



DANSKAMMER ENERGY CENTER

Case No. 18-F-0325

1001.16 Exhibit 16

Pollution Control Facilities

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Exhibit 16: Pollution Control Facilities

16(a) Completed Applications

Copies of completed applications for permits to be issued by the NYSDEC pursuant to Federal recognition of State authority in accordance with the Clean Water Act, Clean Air Act, and Resource Conservation and Recovery Act, and any applicable permits pursuant to Articles 17 and 19 of the Environmental Conservation Law (ECL) are provided as noted below.

(1) Prevention of Significant Deterioration

The State of New York (delegated responsibility from EPA through the Clean Air Act) has adopted the Prevention of Significant Deterioration (PSD) program, which is administered through the NYSDEC permitting process under 6 NYCRR Part 201/231 and applies to a new or modified major facility located in an attainment area. The planned Project is subject to PSD review and requires the preparation and submittal of a PSD Air Permit Application to NYSDEC and EPA Region 2. Discussion and further details of the PSD and Non-attainment New Source Review (NNSR) Air Permit Application can be found in Exhibit 17 and a copy of the permit application is found in Appendix 17-1.

(2) State Pollutant Discharge Elimination System

The NYSDEC has been delegated by EPA for the control of wastewater and stormwater discharges in accordance with the Clean Water Act. The New York State Pollutant Discharge Elimination System (SPDES) permitting program (New York's program to regulate the National Pollutant Discharge Elimination System [NPDES] under the Clean Water Act) is broader in scope than that required by the Clean Water Act in that it controls point source discharges to groundwaters, as well as surface waters. The SPDES Permit for Industrial Discharge modification application is found in Appendix 39-2 of Exhibit 39.

(3) Major Oil Storage Facility

Because the proposed Project will store over 400,000 gallons of oil or petroleum products, Danskammer is required to prepare and submit an update to its application for a Major Oil Storage Facility (MOSF) License. A copy of the MOSF application is included in Appendix 37-1 to Exhibit 37. A draft SPCC Plan is also included in Appendix 23-5.

Due to the planned installation of the new proposed back-up fuel aboveground storage tank, the Project will exceed the 1,000,000-gallon storage capacity threshold and thus, Danskammer will

also prepare and maintain additional documents under one cover: a Facility Response Plan (FRP) that will include an Emergency Response Action Plan (ERAP), containing the Project Site's Spill Response Procedures (SRPs) and a Spill Notification Directory (SND).

16(b) and (c) Pollution Control Technologies

Danskammer respectfully submits that the evidence that will enable the Commissioner of the NYSDEC and the Siting Board to evaluate the Project's pollution control technologies and to make the necessary findings and determinations is documented in detail in the related Exhibits of this Article 10 Application, as summarized below.

(1) Water Pollution Control Technologies

As presented in Exhibit 38 of this Application, several design and operational features of the proposed facilities were targeted specifically at minimizing water use. They include:

- Selection of an air-cooled condenser for heat dissipation, rather than relying on once-through or evaporative-cooling technologies, thereby eliminating the need for cooling water makeup as well as the thermal component of the discharge from the existing Station;
- Selection of closed-cycle fin-fan coolers to manage the heat load from the auxiliary cooling loops; and,
- Recycling of process wastewater, such as blowdown from the Heat Recovery Steam Generator (HRSG), back to the demineralized water treatment train for reuse as process makeup water.

While minimized, the Project will generate some process and sanitary wastewater requiring proper handling, management, and disposal. These waste streams include sanitary wastewater, demineralization system reject water, plant maintenance water collected in Project floor drains/secondary containment structures, and combustion turbine compressor section off-line wash water. For a full discussion of generated wastewater and wastewater mitigation technology details, refer to Exhibit 39 of this Application.

(2) Air Pollution Control Technologies

As presented in Exhibit 17 of this Application, and the PSD/NNSR Air Permit Application found in Appendix 17-1 to Exhibit 17, several design and operational features of the proposed Project were targeted specifically at minimizing air pollution.

The proposed Project will have a state-of-the-art Mitsubishi M501JAC combustion turbine generator (CTG) that will primarily use natural gas. Ultra-low sulfur distillate (ULSD) will be used as a backup fuel in the combustion turbine, up to the equivalent of 720 full load hours per year. A HRSG downstream of the combustion turbine will recover heat from the exhaust gas to provide steam to a single steam turbine generator.

The combustion turbine will use a dry low-NO_x combustor during natural gas firing and water injection during ULSD firing. The HRSG will contain a selective catalytic reduction (SCR) system to control NO_x emissions. An oxidation catalyst will be located in the HRSG, upstream of the SCR, which will be used to control emissions of carbon monoxide, as well as volatile organic compounds (VOCs). Exhaust gas from the combined-cycle unit (after emission controls) will be directed to a single stack that will exhaust at 200 feet above grade with an inner exit flue diameter of 23 feet.

The existing Danskammer Generating Station is an existing major stationary source (as defined under the Clean Air Act). The proposed repowering Project will be considered a modification of an existing major stationary source. Because the proposed Project Site is located in an ozone transport region, and net NO_x and VOC emissions, which are ozone precursors, exceed the 40 ton/year threshold, the Project is subject to NNSR for NO_x and VOCs. A component of NNSR is a requirement to meet the lowest achievable emission rate (LAER) limits. Proposed NO_x and VOC LAER emission limits and control technologies for combustion units are described in section 4 of the PSD/NNSR Air Permit Application.

Best Available Control Technology (BACT) must be applied to control emissions of pollutants that are subject to PSD review based on potential emissions of each pollutant for which the Project site area is in attainment. For the proposed Project, BACT is required for sulfuric acid mist (H₂SO₄), PM/PM₁₀/PM_{2.5}, and GHGs. The Project proposes to meet BACT requirements by using low-sulfur fuels for control of CO, H₂SO₄ and PM/PM₁₀/PM_{2.5} emissions. The Project will comply with BACT for GHGs by primarily firing natural gas and through the high efficiency design of the combustion turbine. Section 4 of the PSD/NNSR Air Permit Application, included as Appendix 17-1 to Exhibit 17, presents detailed BACT proposals for the combustion turbine unit, as well as BACT proposals for applicable pollutants from the auxiliary boiler, emergency diesel generator, and the emergency diesel fire pump.

Further detailed discussions of air pollution control technologies are presented in Exhibit 17 of this Application.

16(d) Fuel Waste Byproducts

The combustion of natural gas does not produce substantial amounts of solid waste. Emissions from the combustion of natural gas is minimized using the technology described above and will comply with LAER and BACT emission standards. Note that coal, wood, biomass, municipal solid waste, or similar fuels will not be combusted or gasified at the Project.

ULSD was chosen as a back-up fuel as the distillate has been refined so that sulfur content is 15 parts per million (ppm) or less. As sulfur is one of the key causes of particulates or soot usually found in distillate, using ULSD will lower harmful exhaust emissions and produce negligible fuel byproduct. In addition, ULSD will only be used as a backup fuel source for up to the equivalent of 720 full load hours per year. Emissions from the combustion of ULSD and natural gas will comply with emission limits in the PSD/NNSR air permit application (attached in Appendix 17-1) and are further described in Exhibit 17 of this Application.

Non-hazardous and hazardous wastes generated during construction and operation from fuel consumption will be disposed in accordance with the applicable transportation and disposal requirements.