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VIA HAND DELIVERY AND ELECTRONIC MAIL

April 28, 2016

Mr. Robert Stein
Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition 1218 - PSEG Power Connecticut LLC petition for a 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 Chairman Stein:

Enclosed herewith please find an original and fifteen copies of The United Illuminating Company's responses to the Connecticut Siting Council's Interrogatories – Set 1 dated April 8, 2016 in the above-captioned proceeding.

Kindly contact me with any questions concerning this filing. I may be reached at (203) 499-2864.

Very truly yours,

James R. Morrissey

James R. Morrissey
Attorney
UIL Holdings Corporation
Counsel for The United Illuminating Company

cc: Service List

Interrogatory CSC-I-1

The United Illuminating Company
Petition 1218

Witness: Elizabeth Gandza
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Q-CSC-I-1: PSEG Power Connecticut LLC (PSEG) submitted its Petition (Petition) dated March 9, 2016 for a proposed approximately 400 megawatt combined-cycle power plant. If the proposed project is approved, would The United Illuminating Company (UI) and/or PSEG file a separate petition for the 345-kV underground electrical transmission cable and interconnection portion of the project or is this part of the instant Petition? If the electrical interconnection is part of the instant Petition, please provide the following information relative to the electrical interconnection of the plant:

- a) A route map for the proposed underground interconnection cable;
- b) The type and size of underground cable;
- c) Electric and magnetic fields profiles for the cross-section of the proposed underground cable and general compliance or consistency with the Council's Best Management Practices;
- d) Planned modifications at UI's substation to accommodate the interconnection.

Alternatively, if the interconnection is part of the instant Petition, but the final electrical design is not complete, could a general description of the proposed interconnection project be provided at this time, and the specific details a) through d) be included later in PSEG's Development and Management Plan for the plant?

A-CSC-I-1:

The United Illuminating Company ("UI" or the "Company") does not plan at this time to submit a separate petition for the interconnection portion of the project as PSEG Power Connecticut LLC ("PSEG") will construct, own, maintain and operate the interconnection facilities up until the point of change of ownership. UI will construct, own and maintain the interconnection facilities between the point of change of ownership and the point of interconnection. The point of change of ownership and point of interconnection are within UI's Singer Substation ("Substation"). See Attachment A – PSEG-UI-Independent System Operator of New England Large Generator Interconnection Agreement Appendix A for detailed information. All of UI's minor modifications will take place within Substation property boundary. As PSEG is responsible for all interconnection activities beyond the Substation boundary, UI only provides a substantive answer to subpart (d) of Interrogatory CSC-I-1.

- a) A route map for the proposed underground interconnection cable:

UI will not determine and provide the most appropriate interconnection route.

b) The type and size of underground cable:

UI will not determine nor provide the most appropriate interconnection cable.

c) Electric and magnetic fields profiles for the cross-section of the proposed underground cable and general compliance or consistency with the Council's Best Management Practices:

UI has no knowledge of the electric and magnetic field profiles ("EMF") for the cross-section of the proposed underground cable or whether such plans comply with the Connecticut Siting Council's Best Management Practices. UI will work with PSEG to determine the potential change in EMF at the Substation property boundary.

d) Planned modifications at UI's substation to accommodate the interconnection:

Except for adding a communication cable, UI will not make any modifications outside of the Substation property boundary. Within the Substation, UI will install necessary equipment to interface with the new PSEG 345kV cable system (e.g. surge arrestors, metering equipment, etc.). In addition, UI will make minor upgrades to protection, control, and monitoring systems. For additional details, please see Attachment 1, PSEG-UI-Independent System Operator of New England Large Generator Interconnection Agreement Appendix A.

APPENDIX A TO LGIA

Interconnection Facilities, Network Upgrades and Distribution Upgrades

1. Interconnection Facilities:

- a. **Point of Interconnection and Point of Change of Ownership.** The Point of Interconnection shall be at the Interconnecting Transmission Owner's Singer 345 kV Substation in Bridgeport, Connecticut between switches 34C-42T-4 and 34C-41T-8. See Appendix A-1, which drawing is attached hereto and made part hereof.

