

July 14, 2015

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

Re: Docket No. F-2014/2015 - Connecticut Siting Council Review of the Ten-Year Forecast of Connecticut Electric Loads and Resources

Dear Mr. Stein:

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

Response to CSC-01 Interrogatories dated 07/02/2015
CSC-001, 002, 003, 004, 005, 006, 007

Very truly yours,

Christopher R. Bernard
Manager
Regulatory Policy & Strategy, CT
As Agent for CL&P
dba EversourceEnergy

cc: Service List

Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

Provide the actual and weather-normalized annual peak historical loads for The Connecticut Light and Power Company (CL&P) d/b/a Eversource Energy's (Eversource) service area for 2005 through 2014.

Response:

The table below shows the actual and weather-normalized annual historical peaks, in MW, for CL&P d/b/a Eversource Energy for 2005 - 2014.

Year	Actual (MW)	Normal (MW)
2005	5,402	5,277
2006	5,512	5,084
2007	5,209	5,209
2008	5,289	5,184
2009	4,873	4,935
2010	5,345	4,994
2011	5,516	5,279
2012	5,280	5,039
2013	5,448	5,202
2014	4,772	5,002

Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

As a comparison, provide the predicted weather-normalized (i.e. 50/50) loads for 2005 through 2014 from the 2005 Eversource (f/k/a CL&P) forecast report.

Response:

The table below shows the forecasted weather-normalized (i.e., 50/50) annual peaks, in MW, for CL&P d/b/a Eversource Energy for 2005-2014 as shown in CL&P's d/b/a Eversource Energy "2005 Forecast of Loads and Resources for 2005 - 2014".

Year	Peak Normalized (MW)
2005	5,116
2006	5,181
2007	5,274
2008	5,338
2009	5,412
2010	5,494
2011	5,590
2012	5,709
2013	5,822
2014	5,933

Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

Explain the methodology of how historical actual peak load data is converted to weather-normalized historical peak load data.

Response:

Historical actual peak load data is converted to weather-normalized peaks by multiplying weather factors (developed from an historical analysis of MW load per degree day), times the difference between actual and normal temperatures, and adding or subtracting this product to or from the historic peak to yield the estimated normalized peak load.

Temperature differences from normal are calculated for three weather variables: mean daily temperature for the peak day, mean daily temperature for the day before the peak day and a THI (Temperature Humidity Index).

An example of the calculation for 2006 is below:

Actual Peak	5,512 MW	Weather Variables	Weather Factor
		Temperature (Normal - Actual)	MW/Degree * Factor
Peak Day	-190 MW	=(83-88)	* 38
Day Before	-124 MW	=(81-87)	* 20.6
THI	-114 MW	=(83-86)	* 37.9
Normalized	5,084 MW		

Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

On page 8 of the 2015 Eversource Forecast, Eversource notes that, "This forecast includes explicit additions to the electrical energy output requirements due to electric vehicles." Provide any assumptions made regarding electrical energy consumption by electric vehicles (EV). Include the numbers and types of EVs assumed, projected number of vehicles in use, power and energy consumption per vehicle associated with charging, etc.

Response:

The table below shows the forecasted number of new incremental electric vehicles, forecasted annual energy consumption, and the average use per electric vehicle for all plug-in electric vehicles (PEV).

	Incremental Plug-in Electric Vehicles (PEV)	Incremental PEV Load Additions	Average Load Per Vehicle
Year	# of Vehicles	MWH	MWH
2015	2,128	6,518	3.1
2016	2,898	9,445	3.3
2017	3,751	12,177	3.2
2018	4,731	15,159	3.2
2019	5,981	18,590	3.1
2020	7,530	23,215	3.1
2021	9,369	27,955	3.0
2022	11,308	32,515	2.9
2023	13,169	36,094	2.7
2024	14,842	40,509	2.7

CL&P dba Eversource Energy
Docket No. F-2014/2015

Data Request CSC-01
Dated: 07/02/2015
Q-CSC-005
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Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

Is it correct to say that there are no gigawatt-hours (GWh) reported from the ISO-NE's Load Response Program (ISOLRP) because the limited number of hours that the ISOLRP is in use results in a negligible energy savings?

Response:

Yes. In the forecast, CL&P d/b/a Eversource Energy assumed that Commercial and Industrial customers who are in the ISOLRP will only be called to curtail load a few times each year so the impact on energy output is minimal.

CL&P dba Eversource Energy
Docket No. F-2014/2015

Data Request CSC-01
Dated: 07/02/2015
Q-CSC-006
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Witness: Daniel J. Ludwig
Request from: Connecticut Siting Council

Question:

Provide any underlying assumptions associated with distributed generation (DG) implicitly included in Table 2-2 of the 2015 Eversource Forecast.

Response:

The distributed generation (DG) included in Table 2-2 is a result of the LREC/ZREC program that stemmed from Public Act 05-01 which created the Connecticut Clean Energy Fund ("CCEF") for DG. In 2011, Public Act 11-80 reorganized CCEF into the Clean Energy Finance and Investment Authority ("CEFIA") and created the LREC/ZREC program administered by United Illuminating and Eversource Energy. The DG adjustments included in Table 2-2 were developed by the company's renewable power contracts group, which administers the LREC/ZREC program for the company. The adjustments are based on actual applications received, and the expected future applications as estimated according to available funding levels.

Witness: John J. Giulietti
Request from: Connecticut Siting Council

Question:

For Tables 4-1 (Transmission Projects) and 4-2 (Substation Projects):

- a) Define the terms "under construction," "concept," "planned," and "proposed."
- b) Discuss the anticipated work flow before the Council as many of these projects have in-service dates of 2017.

Response:

a.) The definition of the terms used for the Transmission Projects in the Forecast of Loads and Resources tables 4-1 and 4-2 follows the ISO-NE Transmission, Markets and Services Tariff Section II using the Attachment K, Regional; System Planning Process. The ISO-NE Tariff defines the following terms as:

Concept - Shall include a transmission project that is being considered by its proponent as a potential solution to meet a need identified by ISO-NE in a Needs Assessment or the Regional System Plan, but for which there is little or no analysis available to support the transmission project.

Proposed - The project will include a regulated transmission solution that has been proposed in response to a specific Needs Assessment on the Regional System Plan and has been evaluated or further defined and developed in a Solution Study and communicated to the ISO-NE Planning Advisory Committee.

Planned - The project will include a Transmission upgrade that has been approved by ISO-NE pursuant to Section I.3.9 of the ISO-NE Tariff.

Under Construction - The project has received necessary approvals and a significant level of engineering or construction is underway.

b.) The work flow for tables 4-1 and 4-2 is mostly comprised of projects identified by ISO-NE for the Greater Hartford Central Connecticut (GHCC) and Southwestern Connecticut (SWCT) area studies. All of the projects were approved by ISO-NE in March of 2015 with a desired in service date of December 2017 or earlier. While our goal is to complete all of these projects as early as possible, given the need dates are prior to 2017, our first objective is to gather the information the Council needs to review the projects. To date, Eversource has submitted some of these projects to the Council for their early review and plans to submit the remaining projects to the Council throughout 2015 and 2016.

