September 30, 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-02 Interrogatories dated 09/21/2015
OCC-025-RV01

Response to PANTRY-01 Interrogatories dated 09/22/2015
PANTRY-025-RV01, 031, 032, 038, 044, 047, 050, 054, 055, 058, 060, 062, 063

Very truly yours,

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

cc: Service List

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
How much will this Project cost to the ratepayers?

Response:
See Eversource's response to Q-PANTRY-044.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
What are the alternatives to another substation? Could not Eversource supply low-cost loans for people to use solar power or more modern self contained generation systems? Is it possible to use windmill power?

Response:
See Section F.3 of the Application for details on non-transmission alternatives (including solar generation). Eversource has recently completed its first interconnection of two wind turbines, which are located in Colebrook, Connecticut. There are presently no new applications for wind power in Greenwich. The Connecticut Green Bank has programs that residents can participate in to access renewable energy.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
What will the actual cost be- not estimated cost at $140 million? Could the actual costs be much greater than the estimates and under what conditions would the costs increase? Who is going to pay for that?

Response:
The actual Project cost cannot be determined until the Project is approved and constructed. Based on its experience, in particular the recent Stamford Reliability Cable Project, Eversource expects the actual costs to be close to $140 million. The estimate is based on the ISO-NE PP4 definition of a conceptual estimate, the level of accuracy is defined as +50% to -25%.

See Eversource's response to Q-PANTRY-033 for more information regarding past Eversource projects.

Information concerning allocation and recovery of Project costs is also provided in Eversource's responses to CSC Set 1 Q-CSC-011 and Q-OCC-005.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
What information was determined in evaluating other potential or alterate substation sites? Were any of the studies conducted by sources other than Eversource? Who conducted them and when were they conducted?

Response:
See Section H.1 and H.2 of the Application.

Eversource conducted all evaluations. Eversource used a multi-disciplinary team to complete site evaluations. Site evaluations began in 2012.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
What is the anticipated rate increase as the result of the installation and what is their anticipated additional use to counteract the proposed rate increase?

Response:
The estimated retail rate impact to CL&P customers as a result of the Greenwich Substation and Line Project based on 2015 projected CL&P sales is as follows:

Transmission Retail Rate Impact: $0.000458/kWh
Distribution Retail Rate Impact: $0.000160/kWh

The proposed Project will significantly increase system reliability (the ability of the power system to supply electrical demand and energy requirements of customers at all times and the ability of the power system to withstand sudden disturbances or loss of system elements) and provide additional capacity to serve the growing needs of Town of Greenwich.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
It was mentioned about lightning strikes that hit the Cos Cob Substation 2 days in a row.
a. What is the likelihood of that?
b. When was the last time there's been a lightning strike?
c. In over a period of 10-years how many lightning strikes were there?
d. How many have been at the current substation on Railroad St. Site?

Response:
We do not collect data for lightning strikes in substations, but in general they are rare. There are two aspects to protecting substations from lightning strikes: Substation equipment is designed to withstand lightning surges, and the substation is designed to protect equipment and structures from lightning strikes. These design features do not prevent lightning strikes from occurring, but they reduce the possibility of equipment damage in the event of a lightning strike.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
Eversource says there's a need to do it to handle the increased demand in Greenwich. Where is the increased demand coming from? What's the size of Greenwich now?- What was it 10 years ago?- 5 years ago?

Response:
Greenwich continues to experience economic growth and, as a result, load has increased faster than in other areas in Connecticut. Increased demand is mostly related to the customers' demand for energy rather than just the customer population in the service area. An example of this increased demand is the 94 new service and service upgrade requests presently in the design phase in the Town of Greenwich which will impact future peak loads as early as next summer. Regardless of population, Greenwich is the third highest consumer of electricity out of all the Connecticut cities and towns served by Eversource.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
Eversource claims both Cos Cob and Greenwich with the new substation would have a total of 269 NV A creating a major of 133 .2 which would be sufficient for reliable service for 30 years". Why would margin be so high?

Response:
Long term planning necessitates designing substations and substation components with a very long end of life expectancy with sufficient margin for long term load growth. Therefore, the Greenwich Substation would be designed for three transformers, with an overall rating of 134 MVA, which will provide a margin of about 64 MVA to allow for load growth beyond 2018. In addition, after the construction of the Greenwich Substation, the load on Cos Cob Substation would be reduced. Since load at Cos Cob Substation would be reduced and transformers will not be removed, there will be additional margin realized at Cos Cob Substation. The additional margin at Cos Cob Substation combined with the reduced load on the existing Cos Cob to Prospect distribution feeders would enhance the system's ability to withstand contingency events, thereby improving system reliability.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
On Page 5 of Eversource's letter of March 19th there is projected Greenwich customer demand in 2017 under certain contingency events. Once again, isn't this all based on what might happen, not what is in fact happening?

