

June 5, 2009

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

Re: Docket No. 370 - CT Greater Springfield Reliability Project

Dear Mr. Phelps:

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

Response to OCC-02 Interrogatories dated 04/24/2009  
OCC-027, 039, 041, 042, 061

Very truly yours,

Robert Carberry  
Project Manager  
NEEWS Siting and Permitting  
NUSCO  
As Agent for CL&P

cc: Service List

**The Connecticut Light and Power Company**  
**Docket No. 370**

**Data Request OCC-02**  
**Dated: 04/24/2009**  
**Q-OCC-027**  
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**Witness: CL&P Panel**  
**Request from: Office of Consumer Counsel**

**Question:**

Please provide CL&P's best estimate of the effect of the Connecticut Valley Electric Transmission Reliability Projects (CVETRP), or GSRP/MMP, alone, without any other portions of the NEEWS system, on various measures of transmission capacity, including:

- a. Transmission Interface Limits, as ISO-NE uses that term with respect to sub-area transportation models for production cost and resource adequacy (as described in "Transmission Transfer Limits for Transportation Models (to be used for 2009 analyses)," Frank Mezzanotte, presentation to ISO-NE PAC Meeting, March 31, 2009).
- b. The Connecticut N-1 Contingency Transfer Limit as used in computing the LFRM reserve requirements.
- c. The Connecticut N-2 Contingency Transfer Limit as used in computing the LFRM reserve requirements.
- d. The Connecticut Power-Transfer Limit as used in "Southern New England Transmission Reliability Report 1 Needs Analysis," ISO-NE, January 2008.
- e. The Connecticut Import Limit as used in Table 1.10 of the 2009 Connecticut Integrated Resource Plan ("IRP").
- f. CT Local Sourcing Requirement as used in Table 1.9 of the 2009 Connecticut IRP.

**Response:**

- a.) A range of transfer limits for each of the New England interfaces is determined by the ISO-NE after conducting extensive studies which simulate various generation dispatches, load levels, and regional power flows within and between areas. CL&P understands that the ISO-NE has not performed the studies to determine the range of applicable transfer limits for each independent NEEWS project.

CL&P has performed preliminary analyses to estimate the effect of the Greater Springfield Reliability Project and the Manchester to Meekville Junction Circuit Separation Project (inclusive of the Connecticut Valley Electric Transmission Reliability Project portions of these projects) on the Connecticut Import interface transfer limit levels. Upon the completion of GSRP, CL&P's calculations support an increase of the transfer limits into Connecticut to between 2,700 MW and 2,800 MW versus the present limit range 1,500 to 2,500 MW. This range of increase is exclusive of the Interstate and Central Connecticut Reliability Projects. The final Connecticut Import interface transfer limit range will be determined by ISO-NE.

- b.) The range of N-1 Connecticut Import interface transfer limits that CL&P has estimated may be achievable are:

Year	Connecticut Transfer Level
2009	2,500
2010	2,500
2011	2,500
2012	2,500
2013	2,500
2014	2,700 – 2,800*
2015	2,700 – 2,800
2016	2,700 – 2,800
2017	2,700 – 2,800
2018	2,700 – 2,800
2019	2,700 – 2,800

\* Assumes a 2013 completion of GSRP.

- c.) The range of N-1-1 Connecticut Import interface transfer limits that CL&P has estimated may be achievable are:

Year	Connecticut Transfer Level
2009	1,200
2010	1,200
2011	1,200
2012	1,200
2013	1,200
2014	1,300 - 1,500*
2015	1,300 - 1,500
2016	1,300 - 1,500
2017	1,300 - 1,500
2018	1,300 - 1,500
2019	1,300 - 1,500

\* Assumes a 2013 completion of GSRP.

- d.) The ISO-NE Needs Analysis, Table 3.1 "Summary of 2009 Area Requirements", shows the Connecticut Normal and Emergency transfer capabilities remaining the same at 2,500 MW and 1,220 MW respectively. In the Table 3.2 "Summary of 2016 Area Requirements" the Connecticut Normal and Emergency transfer capabilities would change to 2,700 - 2,800 MW and 1,300 - 1,500 MW respectively.
- e.) First, note that the changes below to Table 1.10 from the 2009 IRP are reflective of only GSRP/MMP and do not reflect the additional benefit of constructing all the NEEWS projects.

