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ORIGINAL

Mr. S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

CONNECTICUT
SITING COUNCIL

Re: Docket No. CSC 398 - Sherwood Substation - The Connecticut Light and Power Company
Application for a Certificate of Environmental Compatibility and Public Need for the construction,
maintenance, and operation of a proposed substation located in Westport, CT

Dear Mr. Phelps:

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

Response to HD-01 Late Filed Exhibits dated 03/31/2010

LF-001

Very truly yours,

John Morissette / dd

John Morissette
Manager
Transmission Siting and Permitting
NUSCO
As Agent for CL&P

cc: Service List

Witness: Kris Aberg, Raymond L. Gagnon
Request from: Connecticut Siting Council

Question:

Please provide:

- a. An explanation of the differences in load growth projections between the growth rate of 2% for Sherwood Substation, the growth rate of 3-4% for previous substations and the growth rate of 1.4% in the Company's 2010 Forecast of Loads and Resources; and
- b. the number of electric meters in Westport.

Response:

a. Differences in Load Growth Projections

As set forth more fully in Section G of the Application (Vol. I), the need for the proposed Sherwood Substation is driven by not only future projected load growth but also the ability to supply current load (including the elimination of the use of temporary measures).

Future Projected Load Growth in Westport

For the Sherwood Substation, growth was estimated at 2% per year. For planning purposes, 2% was selected based on a conservative estimate when compared to the load projections produced by the CL&P Load Estimating Analysis and Projections ("LEAP") and local knowledge of the area Circuit Owner/Engineer. LEAP uses growth rates of 1% to 2% as a base assumption. Lower growth rates are used for areas/substations where construction is minimal; higher growth rates are used where known construction/planned construction is in progress and proposed. Growth rates are used in addition to known/planned spot loads, based on site specific conditions.

For example, if a commercial building or housing/condo development is planned to be in service in a particular year, the associated estimated spot load is put into LEAP for that year. LEAP adds the "spot" load to the projected load for a total load projection for that year. Note that the 1% to 2% presumed growth rate is used to capture upgrades and single additions.

In Westport, the majority of residential growth is from existing homes either being demolished and replaced with much larger homes or having large additions constructed onto existing structures. For these residences, typical electrical service upgrades result in 400 Amps to 800 Amps of additional electrical service capacity. Therefore, CL&P used the higher end of the base assumption of LEAP at 2%.

Existing Load in Westport

CL&P also carefully analyzes its ability to meet existing load when planning system improvements such as a new substation. To serve existing load in the Greens Farms area, CL&P has three temporary measures in place now that provide needed capacity for customers including: (1) a 9.375-MVA, 27.6- to 13.8-kV power transformer installed at Greens Farms Substation; (2) a 17.9-MVA, 115- to 13.8-kV power transformer at Sasco Creek Substation installed to off-load Greens Farms Substation, with the permission of Metro-North/ConnDOT, on a temporary basis only; and (3) a temporary 20-MVA, 27.6- to 13.8-kV power transformer installed at Weston Substation to provide back-up to Greens Farms Substation. The total capacity provided by these temporary measures to the Greens Farms area is about 30 MVA and replacing this temporary capacity with permanent capacity represents a more immediate need for the Sherwood Substation, apart from the projected future load growth.

After factoring in a conservative 2% future projected load growth and its need to create permanent capacity solutions (especially with the long-term unavailability of Sasco Creek Substation), CL&P

concluded that a new bulk substation was essential in the Greens Farms area.

Recent Substation Load Growth Determinations

For recent substations, the load growth rate used was different from the 1% to 2% LEAP base assumption due to known specific circumstances in the relevant geographic areas, as follows:

1. Docket #364, Waterford Substation:

CL&P used a load growth estimate of 3% per year. At that time, Waterford was served by two existing substations, Flanders and Williams Street, which experienced actual total load growth of 5.4% between 2004-5 and 5.19% between 2005-6. The over 5% load growth reflected uncharacteristically hot summers as well as an atypical boom in commercial construction throughout Waterford. Therefore, the Circuit Owner/Engineer examined the load growth in other substations in the shoreline area from Branford to Mystic to determine a reasonable geographic area percentage of growth and found such growth rate to be approximately 3%. That 3% was used to estimate the future load of the Waterford Substation in lieu of relying on the CL&P LEAP base growth rates of 1% to 2%.

2. Docket #352, Rood Avenue Substation:

Similarly, CL&P used a 4% growth rate per year in projecting the future loads for the Rood Avenue Substation. At that time, the Bloomfield/Windsor area was served by two existing substations, Bloomfield and North Bloomfield. The load on the Bloomfield Substation nearly reached its permissible load rating of 120 MVA in 2006 and North Bloomfield Substation was also close to its permissible load rating. Moreover, the Rood Avenue area was experiencing higher than average local growth rates because of substantial regional projects and developments in the vicinity of Bradley International Airport and Route 20 and I-91 (particularly along Rainbow Road and International Drive in Windsor/East Granby). Once again, the CL&P LEAP growth rates of 1% and 2% were insufficient, and therefore, the Circuit Owner/Engineer while considering the known load additions in the area applied the higher rate of 4%.

FLR Load Growth Determination

The methodology used to determine CL&P's forecast of loads and resources ("FLR") growth rate is substantially different from the approach used to calculate load growth for area substations. Most recently, CL&P estimated the FLR annual compound growth rate to be 1.4% from 2009 to 2019. The differences between the FLR growth rate methodology and the load growth calculations for area substations include the following. First, the FLR is based on a weather normalized compound load growth rate over ten years, whereas the need for area substations is based on local load growth estimates combined with planning that considers five-year horizons for the region. Second, area substations are examined in the context of their geographic locations and conditions; the FLR looks at CL&P's entire service territory. Third, the FLR growth rate is based on econometric models by class which factor in weather, economic conditions, price-induced conservation, changes in building shell and end-use efficiencies, changes in appliance saturations, Company-sponsored conservation, and losses resulting from distributed generation and the ISO-NE Load Response program. Finally, the FLR forecast is designed to be a 50/50 forecast, which means it has an equal probability of being too high or too low. Therefore, use of the FLR growth rate would not provide a reliable measurement to gauge the need for a substation in a particular area.

b. Number of Meters

In some cases when determining future load growth rate, CL&P looks at other local indicators of load growth such as the number of meters over a period of time. For the Town of Westport, the number of meters from 2005 to 2009 is as follows:

The Number of CL&P Meters in Westport, Connecticut

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Residential	10425	10442	10399	10402	10369
Commercial	1530	1529	1578	1594	1636
Federal 6	5	5	5	3	
Municipal	100	102	101	100	119
Other	39	44	43	34	
Total	12100	12122	12126	12135	12127

Due to the unique situation in Westport where small houses are routinely torn down to create an available lot on which the property owner constructs a much larger home (with substantially increased electric usage), the growth in the number of meters does not provide a meaningful basis to gauge future projected load because teardowns/replacements do not result in additional meters.