Connecticut Light & Power
The Northeast Utilities System

NEEWS
Greater Springfield Reliability Project

June 22, 2009

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

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

Dear Mr. Phelps:

This letter provides a supplemental response to the Office of Consumer Council request for information listed below.

Response to OCC-01 Interrogatories dated 04/02/2009
OCC-009

The response to Data Request OCC-01, Q-OCC-009-SP01 includes an attached report with an enclosed CD, each containing Critical Energy Infrastructure Information ("CEII"). The attachment is labeled **"CONTAINS CONFIDENTIAL CRITICAL ENERGY INFRASTRUCTURE INFORMATION",** and it is filed pursuant to the Council's CEII Protective Order in Docket 370 entered April 7, 2009. There is no redacted version of these attachments.

With this letter and the supplemental response I am providing four copies of the attachments to the Council and a copy (by U.S. Mail) to each of the recipients (including two OCC representatives) who are qualified under the Protective Order to receive CEII in this Docket.

Very truly yours

Robert E. Carberry, Project Manager
NEEWS Siting and Permitting

CC. Service List

Witness: CL&P Panel
Request from: Office of Consumer Counsel

Question:
Reference the CEAB Evaluation Report to CSC, 2/17/09, pp. 21 & 23, stating that the ISO-NE needs assessment for NEEWS is now dated.
(a) Does CL&P agree with this CEAB statement? Why or why not? Please answer in specific detail.

(b) If ISO-NE updates its needs assessment for NEEWS, does CL&P intend to update all relevant portions of its Application? Why or why not? Please answer in specific detail.

Response:

This response supplements CL&P's previous response to this OCC question. CL&P has now completed the further updated analysis of GSRP described in its initial response to part (b) of Data Request OCC-01, Q-OCC-008 and 009. This further analysis is contained in an "Addendum" to the CEII Appendix to Volumes 1 and 5 of 11 of CL&P's Application. The Addendum consists of a written Report and a CD containing the results of power-flow studies. The power-flow modeling described in the Addendum updates the need assessment for GSRP and MMP, in light of relevant planning and market developments that have occurred since the original CEII Appendix was prepared in October 2008.

The Addendum contains confidential Critical Energy Infrastructure Information (CEII). Pursuant to the Council's CEII Protective Order, CL&P is providing copies of the Addendum to the Council and to all parties and intervenors who have subscribed to the Protective Order.

The specific developments reflected in the Addendum are the revised load forecast in the ISO-NE Capacity, Energy, Loads, and Transmission (CELT) Report issued in April 2009, and additional resources (both generation and demand response programs) that cleared the ISO-NE Forward Capacity Auction # 2 (FCA2), which was completed in the Fall of 2008.

The loads at substations in the greater Springfield area and in Connecticut that were provided in the Application were updated to reflect the new ISO-NE peak demand forecast data based on the 2009 CELT and metered 2008 demand data, and peak demands for each substation were projected through the year 2018 based on the ISO-NE growth rates for each area. Further adjustments were made to the forecasted substation loads to account for the effects of demand- response resources, now included by ISO-NE through its Forward Capacity Auction process. For the purpose of this study, NUSCO revised the substation peak demand forecast by subtracting the ISO-NE "passive" and adjusted "active" demand-response levels from forecasted substation loads in western Massachusetts and Connecticut.

The power-flow analyses contained in the Addendum were based on the forecasted peak demands for 2014, adjusted as indicated.

As in the previous power-flow studies, the relevant generation assumption for CT was that generation would be running such that transfers into CT would be at approximately 2,500 MW under normal conditions and N-1 contingency events, and 1,700 MW under N-1-1 contingency events, in order to reasonably stress the transmission system, and to preserve existing transfer capacity levels.

Springfield and Connecticut area generation were adjusted to FCA2 commitment levels.

All other assumptions and the contingency deck in the updated power-flow analyses were the same as in the analyses provided in the original CEII Appendix.

The results of the power-flow studies using these revised assumptions confirmed those of the original 2005 Needs Analysis and in the updated Needs Analysis performed in October of 2008 and provided with the Application. The results of the new power-flow study are summarized as follows:

Normal Conditions ("all-lines-in")
The power-flow studies showed that overloads occur on Massachusetts 115-kV transmission circuits even under normal system conditions with projected loads for 2014 (the first full year when the Project will be in-service.) These overloads are in violation of national planning reliability standards and regional planning reliability criteria. Addendum, §2.1

N-1 Analyses
Overloads
In the N-1 analyses, the three dispatches produced many violations of long-time emergency ratings on 115-kV circuits in western Massachusetts, and also overloaded a 345-kV line between western Massachusetts and Connecticut. Because of lower assumed loads, some circuits shown as loaded slightly above their long-time emergency ratings in the October 2008 analysis were shown here as loaded slightly below those ratings.

Voltage Violations
Voltage violations in the greater Springfield area were experienced following the loss of different Massachusetts 115-kV contingency events. One contingency event resulted in voltage collapse.

These thermal and voltage results violate national and regional reliability standards and criteria. *See,* Addendum § 2.2.

N-1-1 Analyses
Overloads
In the N-1-1 analyses, there were many overloads on several transmission circuits, three of which were circuits connecting Massachusetts and Connecticut substations.

Voltage Violations
Voltage violations in the greater Springfield area were experienced following the loss of a different Massachusetts and Connecticut 115-kV or 345-kV transmission circuits and for the loss of the 345-kV circuit between Connecticut and Rhode Island.

Several of the simulated contingencies can cause voltage collapse of the greater Springfield area system.

These overloads and voltage conditions violate national and regional reliability standards and criteria. *See,* Addendum § 2.3.

GSRP / MMP Solution Analysis
When the proposed GSRP and MMP additions were modeled, the results were the same as those of the 2008 power-flow study provided in the Application. All but one of the violations was resolved, which results from a double-circuit line contingency. This contingency will be eliminated by the construction of the anticipated future Central Connecticut Reliability Project or, if that project does not go forward for any reason, by a local area transmission solution.