The Connecticut Import interface transfer limit would be adjusted as described in (b) above by increasing the transfer limit range to 2700 - 2800 MW and would thus modify Table 1.10 for GSRP as follows:

Table 1.10 (revised for GSRP/MMP only)

Ref Case	CT TSA Shortfall (Surplus) from IRP filing (MW)	Lake Road removed from CT (MW)	Generation Resources Forced Outage Rate % (applies to Lake Road)	CT Import Limit drops from 3,600 to 2,700 – 2,800 MW (diff 800 to 900) (MW)	CT TSA Shortfall (Surplus) with only GSRP (MW)
	A	B	C	D	E = A + B*C + D
2014	(1,325)	760	5.30%	800 to 900	195 to 295
2015	(1,307)	760	5.30%	800 to 900	213 to 313
2016	(1,297)	760	5.30%	800 to 900	223 to 323
2017	(1,284)	760	5.30%	800 to 900	236 to 336
2018	(1,270)	760	5.30%	800 to 900	250 to 350
2019	(1,253)	760	5.30%	800 to 900	267 to 367

Note: Assumes a 2013 completion of GSRP.

- f.) As with subparagraph (e) the changes below to Table 1.9 from the 2009 IRP reflect only GSRP and do not reflect the additional benefit of constructing all the NEEWS projects.

The Connecticut Local Sourcing Requirement analysis shown in Table 1.9 would be modified for GSRP/MMP as follows:

Table 1.9 (revised for GSRP/MMP only)

Ref Case	CT LSR Shortfall (Surplus) from IRP filing (MW)	Lake Road Removed from CT (MW)	Remove impact on LSR of all of NEEWS (MW)	Change in LSR due to transfer limit increase with GSRP (i.e 2500 to 2700 & 2800 MW)	CT LSR Shortfall (Surplus) with GSRP (MW)
	A	B	C	D	E = A + B + C + B
2014	(2,319)	760	1,175	(200) to (300)	(584) to (684)
2015	(2,296)	760	1,175	(200) to (300)	(561) to (661)
2016	(2,250)	760	1,175	(200) to (300)	(515) to (615)
2017	(2,215)	760	1,175	(200) to (300)	(480) to (580)
2018	(2,165)	760	1,175	(200) to (300)	(430) to (530)
2019	(2,098)	760	1,175	(200) to (300)	(363) to (463)

Note: Assumes a 2013 completion of GSRP.

**The Connecticut Light and Power Company**  
**Docket No. 370**

**Data Request OCC-02**  
**Dated: 04/24/2009**  
**Q-OCC-039**  
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**Witness: CL&P Panel**  
**Request from: Office of Consumer Counsel**

**Question:**

With regard to the statement that "West Springfield unit #3 and Berkshire Power, have been frequently designated as daily second-contingency units. These generators, in addition to West Springfield unit #1 and #2, are also needed to support local reliability during peak hours and to avoid overloads, in violation of reliability criteria." (Application p. F-26):

- a. Please explain the "violation of reliability criteria," and explain which units result in violation of reliability criteria.
- b. Please specify the days on which Berkshire Power has been designated as a daily second-contingency unit over the last twelve months.
- c. Since Berkshire Power is a combined-cycle unit, please explain how, if at all, its designation as a daily second-contingency unit has resulted in extra costs.
- d. Please specify which ISO zones pay the costs of operating West Springfield unit #3 and Berkshire Power as daily second-contingency units.

**Response:**

- a. Applicable excerpts from NPCC Document A-2, Basic Criteria for Design and Operation Of Interconnected Power Systems:

"Design studies shall assume power flow conditions utilizing transfers, load and generation conditions which stress the system. Transfer capability studies shall be based on the load and generation conditions expected to exist for the period of study."

"Each Area shall design its system in accordance with these criteria and its own voltage control procedures and criteria, and coordinate these with adjacent Areas and control areas. Adequate reactive power resources and appropriate controls shall be installed in each Area to maintain voltages with normal limits for predisturbance conditions, and within applicable emergency limits for the system conditions that exist following the contingencies specified in 5.1. Line and equipment loadings shall be within normal limits for predisturbance conditions and within applicable emergency limits for the system conditions that exist following the contingencies specified in 5.1."