The Point of Change of Ownership between the Interconnection Customer's 345 kV line and the Interconnecting Transmission Owner's Singer Substation equipment will be at the conductor tap point on the cable that connects the Interconnection Customer's 345 kV line to the Interconnecting Transmission Owner's 345 kV terminal. The tap point is located on the side top of the proposed cable terminations but before the isolating links. See Appendix A-1 and A-2, which drawing is attached hereto and made part hereof.

Note: The conduits between the Point of Change of Ownership and the end of the Interconnecting Transmission Owner's property near Henry Street can be used by the Interconnecting Customer but will remain property of the Interconnecting Transmission Owner. The Interconnecting Transmission Owner does not guarantee that the conduit will meet the requirements of the Interconnection Customer. It is recommended that the Interconnection Customer perform testing of these conduits prior to the installation of its transmission line facilities. In addition, three of the 8" conduits along with the 1-4" and 1-2" conduits within the duct system must not be blocked or in any way prevented from being used in the future.

If not located at the Point of Interconnection, the revenue metering installed by the Interconnecting Transmission Owner shall be located at the Interconnecting Transmission Owner's Singer Substation to measure and report the power flow from the generator plant site. If the revenue metering's accuracy level can not properly document the Large

Generating Facility's usage of station service when units are not generating electricity, the Interconnection Customer will install metering at the auxiliary power transformers.

- b. **Interconnection Customer's Interconnection Facilities (including metering equipment).** The Interconnection Customer shall construct a 345 kV collector bus with gas insulated substation (GIS) equipment housed in a building. The output from the Large Generating Facility will be directed by underground cable to the 345 kV GIS collector bus owned by the Interconnection Customer. Subsequently, a single radial, 345 kV, 3000MCM XLPE underground transmission cable will be constructed, owned, and operated by the Interconnection Customer. This underground transmission cable will run from the Large Generating Facility site to and in Henry Street, a public street in Bridgeport, Connecticut, to the Interconnecting Transmission Owner's Singer 345 kV Substation. The Interconnecting Transmission Owner hereby consents to the Interconnection Customer constructing, owning, and operating the single radial, 345 kV, 3000MCM XLPE underground transmission cable circuit in Henry Street. The Interconnection Customer's underground transmission cable will enter the Interconnecting Transmission Owner's facility and terminate at the GIS with a high voltage cable termination. The transmission cable connection can be isolated and grounded from both ends when needed.

The Interconnection Customer's 345 kV substation will use a radial arrangement with the main bus rated for 2000A, and will consist of three circuit breaker bays. Each breaker bay will have a manual disconnect switch for a visible safety isolation break from the substation main bus. The single line diagram (Appendix A-3) shows a circuit breaker installed to allow isolation of the substation from the grid, and two (2) circuit breakers to isolate the respective generator step-up transformers (GSUs). A three-phase GSU is required for each of the two generators comprising the Large Generating Facility to convert from the generators' output voltage to the grid 345 kV level. The transformers are sized to carry the full capacity rating of the Large Generating Facility. A circuit breaker and disconnect switch is provided for each turbine/generator to isolate from its respective GSU. The output of the gas turbine unit is at 25kV, while that of the steam turbine unit is at 18kV. Isolated-Phase buses rated at 25kV and 18kV are provided to connect the unit outputs to their respective GSUs. The combined output of the Large Generating Facility will be approximately 524MW. See Appendix A-3, A-4 and A-5.

Note 1: The City of Bridgeport Fire Department required 345 kV dry type terminations (or compatible low fluid reservoirs) to be installed at Singer Substation.

