August 27, 2015

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

Re: Docket No. 461 - CSC 461 Greenwich Substation and Line Project

Dear Mr. Stein:

This letter provides the response to requests for the information listed below.

Response to OCC-01 Interrogatories dated 08/18/2015
OCC-003, 004, 009, 012, 013, 014, 015, 016

Very truly yours,

John Morissette
Manager
Siting and Permitting
As Agent for CL&P
dba EversourceEnergy

cc: Service List

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Reference Application, pp. ES-4 and ES-11. Provide construction cost breakdowns and distances for the following portions of the proposed
Preferred Route: each of the two portions underneath the Metro-North Railroad and I-95; and the crossing beneath Bruce Park and its waterbodies. Also provide the cost of the proposed facade of the substation.

**Response:**
The Preferred Route estimated construction cost breakdowns and distances are included below:

The estimated cost of the pipe jacking underneath the Metro-North Railroad (MNRR) near Cos Cob Substation is approximately $2 million for a length of 100 feet. The estimated cost of the horizontal directional drill (HDD) under MNRR and I-95 is approximately $9.7 million for a length of 1,730 feet and the estimated cost of the HDD beneath Bruce Park and its water bodies is approximately $9.3 million for a length of 1,670 feet.

The estimated cost difference between the proposed facade in the CSC Application and Eversource's original concrete panel design is approximately $340,000.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Provide a detailed breakdown by FERC account of the estimated annual cost of the Project, including but not limited to, operations, maintenance, taxes, depreciation, amortization, and cost of capital.

**Response:**

The estimated annual transmission cost of the Project is calculated using a Carrying Charge Factor ("CCF") consistent with Attachment F Implementation Rule, Appendix C and Attachment NU-H of the ISO-NE Transmission, Markets and Services Tariff ("ISO-NE Tariff"). This estimated annual cost is not calculated at a FERC Account level. The estimated CCF based on 2014 actual data is approximately 15%. Applying this CCF to the total estimated transmission costs of $119 million equates to approximately $18 million in annual transmission revenue requirements.

The estimated annual distribution cost of the Project is calculated using a Revenue Requirement Factor ("RRF") of approximately 17%. This estimated annual cost is not calculated at a FERC Account level. The estimated RRF is based on the allowed rate of return, including taxes, plus composite rates for depreciation and property tax. Applying this RRF to the total estimated distribution costs of $21 million equates to approximately $3.6 million in annual distribution revenue requirements.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Provide a detailed analysis on moving a portion of the Cos Cob 27.6 kV load to another substation. Individually analyze moves to the Waterside, the Southend and the Glenbrook substations. Include an analysis of the impact of each move on Cos Cob load capacity relief.

**Response:**
The Company does not believe moving any of the 27.6-kV load is a feasible alternative for the Greenwich Substation and Line Project for the following reasons:

- There are no 27.6-kV transformers currently located at Waterside, South End or Glenbrook substations.
- The Company would need to build new 27.6-kV transformation at one these substation sites. Therefore, the Company would be required to build a new 115- to 27.6-kV bulk substation in close proximity or adjacent to one of these existing substations.
- Using Waterside Substation as an example since it is the closest substation to the Cos Cob substation location, analysis indicates that nine 27.6-kV feeders at 5.5 circuit miles each would need to be built. This would involve building three separated triple circuit pole lines and/or a combination of overhead and underground circuit configurations.
- In addition, the Company would need to build a second substation for 27.6- to 13.2-kV transformation at the Proposed or Alternate Substation Site.

In summary, this alternative would require two substations (one bulk substation at 115- to 27.6-kV at the Waterside Substation site and one distribution substation at 27.6- to 13.2-kV at the Proposed Greenwich Substation site or Alternate site) and nine distribution feeders at double the length for the closest substation source (as compared to the shorter length of the proposed transmission lines). It also would be substantially more costly, would not meet the Project need, would be difficult to construct, and would be a technically inferior design option.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Identify any customers in the Company's forecast, other than Metro-North Railroad, who will be taking transmission-level service out of the Cos Cob substation.

**Response:**
There are no customers currently forecasted to take transmission level service out of the Cos Cob Substation other than Metro-North Railroad.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
List the 25 largest end-use customers served out of the 27.6 kV Cos Cob substation load in 2014 and forecast for 2015 through 2019, along with their anticipated loads. Identify any customers who have agreed to a minimum load.

**Response:**
The Company objects to this question because it seeks information that is not relevant to, and is not likely to lead to the discovery of, admissible evidence concerning any issue in this proceeding. Names, consumption and billing information for particular end users is not within the scope of this proceeding under the Public Utility Environmental Standards Act nor is such information necessary or required for the Council's decision as to whether to issue a Certificate of Environmental Compatibility and Public Need.

There are no customers who have agreed to a minimum load.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Explain, both in narrative form and quantitatively, how the Stamford Reliability Project (Connecticut Siting Council Docket 435), built in the
Stamford-Greenwich Sub-area, improved service in Greenwich.

**Response:**
Prior to construction and energization of the Stamford Reliability Cable Project (SRCP) cable system, customer demand in the Stamford-Greenwich sub-area was served by five 115-kV transmission paths into the region; the 1130 line (Pequonnock-Compo), the 1977 line (Darien-Glenbrook-South End), the 1450 line (Glenbrook-South End), the 1750 line (Cos Cob – South End) and the 1440 line (Glenbrook-Waterside). Without the SRCP cable, several single (N-1) and double (N-1-1) contingencies in the Stamford area would result in reliability criteria violations. These contingencies would result in loss of multiple transmission paths that serve the Stamford-Greenwich sub-area causing thermal and voltage violations. The thermal and voltage violations would have required disconnection of customers in the sub-area, including all of Greenwich, to eliminate thermal and voltage violations if the violations had not been addressed by the SRCP cable. The potential need to disconnect customers in these contingencies has been eliminated because the SRCP cable adds an additional transmission path into the sub-area.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
How many bulk substations are there in the entire CL&P system? How many have three or more transformers serving 27.6 kV load?

**Response:**
The Company's system has 101 bulk substations, sixteen of which serve 27.6-kV load. Two of the substations serving 27.6-kV load (Cos Cob and Norwalk substations) each have three transformers that serve 27.6-kV load. The Company does not have any substation with four or more transformers serving 27.6-kV load.

**Witness:** **Witness Panel**
**Request from:** **Office of Consumer Counsel**

**Question:**
Provide a revised Application Figure E-3 that includes distances for each substation to the western Greenwich area, and distances between substations.

**Response:**
The table below shows the approximate distances from each substation to the center of the western Greenwich load center, the Prospect Substation site. The listed distances represent a direct geographical straight line between the applicable locations. These distances do not reflect the total circuit miles needed to supply this area and distances between substations.

| Substations | | |
|---|---|---|
| From | to | Miles |
| Byram | Prospect | 1.19 |
| Cos Cob | | 1.84 |
| Mianus | | 2.71 |
| Tomac | | 3.74 |
| Waterside | | 4.22 |
| North Greenwich | | 5.12 |
| South End | | 5.31 |
| Glenbrook | | 6.52 |
| Cedar Heights | | 7.15 |