**Northeast Utilities**

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May 20, 2011

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

**RECEIVED**

**MAY 2 0 2011**

**CONNECTICUT SITING COUNCIL**

**ORIGINAL**

Re: Docket No. F-11 - Connecticut Siting Council Review of 2011 Forecasts of Electric Loads and Resources

Dear Ms. Roberts:

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

Response to CSC-01 Interrogatories dated 05/02/2011
CSC-001, 002, 003, 004, 005, 006

Very truly yours,

Christopher R. Bernard
Manager
Regulatory Policy - Transmission
NUSCO
As Agent for CL&P

cc: Service List

OS3422 REV. 6-10

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-001
Page 1 of 1

Witness:          Robin E. Lewis
Request from:     Connecticut Siting Council

Question:
CL&P's 2010 Forecast Report projected an annual electric energy usage increase of 0.2 percent and an annual peak load increase of 1.4 percent. CL&P's 2011 Forecast Report (CL&P Forecast) reports 0.9 percent and 2.0 percent as the updated numbers, respectively. Explain the increase.

Response:
There are 4 major drivers behind the increase in usage between the 2010 and 2011 forecasts. First, the price of electricity for all classes is lower in the 2011 forecast versus the price used in the 2010 forecast. A lower price of electricity leads to higher use per customer and higher forecasted sales. Second, the economic drivers for the residential and industrial classes are more optimistic for the 2011 forecast than the drivers used in the 2010 forecast. Third, forecasts for Distributed Generation (DG) usage, which would lead to a reduction to sales, is forecasted to be lower in the 2011 forecast, resulting in higher forecasted sales in 2011. Finally, forecasts for savings associated with Conservation and Load Management (C&LM) activities, which lead to a reduction to sales, are also forecasted to be lower in the 2011 forecast. All of the reasons listed above result in higher sales and peaks.

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-002
Page 1 of 1

Witness:          Robin E. Lewis, David J. Bebrin
Request from:     Connecticut Siting Council

Question:
On page 11 of the CL&P Forecast, there are no gigawatt-hours (GWh) reported from ISO-NE's Load
Response Program (ISOLRP). Is this because the limited number of hours that the ISOLRP is in use
results in a negligible energy savings in GWh? Explain.

Response:
Yes. In the forecast, CL&P assumed that 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.

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-003
Page 1 of 2

Witness:          Robin E. Lewis
Request from:     Connecticut Siting Council

Question:
On page 11 of the CL&P Forecast, the Net Electrical Energy Output Requirements are listed. Are these based on the 50/50 forecast scenario? If yes, provide a similar table based on the Extreme Hot Weather Scenario.

Response:
Yes, the Net Electrical Energy Output Requirements ("Energy") are based on the 50/50 forecast. The Extreme Hot Weather Scenario is based on the single hottest peak day that has occurred during the more than 50 years that CL&P has been collecting weather data. CL&P does not currently have an Extreme Hot Weather Scenario for Energy. To construct one, a definition of extreme hot weather, as it pertains to Energy, would have to be determined. There are at least three ways that this could be defined:

1) Choose the hottest day from historical data for each individual day in the summer.
2) Choose the hottest month from historical data for each individual month in the summer.
3) Choose the hottest summer season from historical data.

There would be several variations on the above, depending on how the winter and shoulder months are treated and what dates to consider as part of the cooling season. While Option 1 would produce the highest energy forecast, it has an extremely low probability of occurrence, and would be the most difficult to compute. Thus, Option 1 has not been computed. Option 2 would be more likely to occur and would produce a lower energy forecast. Option 3 would be the most likely to occur and would produce the lowest energy forecast. Page 2 of 2 shows the results for options 2 and 3.