Note 2: For the Singer Substation, the Interconnecting Transmission Owner and another utility whose cable and cable system are also housed inside this substation, have experience with cable and cable equipment from Prysmian, Silec (General), and LS Cable. These companies and their equipment were selected after a thorough search effort.

c. **Interconnecting Transmission Owner's Interconnection Facilities (including metering equipment).** The Interconnecting Transmission Owner's Interconnection Facilities are located between the Point of Interconnection and the Point of Change of Ownership and include:

- i. (3) Cable sealing ends with enclosures
- ii. (3) 345 kV Surge Arresters
- iii. (3) 345 kV GIS CT Modules
- iv. (3) 345 kV Bus
- v. Miscellaneous control wiring and gas density system wiring
- vi. Miscellaneous steel support structures
- vii. Grounding and bonding connections
- viii. (3) Disconnect Switches
- ix. (3) Fast Acting Ground Switches
- x. Revenue metering

To build the above Interconnection Facilities, the Interconnecting Transmission Owner scope of work includes engineering, material, labor, construction, inspection, and testing as follows:

- Installation of one set of 345 kV GIS cable sealing end enclosures and related equipment (e.g., surge arrestors (SA), metering CT's, etc.) at the Interconnecting Transmission Owner's Singer Substation.
- Upgrade of existing line relays and breaker failure relays to latest firmware versions at the Interconnecting Transmission Owner's Singer Substation.

- Updating of relay settings for the new line and circuit breakers 34C-41T-2 and 34C-42T-2 and review of existing relay settings for other elements both within the Interconnecting Transmission Owner's Singer Substation and at remote terminals, as needed.
- Integration of gas zone monitoring for new GIS zones into existing gas monitoring in LCC's and the GDM system at the Interconnecting Transmission Owner's Singer Substation.
- Updates/edits of the SCADA related communication equipment interfaces and databases including those of the Human Machine Interface (HMI) and any displays.

The existing protective relaying on the line position includes two independent line current differential schemes. The Primary Scheme is a GE L90 relay. The Secondary Scheme is a SEL 311L relay. Both relays will need to be upgraded to the latest available firmware, which will require some hardware upgrades. Both relays will communicate with the compatible relays at Interconnecting Customer's substation over two independent, physically separated fiber optic cables to be provided by Interconnection Customer.

The Breaker Failure protection on the 34C-41T-2 and 34C-42T-2 circuit breakers is a single GE C60 relay for each circuit breaker. These relays will also be upgraded to the latest firmware. The Breaker Failure relays will transmit Direct Transfer Trip to the Interconnection Customer's substation terminal over transfer trip channels integral to the GE L90 and SEL 311L relays. In addition to the firmware/hardware upgrades, new relay settings will be developed for all the above relays. The addition of the new generation will also necessitate a review and possible changes to the settings on other relays at Singer Substation and adjacent substations.

2. Network Upgrades:

- a. **Stand Alone Network Upgrades.** None.
- b. **Other Network Upgrades.** None.

3. Distribution Upgrades. None.

4. **Affected System Upgrades.** None.

5. **Contingency Upgrades List:**

- a. **Long Lead Facility-Related Upgrades.** The Interconnection Customer's Large Generating Facility is associated with a Long Lead Facility, in accordance with Section 3.2.3 of the LGIP. Pursuant to Section 4.1 of the LGIP, the Interconnection Customer shall be responsible for the following upgrades in the event that the Long Lead Facility achieves Commercial Operation and obtains a Capacity Supply Obligation in accordance with Section III.13.1 of the Tariff:

Not applicable.

If the Interconnection Customer fails to cause these upgrades to be in-service prior to the commencement of the Long Lead Facility's Capacity Commitment Period, the Interconnection Customer shall be deemed to be in Breach of this LGIA in accordance with Article 17.1, and the System Operator will initiate all necessary steps to terminate this LGIA, in accordance with Article 2.3.

- b. **Other Contingency Upgrades.** None.

6. **Post-Forward Capacity Auction Re-study Upgrade Obligations.** To be determined.