As indicated in the application, the dispatch of local generation in the greater Springfield area can result in power flows exceeding normal transmission circuit ratings under base case conditions and emergency ratings under contingency conditions. Depending on system load profiles, the combination of generators dispatched will result in power flow conditions that can stress a transmission circuit and result in thermal and voltage violations of reliability criteria. Exceeding transmission equipment ratings can result in equipment damage that could cause loss of customer load within the area and potentially cascade to neighboring electric systems. All units, depending on system dispatch conditions, in the greater Springfield area can cause unacceptable system operating conditions that result in violations of reliability criteria. In addition, units outside this local area that play a part in regional power transfer can also contribute significantly to power flow conditions and aggravate thermal overloads in the greater

Springfield area. There are many different combination of units that result in violations of these criteria. Section F of the application show three different dispatch scenarios that result in violations.

b. Berkshire Power was not designated a daily second contingency unit in calendar year 2008.

c. In 2008, there were no extra costs associated with Berkshire Power for daily second contingency coverage.

d. Pursuant to Schedule 19 of the ISO-NE Tariff costs recovery for Special Constraint Resources is defined in Section 1 and is described below:

"Service under this Schedule is to be provided through the ISO. The Transmission Owner or distribution company making a request or on whose behalf a Local Control Center makes a request to change the commitment of a generating Resource or the incremental loading on a previously committed generating Resource must purchase such service through the ISO. The Transmission Owner or distribution company shall be charged an amount equal to the NCPC Credit (as calculated pursuant to Market Rule 1) associated with the Real-Time operation of the Special Constraint Resource."

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**Data Request OCC-02**  
**Dated: 04/24/2009**  
**Q-OCC-041**  
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**Witness: CL&P Panel**  
**Request from: Office of Consumer Counsel**

**Question:**

With regard to the statement that "In Dispatch 1, the critical unit outage is Berkshire Power and the units at West Springfield Station.... All other major units are assumed on-line." (Application p. F-32)

- a. Please explain why Table F-3 also shows an outage at Mt. Tom in Dispatch 1. (Table F-3)
- b. Please provide any available data on the percentage of time in which Berkshire Power, West Springfield, and Mt. Tom were all off line, and the combustion turbines at Berkshire Power and West Springfield were unavailable.
  - i. Please provide the dates and times at which these conditions have occurred.
  - ii. Please provide the maximum MW load levels for the Springfield area and for Connecticut at which these conditions have occurred.

**Response:**

- a. The sentence in Section F.5.3 that states the following: "All other major units are assumed on-line." is not correct. The removal of Mt. Tom in Dispatch 1 is to stress the greater Springfield area transmission system by increasing power flows on the 115-kV transmission circuits from Ludlow Substation toward Agawam Substation.
- b. CL&P has determined that all generating units at the Berkshire Power, West Springfield and Mt. Tom Generating Stations were simultaneously off-line in less than one percent of the hours in 2008. The minimum and maximum load levels for the Springfield area were 319 and 654 MW respectively. The minimum and maximum load levels for Connecticut were 2,273 and 4,669 MW respectively. CL&P did not attempt to obtain the hours the generating units were off-line for years 2000 through 2007; therefore, CL&P does not know whether 2008 is truly representative of the percentage of time all three generating stations were not producing electric power in recent times, or an abnormality. CL&P does not have access to data that identifies the reason why a particular generating unit is off-line at a particular time and is therefore unable to provide data as to when the combustion turbines at Berkshire Power, West Springfield and Mt. Tom Generating Stations were "unavailable". This information qualifies as Confidential Information under the ISO-NE Information Policy, and may not be released without the written consent of the owner of each generating station to which the information pertains. CL&P has, through counsel, requested such permission with respect to 2008 data in its possession concerning when plants were off line, but has not received permission to release the data from all of the generating station owners.