# Adjustments to Output based on Extreme Hot Weather Scenarios

## Option 3 - Extreme Hot Weather Scenario By Season

| Year | Unadjusted Output GWH | Distributed Generation GWH | Company Sponsored C&LM GWH | ISO-NE Load Response GWH | Adjusted Output GWH | Annual Change (%) |
|------|------|------|------|------|------|------|
| **HISTORY NORMALIZED FOR WEATHER** | | | | | | |
| 2010 | | | | | 23,484 | |
| **FORECAST** | | | | | | |
| 2011 | 24,519 | (450) | (88) | - | 23,981 | 2.1% |
| 2012 | 25,134 | (452) | (321) | - | 24,361 | 1.6% |
| 2013 | 25,706 | (451) | (484) | - | 24,771 | 1.7% |
| 2014 | 26,252 | (451) | (632) | - | 25,168 | 1.6% |
| 2015 | 26,684 | (451) | (776) | - | 25,457 | 1.1% |
| 2016 | 27,147 | (451) | (918) | - | 25,777 | 1.3% |
| 2017 | 27,438 | (451) | (1,058) | - | 25,930 | 0.6% |
| 2018 | 27,775 | (451) | (1,192) | - | 26,133 | 0.8% |
| 2019 | 28,091 | (451) | (1,325) | - | 26,316 | 0.7% |
| 2020 | 28,426 | (451) | (1,457) | - | 26,518 | 0.8% |

**Compound Rates of Growth (2010-2020)**

1.9%                                              1.2%

## Option 2 - Extreme Hot Weather Scenario By Month

| Year | Unadjusted Output GWH | Distributed Generation GWH | Company Sponsored C&LM GWH | ISO-NE Load Response GWH | Adjusted Output GWH | Annual Change (%) |
|------|------|------|------|------|------|------|
| **HISTORY NORMALIZED FOR WEATHER** | | | | | | |
| 2010 | | | | | 23,484 | |
| **FORECAST** | | | | | | |
| 2011 | 25,407 | (450) | (88) | - | 24,869 | 5.9% |
| 2012 | 26,069 | (452) | (321) | - | 25,295 | 1.7% |
| 2013 | 26,692 | (451) | (484) | - | 25,757 | 1.8% |
| 2014 | 27,287 | (451) | (632) | - | 26,203 | 1.7% |
| 2015 | 27,761 | (451) | (776) | - | 26,535 | 1.3% |
| 2016 | 28,268 | (451) | (918) | - | 26,899 | 1.4% |
| 2017 | 28,605 | (451) | (1,058) | - | 27,096 | 0.7% |
| 2018 | 28,986 | (451) | (1,192) | - | 27,343 | 0.9% |
| 2019 | 29,346 | (451) | (1,325) | - | 27,571 | 0.8% |
| 2020 | 29,725 | (451) | (1,457) | - | 27,817 | 0.9% |

**Compound Rates of Growth (2010-2020)**

2.4%                                              1.7%

1. Sales plus losses and company use.

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-004
Page 1 of 3

Witness:            Robin E. Lewis, David A. Ferrante
Request from:       Connecticut Siting Council

Question:
Provide the basic underlying assumptions associated with the distributed generation (DG) included in Table 2-2 of the CL&P Forecast, including but not limited to the DG projects approved, number of megawatts of each DG project, the number of units expected to go into service or the assumed probability that it will go into service, etc.


Response:
Distributed Generation ("DG") projects are developed in accordance with Public Act 05-01, *An Act Concerning Energy Independence* ("PA 05-01"). The forecast in Table 2-2 is comprised of 1) DG projects forecast at 100% of their MW capacity, and 2) DG projects forecast at less than 100% of their MW capacity, because their estimated in-service dates were further into the forecast period. There are 49 projects in the first group with an aggregate of 80.124 MWs, which are shown on page 2 of 3. There are 14 projects in the second group in varying degrees of development that account for an additional 8.530 MWs of DG capacity and are shown on page 3 of 3.

The Kimberly Clark DG unit has a capacity higher than the current peak demand of the Kimberly Clark facility. The peak load forecast presented in CL&P's FLR represents the peak load demand of its own customers. Thus, the DG forecast presented in Table 2-2 of the CL&P Forecast excludes the additional load that Kimberly Clark supplies to the grid over and above its own demand.

The DG that is presented in Table 2-2 reflects the projected load reduction at the time of the system peak, and thus, is lower than the sum of the non coincident probability weighted capacity of the projects shown on pages 2 and 3.

