



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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December 23, 2016

Stephen J. Humes, Esq.  
Holland & Knight LLP  
31 West 52<sup>nd</sup> Street  
New York, NY 10019

RE: **PETITION NO. 1218** – PSEG Power Connecticut LLC declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a new 485 megawatt (MW) dual fuel combined-cycle electric generating facility at the existing Bridgeport Harbor Station located at 1 Atlantic Street, Bridgeport, Connecticut.

Dear Attorney Humes:

At a public meeting of the Connecticut Siting Council (Council) held on December 22, 2016, the Council considered and approved the Development and Management (D&M) Plan Phase II submitted for this project on November 1, 2016 with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Compliance with the reporting requirements under Section 16-50j-62 of the Regulations of Connecticut State Agencies;
4. The final modifications of the plant to accommodate the use of waste heat, if applicable, shall be submitted to the Council for review and approval;
5. The final fuel dock rehabilitation plan shall be submitted for Council review and approval;
6. The containment measures for backup generator engine oil and coolant shall be submitted to the Council; and
7. Prior to testing or start-up of the plant, the Certificate Holder shall submit to the Council its final plans to comply with the recommendations and conditions relative to Council Docket No. NT-2010 and conditions (6i through 8iii) Council's Decision and Order for Petition No. 1218 relative to plant safety.

The Council recommends that PSEG consult with Council staff regarding dust control measures for materials delivered by barge.

This approval applies only to the D&M Plan Phase II submitted on November 1, 2016 and supplemental data dated December 2, 2016 and December 13, 2016. Requests for any changes to the D&M Plan shall be approved by Council staff in accordance with Regulations of Connecticut State Agencies (RCSA) §16-50j-



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62(b). Furthermore, the project developer is responsible for reporting requirements pursuant to RCSA §16-50j-62.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the Council's decision on the petition dated July 21, 2016 and in the D&M Plan Phase II dated November 1, 2016 and supplemental data dated December 2, 2016 and December 13, 2016.

Enclosed is a copy of the staff report on this D&M Plan Phase II, dated December 22, 2016.

Thank you for your attention and cooperation.

Sincerely,

A handwritten signature in black ink that reads "Robert Stein". To the right of the signature, there is a small handwritten mark that appears to be "MAB".

Robert Stein  
Chairman

RS/MP/cm

Enclosure: Staff Report dated December 22, 2016

c: The Honorable Joseph P. Ganim, Mayor, City of Bridgeport  
John Gomes, Chief Administrative Officer, City of Bridgeport  
Thomas F. Gill, Director of Planning & Economic Development, City of Bridgeport



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### Petition No. 1218

PSEG Power Connecticut LLC

D&M Plan – Phase II

1 Atlantic Street, Bridgeport

Staff Report

December 22, 2016

On July 21, 2016, the Connecticut Siting Council (Council) issued a Declaratory Ruling to PSEG Power Connecticut LLC (PSEG) that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 485 megawatt (MW) dual fuel combined-cycle electric generating facility at the existing Bridgeport Harbor facility site at 1 Atlantic Street, Bridgeport, Connecticut. In its decision, the Council required PSEG to submit a Development and Management Plan (D&M Plan). The Council approved the Phase I D&M Plan on October 27, 2016.

In compliance with Condition No. 3 of Council's October 27, 2016 approval of the Phase I D&M Plan and in response to a Council staff interrogatory, PSEG provided the specifications of the fill to the Council. PSEG would use clean fill meeting Connecticut Department of Transportation Grading "C" requirements. The fill and embankment material obtained from offsite sources will be clean, free of organics or other deleterious materials, and free of any environmental contaminants or hazardous substances.

On November 1, 2016, PSEG submitted the Phase II D&M Plan for the Bridgeport Harbor Unit 5 (BH#5) project. The D&M Plan requirements specified in the Council's Declaratory Ruling and PSEG's compliance with such requirements are listed below.

a) **A final site plan showing all roads, structures and other improvements on the site including but not limited to buildings, stacks, retaining walls;**

PSEG has included final detailed site plans for all access roads, structures, site improvements, buildings, stacks, and the retaining wall. The general plant footprint would be covered with aggregate (i.e. crushed stone). The plant access drives and parking area would all be asphalt.