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**Data Request OCC-02**  
**Dated: 04/24/2009**  
**Q-OCC-042**  
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**Witness: CL&P Panel**  
**Request from: Office of Consumer Counsel**

**Question:**

With regard to the statement that "In Dispatch 3, MASSPOWER is assumed to be off-line.... All other major units are assumed on-line." (Application p. F-32):

- a. Please explain why all five Stony Brook units are also assumed to be unavailable in this dispatch. (Table F-3)
- b. Please provide any available data on the percentage of time in which MassPower and all five Stony Brook units have been off-line, and the combustion turbines at both plants are unavailable.
  - i. Please provide the dates and times at which these conditions have occurred.
  - ii. Please provide the maximum MW load levels for the Springfield area and for Connecticut at which these conditions have occurred.

**Response:**

The sentence in Section F.5.3 that states the following: "All other major units are assumed on-line." is not correct and should be removed from the Application.

- a. The removal of MASSPOWER in Dispatch 3 is to stress the greater Springfield area transmission system by increasing power flows on the 115-kV transmission circuits between Ludlow Substation and Springfield area load centers west and southwest of Ludlow. Planning study models which stress the transmission system comply with national reliability standards, regional criteria and ISO-NE procedures and are a common and acceptable New England practice to measure the security of the local transmission system. The three dispatches selected and shown in Table F-3 represent a variety of generation dispatches in which the greater Springfield area transmission system can be reasonably stressed. If, in Dispatch 3, the Stony Brook Generating units were on-line, power flows on the 115-kV transmission circuits between Ludlow Substation and the Springfield load centers would increase even more. It is for this reason that CL&P did not feel that this added transmission stress was necessary.
- b. CL&P has determined that all generating units at the MASSPOWER and Stony Brook Generating Stations were simultaneously off-line approximately 78% of the hours in 2008. The minimum and maximum MW load levels for the Springfield area were 151 and 872 MW respectively. The minimum and maximum MW load levels for Connecticut were 2,083 and 5,561 MW respectively. CL&P did not attempt to obtain the hours the generating units were off-line for years 2000 through 2007; therefore, it does not know whether their dispatch in 2008 is truly indicative of the percentage of time both generating stations were not producing electric power in recent years, or an abnormality. CL&P also does not have access to data that identifies the reason why a particular plant or unit is off-line at a particular time and is therefore unable to provide data as when the MASSPOWER and Stony Brook generating units were "unavailable". This information qualifies as Confidential Information under the ISO-NE Information Policy, and may not be released without the written consent of the owner of each generating station to which the information pertains. CL&P has, through counsel, requested such permission, but has not received it.



**The Connecticut Light and Power Company**  
**Docket No. 370**

**Data Request OCC-02**  
**Dated: 04/24/2009**  
**Q-OCC-061**  
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**Witness: CL&P Panel**  
**Request from: Office of Consumer Counsel**

**Question:**

According to p. 10 of CSC-018, SP0 I Bulk (Section 1.3 of the 4/14/09 document), reduction of the CSC export to 100 MW in N-1-1 conditions was treated as a sensitivity.

- a. Please explain why this was treated as a sensitivity, rather than a base case.
- b. Please explain whether ISO-NE is obligated to continue exporting any power (even 100 MW) in an N-1-1 condition, if reliability standards would be violated. If so, please provide the documents that establish the requirement to continue the export.
- c. Please explain whether ISO-NE is obligated to continue exporting the levels of power in the all-lines-in cases (approximately 350 MW) in the event of a first contingency, even if reliability standards would be violated. If so, please provide the documents that establish the requirement to continue the export.

**Response:**

- a. The terminology used in page 10 of Section 1.3 of the study report dated 4/14/2009 refers to the Cross Sound Cable analysis as a "sensitivity analysis". All base case assumptions are also assumed in this Cross Sound Cable sensitivity analysis. In fact, the only difference between the base case and the Cross Sound Cable sensitivity analysis is a reduction in the power export to Long Island, NY from 350 MW to 100 MW. The reduced power-export scenario on the Cross Sound Cable (CSC) to Long Island, NY, with the Meriden and Oxford plants modeled on-line does not resolve the greater Springfield or north-central Connecticut area transmission reliability problems.
- b. Please see ISO-NE's response to Data Request OCC-02, Q-OCC-067.
- c. Please see ISO-NE's response to Data Request OCC-02, Q-OCC-067.