PM<sub>10</sub>/ PM<sub>2.5</sub> from this facility were first modeled to determine whether they will have a significant impact. The results of the single-source modeling analysis predicted significant impacts for the 1-hour NO<sub>2</sub> and 24-hour PM<sub>2.5</sub> average concentrations. The results of the single-source modeling emissions predicted that the impact on the Brigantine Wildlife Refuge Class I area will be insignificant.

Multi source modeling analysis for NO<sub>2</sub> and PM<sub>2.5</sub> was done using 18 sources in the vicinity of WEC. This analysis predicts that the proposed facility will not cause or contribute to a violation of a National or New Jersey Ambient Air Quality Standard (NAAQS/NJAAQS).

HAP emissions from the proposed facility are predicted to pose a negligible cancer and non-cancerous health risk off the WEC property. In addition, the project is not expected to cause an odor problem.

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### VI. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved. Prior to the expiration of the Operating Permit's five-year term, the facility will be required to apply for a renewal, at which time the Department will evaluate the facility and issue a public notice with its findings.

### VII. PUBLIC COMMENTS AND CONTACT INFORMATION

This public notice, the statement of basis, the fact sheet, and the draft permits have been posted at the Air Quality Permitting website: <http://www.state.nj.us/dep/aqpp/publicnotices.htm>. The draft permit is also available for inspection at the address below and at the Central Regional Office located at 22 South Clinton Avenue PO Box 420 Trenton, NJ 08625-0420 with phone number (609-292-3187). If you would like to inspect the draft permit at either location, please call in advance for an appointment. You may also inspect the application and supporting materials, and other information and documents contained in the supporting file for the draft permit, at the Trenton location listed below, by calling for an appointment.

All persons, including the applicant, who believe that any condition of the draft Air Pollution Operating Permit or the Department's tentative decision to approve this permit is inappropriate, must raise all reasonable issues of concern and submit all arguments and factual grounds or materials supporting their position during the public comment period. Any comments on this draft permit must be received within 45 days of the date of this notice and addressed to:

Aliya M. Khan  
New Jersey Department of Environmental Protection  
Air Quality Permitting Program  
Bureau of Air Permits  
401 East State St. - 2nd Floor, PO Box 420, Mail Code 401-02  
Trenton, NJ 08625-0420  
609-292-2169

The public hearing will be held on Monday, July 9, 2012 at the Fords Branch Library located at 211 Ford Avenue, Fords, NJ 08863, and phone number (732) 726-7071. The public hearing will start at 7:00 PM and end at 9:00 PM. If there are still persons wishing to comment, the meeting will be extended until all persons present have had the opportunity to present their comments. At the public hearing, written and oral comments will be accepted by the Department. The public must submit all comments by the close of the public comment period.

The comment period will be closed 45 calendar days after the publication of the notice i.e on July 20, 2012. All persons, including the applicant, who believe any condition of the draft permit is inappropriate must raise all reasonable issues of concern and submit all arguments and factual grounds, or materials supporting their position, during the public comment period.

The Department will consider and respond to all written and timely submitted comments. The applicant, and each person, who submitted written comments, will receive a notice of the Department's final decision regarding the Operating Permit, federal PSD Permit, and a copy of the Response to Comment document.

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The PSD regulations, specifically 40 CFR 52.21(q), provide for administrative review of the final PSD permit decision within 30 calendar days after the date of issuance of the final permit. The procedural requirements for administrative review are defined in the Consolidated Permits Regulations codified at 40 CFR, part 124 (45 FR 33405). Request for administrative review of a final PSD permit decision should be made to the Administrator of the United States Environmental Protection Agency, 401 M Street, Southwest, Washington, DC 20460.

Administrative review is available only to those persons who commented during the comment period and is restricted to issues raised during the comment period with the exception that any person, including those who failed to file comments or failed to participate in the public comment period on the preliminary permit determination, may petition for administrative review of the changes from the draft PSD permit to the final PSD permit.

Upon the issuance by the Department of the final permit decision, or in the case of the administrative review process, the final PSD permit decision will be a final U.S. Environmental Protection Agency action and will be published in the Federal Register. This final action may be challenged only by filing a petition for review in the United States Court of Appeals for the appropriate circuit within 60 calendar days of the date of the Federal Register notice. The final PSD permit shall not be subject to later judicial review in enforcement proceedings. Opportunity for judicial review is only provided at the completion of the administrative appeal process and is provided only to those persons who were parties in an administrative appeal.