Changes to the facility layout provided in the final site plans include, but are not limited to, the following:

- a) Relocating the ultra-low sulfur distillate (ULSD) tank south and revising the tank/containment footprint and height;
- b) Relocating the fuel oil truck unloading area south, closer to the fuel oil forwarding pump enclosure;
- c) Modifying the fuel oil truck unloading area to accommodate two trucks;
- d) Modifying the fuel oil forwarding pump enclosure sizing;
- e) Relocating the fire pump house to the eastern side of the facility for proximity to the relocated water tanks;
- f) Relocating the auxiliary cooling tower to the eastern side of the facility for better proximity to the water systems and to reduce noise at the residential receptors at the western property line;
- g) Relocating the water treatment trailer/equipment to the eastern side of the plant;
- h) Relocating the General Services Building and various onsite parking area layouts to better accommodate operational requirements;
- i) Adjustments to the location and size of the various power distribution centers to accommodate the necessary equipment and facilitate utility routings;
- j) Adding a third oil/water separator (OWS) and locating all three OWS' to improve utility routings;



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- k) Relocating the Aqueous Ammonia Storage and Unloading Area and the bulk Hydrogen System to the western side of the facility site;
- l) Relocating the Warehouse/Maintenance Building to the western side of site;
- m) Relocating the Fuel Gas Processing Enclosure and Gas Metering Area to more closely align the with the gas supply piping; and
- n) Updating the layout of the Gas Insulated Switchgear (GIS) and building to optimally address equipment sizing requirements.

**b) Consideration of the use of waste heat from power plant operations to supply energy to a thermal loop or nearby industrial user;**

PSEG has had discussions with a firm interested in further evaluating the possibility and feasibility of using up to 72,000 MBtu/hr of low grade heat energy from BH#5. The low grade heat would be used to heat water for a local hot water distribution system. PSEG will continue to evaluate the possibility during the construction of the facility and anticipates making the business decision and any necessary plan modifications in 2019 or beyond. If the Phase II D&M Plan is approved, staff suggests including a condition that any final modifications to the facility to accommodate the use of waste heat be submitted for Council review and approval.

**c) Lighting plan for power plant and details to minimize impact on off-site properties;**

PSEG included its Lighting Plan in Drawings 191547-DE-2601 and 191547-DE-2602 which includes the use of LED fixtures to illuminate the power plant site. In order to minimize light impacts on abutting commercial and residential properties, the illumination level at the property line was established at 0.05 foot-candles. This is roughly comparable to that of a full moon illumination, but would continue to drop off with distance. The former Remington Shaver property is over 250 feet away. No adverse impacts to nearby properties are anticipated due to on-site lighting.

**d) Final details of fuel dock rehabilitation plan;**

PSEG will provide the details of the fuel oil dock design to the Council by September 30, 2017. The repairs and field work would be initiated in 2018. The fuel dock work is not critical to any near term Bridgeport Harbor Unit 3 (BH#3) or BH#5 needs, and, as such, is being scheduled to a later date. This would avoid inference with the construction of BH#5 along the southern edge of the site. If the Phase II D&M Plan is approved, staff suggests including a condition that the final fuel dock rehabilitation plan be submitted for Council review and approval.

**e) Water and sewer connection routes;**

PSEG included its water and sewer connection routes in Drawings 191547-DS-1032A and 191547-DS-1032B. Sanitary and process wastewater connections would be underground and travel towards the northern limits of the PSEG property (north of Kiefer Street) before turning to the west to connect in the vicinity of Main Street. Service water would run underground directly to the west towards Russell Street.

f) Update on status of site remediation in the existing fuel tank area and remaining remediation work. Indicate which areas of contamination would be rendered inaccessible by constructing on top of such soils. Also include a demarcation layer marking the location of any areas of contaminated soil;

The remediation plans update and locations of contaminated soils were already provided and approved in the Phase I D&M Plan.

g) Natural gas interconnection plan and gas compressor building design and location, if applicable;

PSEG included its low pressure and high pressure natural gas connections plan in Drawing 191547-5GAU-G1000. Both natural gas connections would enter the northeastern portion of the site. PSEG included the plans for its gas compressor building in Drawings 191547-5BSV-A4715, 191547-5BSV-A4716 and 191547-5BSV-A4717. The building will be approximately 75 feet long by 45 feet wide with a peak building height on the order of 28 feet.

h) Final Erosion and sedimentation control plans consistent with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control* and taking into account protective measures for adjacent wetlands;

PSEG already submitted its Erosion and Sedimentation Control Plans in the Phase I D&M Plan.