| Projects forecast at 100% in-service | |
|---|---|
| Project Name | MW |
| Avon Convalescent Home, Inc | 0.074 |
| Biopur Inc. | 0.225 |
| Bradley Home- Cogen | 0.074 |
| Branford High School | 0.240 |
| Cabela's Retail Inc. | 0.800 |
| Cellu-Tissue | 2.920 |
| City of Danbury - High School | 0.072 |
| City Of Middletown - New High School | 0.200 |
| Component Technologies, Inc | 0.295 |
| Connecticut Natural Gas | 0.072 |
| Ct Center For Science & Exploration | 0.200 |
| Duncaster Inc (1) | 0.148 |
| Duncaster Inc (2) | 0.148 |
| Duncaster Inc (3) Aquatic Center | 0.074 |
| East Hartford Public Schools | 0.240 |
| Elim Park Baptist Home Inc. | 0.074 |
| Executive Square (Winn Properties) | 0.074 |
| Flanagan Industries (1) | 0.640 |
| Flanagan Industries (2) | 0.157 |
| Frito Lay Inc | 3.772 |
| Greater Hartford Jewish Community Center | 0.150 |
| Greenwich Hospital | 0.280 |
| Hartford Steam Company | 3.510 |
| Hebrew Home & Hospital | 0.150 |
| Hughes Health and Rehabilitation | 0.075 |
| International Skating Center Of Conn LLC | 0.134 |
| Jerome Home | 0.074 |
| Kimberly Clark | 33.485 |
| King's Daughters & Sons Hsg (Kingsway Apts) | 0.075 |
| Mashantucket MPTN Foxwoods | 15.000 |
| Mashantucket Pequot Tribal Center | 0.074 |
| Northwestern Connecticut YMCA | 0.049 |
| Norwalk High School (City Of Norwalk) | 0.250 |
| Pepperidge Farm | 1.198 |
| Plainville Electric Products Co. (Pepco) | 0.375 |
| Pratt & Whitney (UTC) Middletown | 7.520 |
| Pratt & Whitney (UTC) East Hartford | 2.100 |
| Saint Mary Home | 0.075 |
| Sheffield Laboratories (1) | 0.250 |
| Sheffield Laboratories (2) | 0.325 |
| Smithfield Gardens (Sha Corp) | 0.074 |
| Southington Care Center | 0.074 |
| Southington-Cheshire Community YMCA | 0.074 |
| UTC Fuel Cells | 0.400 |
| Wesleyan University | 2.366 |
| West Hartford Health & Rehabilitation (Brookview Corp) | 0.074 |
| Westover School | 0.068 |
| Whole Foods Market | 0.200 |
| Windham Public Schools (High School) | 0.148 |
| Total MW's | 79.124 |

| Projects forecast at <100% | | | |
|---|---|---|---|
| Project Number | Estimated in-service | Probability | Estimated MW |
| 1 | Jun-10 | 99% | 0.396 |
| 2 | Sep-10 | 90% | 0.090 |
| 3 | Sep-10 | 90% | 0.068 |
| 4 | Nov-10 | 80% | 0.978 |
| 5 | Mar-09 | 80% | 0.936 |
| 6 | Sep-10 | 75% | 0.600 |
| 7 | Nov-10 | 50% | 2.059 |
| 8 | Nov-10 | 50% | 2.595 |
| 9 | Sep-10 | 50% | 0.038 |
| 10 | Nov-10 | 50% | 0.038 |
| 11 | Nov-10 | 50% | 0.030 |
| 12 | Nov-10 | 25% | 0.475 |
| 13 | Jul-08 | 25% | 0.098 |
| 14 | Dec-11 | 6% | 0.132 |
| Total Estimated MW's | | | 8.530 |

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-005
Page 1 of 1

Witness:          David J. Bebrin
Request from:    Connecticut Siting Council

Question:
In the context of the Conservation and Load Management Program (C&LM Program), explain the difference between passive and active resources.

Response:
Active resources are dispatchable resources (demand response and some distributed generation) that must respond during shortage events. For example, resources entered into the ISO Demand Response Program are active resources because they are called to perform only for specific shortage events.

Passive resources are non-dispatchable resources (energy efficiency, plus a small amount of distributed generation) that reduce load during pre-defined hours and periods. Most C&LM measures are passive because they reduce load across a pre-defined operating period. For example, energy efficient lighting will reduce load whenever lights are on throughout the year.

The Connecticut Light and Power Company
Docket No. F-11

Data Request CSC-01
Dated: 05/02/2011
Q-CSC-006
Page 1 of 1

Witness:           David J. Bebrin
Request from:      Connecticut Siting Council

Question:
Is CL&P's C&LM Program limited to passive resources?

Response:
No. CL&P's C&LM programs have both "passive" and "active" resources. C&LM's Energy Efficiency resources are defined as passive. CL&P's C&LM Demand Response Resources (Real Time Emergency Generation and Real Time Demand Response) are defined as active.