Response:
The projected Greenwich customer demand in 2017 is based on a forecast of future conditions. Because years are required for the design, engineering, siting and construction of major improvements once they are recognized to be needed, reliability studies are conducted by modeling expected future system conditions under applicable evaluating criteria.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
Eversource further states it's a more reliable and efficient electric delivery system for Greenwich by providing additional capacity to serve customers near the center greatest customer demand. What benefit do they get and how does this increase their earning capacity and by how much?

Response:
Building the Greenwich Substation near the load center will establish a new independent power supply source, will increase capacity in the area and improve reliability of the distribution system by reducing its dependence on the 27.6 kV distribution system. The benefit that customers will receive is improved reliability and a substation infrastructure than can support economic growth for decades to come.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
Their lease, namely that of CL&P, has an option, it's a purchase option to buy the property after Feb 28, 2021 provided notices go to landlords not less than 6 months prior. How can anyone be certain as of today that they will purchase the property and have the continued right to utilize it? CL&P has not guaranteed the siting council or anyone else that they will in fact take title to the property. We know that they have to purchase or else hundreds of millions of dollars will be wasted but if that's the case why aren't they doing it now?

Response:
Eversource intends to exercise its option to purchase the property at 290 Railroad Avenue no later than March 1, 2021 at the expiration of its long-term lease of the property, in accordance with the purchase option set forth in the lease. Eversource's purchase option provides a specific mechanism for purchasing the property at that time by notifying the property owners. Eversource and the property owners may reach an agreement for Eversource to purchase the property earlier than March 1, 2021; however, if an agreement is not reached for Eversource to purchase the property prior to that time, Eversource can construct, operate and own the proposed substation at 290 Railroad Avenue pursuant to its long-term lease until it purchases the property in early 2021 in accordance with the purchase option.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
What is the rate increase going to be, what if it costs $140 M , $150 M, $200, $250M? Is this project going to be financed? How is it going to be paid for?

Response:
Please refer to Eversource's response to Q-PANTRY-044 for the estimated retail rate impact to Eversource customers as a result of the Greenwich Substation and Line Project using the $140 million estimated project cost. Eversource anticipates that the actual cost of the Project will be close to $140 million; consequently, it has not calculated any potential rate increases for other hypothetical cost amounts. For any other cost amounts, the rate impact would be similar in proportion to the figures provided in Eversource's response to Q-PANTRY-044.

The Project would be initially financed with funds from a combination of short-term debt and cash from operations. Short-term debt would eventually be refunded with long-term debt and equity contribution from Eversource parent.

See Eversouce's response to CSC Set 1 Q-CSC-011 for the allocation of the $140 million cost.

Witness: **Witness Panel**
Request from: **Pet Pantry Super Discount Stores**

Question:
There is letter of April l from Eversource to Planning & Zoning says that the new substation would assume the work of the Byram, (We assume that means Cos Cob, and Prospect substations. But then Eversource goes on to say that Prospect would remain a critical distribution switching station and Byram will be utilized for voltage regulation. Explain the usage of Prospect in Byram in accordance
with that letter.

Response:
The "work" of a substation is to provide an interface between systems by transforming voltage from one voltage level to another voltage level. In this case, both Byram Substation and Prospect Substation currently transform voltage from 27.6 kV to 13.2 kV and serve as sources for the 13.2-kV distribution circuits. In addition, Prospect Substation also functions as a "hub" for the 27.6-kV circuits that supply the secondary network as well as customers that are supplied directly from the 27.6-kV system. After its construction, the new Greenwich Substation would serve as the new source for all 13.2-kV distribution circuits that are currently supplied by Byram Substation and Prospect Substation. After the 13.2-kV circuits have been connected with the Greenwich Substation, the 27.6 to 13.2-kV transformers and the 13.2-kV switchgear in both Byram Substation and Prospect Substation could be removed. The Byram Substation site would be used for voltage regulating equipment to ensure that proper voltage is maintained on the distribution circuits. Prospect Substation would retain the existing 27.6-kV switching equipment for the associated 27.6-kV circuits.