i) Final stormwater design consistent with the *2004 Connecticut Stormwater Quality Manual* and also taking into account protecting adjacent wetlands;

PSEG has submitted its stormwater design plans stamped by a Professional Engineer duly licensed in the State of Connecticut.

j) Stormwater pollution protection plan outlining best management practices;

PSEG has submitted a Stormwater Pollution Control Plan with best management practices. Such plan has been stamped by a Professional Engineer duly licensed in the State of Connecticut.

k) Flood Mitigation Plan consistent with the Department of Energy and Environmental Protection's (DEEP) comments regarding flooding resiliency measures in the surrounding neighborhood and evaluation of how that may impact the Petitioner's flood mitigation plans;

PSEG has designed its plant to an elevation of approximately 16.5 feet above mean sea level (amsl), which is above the current 100-year and 500-year flood elevations. The current 100-year flood elevation is 14 feet amsl. The current 500-year flood elevation is 15.3 feet amsl.

PSEG has reviewed the conceptual flood mitigation plans for the areas of Bridgeport surrounding the site. PSEG does not expect that BH#5 plant or stormwater design would negatively impact the flood resiliency of the surrounding community. In fact, the BH#5 project would be an improvement from a flooding perspective because of decreased stormwater flows entering the City's combined sewer system.

l) Final plans to demonstrate compliance with DEEP noise standards;

PSEG has provided an updated and final noise analysis report. As a Class C Industrial Emitter under DEEP Noise Control Regulations, the most stringent noise standard would be at a Class A

Residential Receptor at night, which would be 51 dBA. The plant will comply with DEEP Noise Control Regulations and would not exceed 51 dBA at any receptor locations.

**m) Fuel storage and handling plan including containment and other measures to protect against spillage when the ULSD tank is being refilled;**

PSEG has provided its Spill Prevention, Control and Countermeasures Plan relative to the handling and containment of ULSD. The ULSD tanker truck loading area is capable of handling two 16,000 gallon tanker trucks simultaneously. The unloading area has a containment capacity of 34,000 gallons or about 106 percent of the combined contents of two trucks.

**n) Containment measures for step-up transformer dielectric fluids and ULSD storage tank;**

PSEG has included its containment measures for ULSD storage and transformer dielectric fluids. The 5,500,00 gallon ULSD storage tank will have a secondary steel containment structure, which is sized to contain up to 110 percent of the tank contents. The plant will have a combustion turbine step-up transformer, combustion turbine auxiliary transformer, steam turbine step-up transformer, and steam turbine auxiliary transformer. Each of the four transformers will have a concrete secondary containment sized to contain up to 110 percent of the mineral oil stored in such transformer.

**o) Containment and/or protective measures for the safe delivery and storage of hydrogen and aqueous ammonia;**

The aqueous ammonia storage and unloading area and the bulk hydrogen storage system were relocated to the western side of the facility (from their original location in the northeastern portion of the facility). The quantity and concentration of ammonia is below the values that would trigger further analysis in accordance with the United States Environmental Protection Agency Response Management Plan requirements. The ammonia storage area would have a containment area as required by code.

For the hydrogen storage area, moving it to the western portion of the site brings it closer to the turbine building so it may be used for winding cooling for both electric generators. For the hydrogen and ammonia storage areas, their relocation was chosen to avoid necessary underground piping and electric utilities.

While both on-site ammonia and hydrogen storage facilities would be closer to the mixed use residential property to the west, such facilities would comply with applicable safety codes and standards.

**p) Backup generator design and containment measures for fuel, oil, and coolant;**

PSEG would have a 2,000-kilowatt diesel generator to provide standby electrical service for secure power during blackouts. The fuel tank would be double-walled and capable of containing up to 110 percent of the stored fuel. If the Phase II D&M Plan is approved, staff recommends that the containment measures for engine oil and coolant be submitted to the Council.

**q) Dewatering plan to address groundwater issues during construction, if applicable;**

PSEG has provided its dewatering plans as part of its Stormwater Pollution Control Plan in the Phase II D&M Plan.

**r) Detailed project schedules for all work activities and proposed typical construction days and hours;**

PSEG has included the schedule and work hours in the Phase II D&M Plan. Specifically, PSEG's work hours will be between 7:00 a.m. and 6:00 p.m. Monday through Friday. Some limited Saturday or Sunday hours may be possible for critical path activities. Large scale construction and demolition activity will not be performed between 6:00 p.m. and 7:00 a.m. on weekdays, or between the hours of 6:00 p.m. and 9:00 a.m. on weekends and federal holidays.

The installation of temporary construction facilities has already commenced pursuant to the Council's approval of the Phase I D&M Plan. If the Phase II D&M Plan is approved, site work would commence approximately April 2017. Foundation construction would commence in July 2017. Initial equipment installation would commence approximately September 2017. Major delivery of turbines and the heat recovery steam generator (HRSG) would be approximately October 2017. Switchyard and transformer installation would commence approximately June 2017. The gas turbine generator installation would occur beginning roughly December 2017. Performance and reliability testing of the plant would occur approximately March 2019 with a target completion of April 2019 in order to meet PSEG's obligation to ISO-NE to be in-service for June 2019.

PSEG notes that osprey have nested on the Bridgeport Harbor Station oil dock during the 2016 active nesting season. Generally, the nesting season is approximately from March until late summer or early fall. However, PSEG does not expect that removal of an osprey nest will be necessary at this time. PSEG will monitor nesting during March and April to determine if any new nests are being constructed in areas that could be disrupted by construction and will undertake appropriate consultation with DEEP (and U.S. Fish and Wildlife Services if necessary).

**s) Construction laydown area locations;**

This was addressed in the initial staging and site preparation activities review and also in the Phase I D&M Plan.

**t) Site security measures;**

PSEG has included its site security measures in both the Phase I and Phase II D&M Plans. The facility will be secured by the existing subject property fencing. There will be some additional fencing in select areas of the plant such as around the generator step-up transformers. During construction and operation of the facility, all employees and visitors will have to provide appropriate identification upon entering the security gate.

**u) Final Federal Aviation Administration (FAA) lighting design for the stack; and**

PSEG has including the specifications for the FAA lighting for the 300-foot tall heat recovery steam generator (HRSG) stack. The lighting will be medium intensity flashing white during the daytime and twilight and red at night. The lighting design is in compliance with the FAA Advisory Circular 70/7460-1. The HRSG stack location is unchanged. It will be a grey stack. The orange/white paint marking scheme used on BH#3 is not necessary on BH#5.

The FAA No Hazard Determination letter (FAA Letter) expires on April 24, 2018 unless construction commences prior to such deadline. PSEG is expected to commence construction prior to such deadline, so an extension of the FAA deadline is not expected to be necessary.

v) **Decommissioning Plan as a contingency plan in the event that Bridgeport Harbor Unit #5 (BHU #5) is permanently taken out of service. Include general BHU #5 plant infrastructure removal plans and site restoration plans.**

The BH#5 has an expected operational life of 40 to 60 years. Maintenance, repairs and replacements of components could potentially extend this life further. Notwithstanding, PSEG included its Decommission Plan in the event that a business decision is made to permanently cease operations at BH5.

After satisfying its capacity obligations to ISO-NE and concluding operations, PSEG would work with the City of Bridgeport to evaluate and establish requirements to properly decommission, dismantle and dispose of the BH#5 facilities. This will also include the necessary and proper restoration of the site.

PSEG would not use natural gas to clean the gas pipelines. An inert gas would be used. In addition, PSEG would comply with the recommendations and conditions relative to Council Docket No. NT-2010 and Conditions 6i through 8iii of the Council's Decision and Order for Petition No. 1218 relative to power plant safety. PSEG expects to have an update on such materials by September 30, 2017. If the Phase II D&M Plan is approved, staff suggests including a condition that all such materials shall be provided prior to testing and start-up of the plant.

Staff finds that PSEG's Phase II D&M Plan for this project conforms to the Council's declaratory ruling and that it addresses the environmental issues likely to be encountered during this project.

Council staff recommends approval of the Phase II D&M Plan with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Compliance with the reporting requirements under Section 16-50j-62 of the Regulations of Connecticut State Agencies;
4. The final modifications of the plant to accommodate the use of waste heat, if applicable, shall be submitted to the Council for review and approval;
5. The final fuel dock rehabilitation plan shall be submitted for Council review and approval;
6. The containment measures for backup generator engine oil and coolant shall be submitted to the Council; and
7. Prior to testing or start-up of the plant, the Certificate Holder shall submit to the Council its final plans to comply with the recommendations and conditions relative to Council Docket No. NT-2010 and conditions (6i through 8iii) Council's Decision and Order for Petition No. 1218 relative to plant safety.