



**Northeast
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May 31, 2012

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

Re: Docket No. CSC 424 - Interstate Reliability Project

Dear Mr. Stein:

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

Response to CIVIE-02 Interrogatories dated 05/21/2012
CIVIE-001, 002, 003, 004

Very truly yours,

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

cc: Service List

Witness: CL&P Panel
Request from: Victor Civie

Question:

Do the proposed H-frames differ from the existing H-frames in appearance or physical properties.

Response:

The proposed 345-kV line's H-frame structures will have the same general appearance, shape and pole cross-bracing as the existing 345-kV line's H-frame structures. (See Appendix 3B of the Application and the photo-simulations in Volume 8, Appendix C of the Application.) The key difference is in structural materials.

The existing line's tangent structures typically employ natural wood poles, steel cross braces, and a metallic cross arm with steel and wire bracing to the pole tops. The poles of the proposed line's tangent structures will be made of either weathering steel or laminated wood, the cross arm and cross braces will be made of weathering steel, and there will be no steel or wire bracing of the cross arm to pole tops. Proposed angle, strain and deadend structures in the H-frame family, which are also depicted in Appendix 3B, will similarly have the same general appearance as their counterpart structures on the existing line, but with the same pole-material difference. Steel poles on some of the proposed line's angle, strain and deadend structures may also be supported on concrete foundations, and doing so eliminates the need for guy wires and pole-top-tie wires.

The Connecticut Light and Power Company
Docket No. CSC 424

Data Request CIVIE-02
Dated: 05/21/2012
Q-CIVIE-002
Page 1 of 1

Witness: CL&P Panel
Request from: Victor Civie

Question:

Are there any other Connecticut violations aside from those depicted in Vol 5, EX. 4, Figure 5-21 p54.

Response:

Yes, there are other Connecticut thermal violations not depicted in Figure 5-21 that are currently being addressed by the Southwest Connecticut Reliability study and the Greater Hartford Central Connecticut Reliability study. These other thermal overloads and low-voltage conditions in Connecticut are local area problems and outside of the study area scope of the Interstate Reliability Project.

The Connecticut Light and Power Company
Docket No. CSC 424

Data Request CIVIE-02
Dated: 05/21/2012
Q-CIVIE-003
Page 1 of 1

Witness: CL&P Panel
Request from: Victor Civie

Question:

Please provide a legal/administrative reference of all violations in Connecticut (ie provide authority who drafted the violation and the section violated) as referenced in the application (ex. in Vol 1 p2-24, Updated Solution Study Report pl, Updated Need Assessment Vol 1 EX 4 pl etc.)

Response:

ISO-NE and the New England Transmission Owners, including the Northeast Utilities companies, are obligated to plan and operate the transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") reliability standards. Violations of these standards are punishable by federal fines. The updated 2011 needs assessment was performed in accordance with NERC's transmission planning ("TPL") reliability standards. Northeast Utilities, as a New England "Participating Transmission Owner", must plan the transmission system in accordance with the Northeast Power Coordinating Council's ("NPCC") Directory D-1, *"Design and Operation of the Bulk Power System"*. Northeast Utilities must also plan the transmission system in accordance with ISO-NE Planning Procedure 3, *"Reliability Standards for the New England Area Bulk Power Supply System"*.

Witness: CL&P Panel
Request from: Victor Civie

Question:

In reference to the report entitled New England East-West Solution (NEEWS): Interstate Reliability Project Component Updated Solution Study Report or any other report relied upon I. What generation projects at any stage whether or not they received PPA or any other approval were not included in the study. Please include all transmission sources including Real Time Emergency Generation. In reference to the violations at the time of the violation

- a. What was the transmitted power (Watts) and what direction was the power between Lake Road and Card Street
- b. What was the power generated by Millstone.
- c. What percent of power of maximum possible power of Millstone was assumed.
- d. What specific N-1 and N-1-1 conditions were analyzed.
- e. What years did the Connecticut violations occur.
- f. What was the algorithm used in the assessment
- g. What was the total Connecticut generated power.

Response:

The New England East-West Solution (NEEWS) Interstate Reliability Project Component Updated Solution Study Report did not demonstrate violations, but rather identified solutions to violations that had been demonstrated by the *New England East-West Solution (NEEWS): Interstate Reliability Project Component Updated Needs Assessment* report dated April 2011 ("2011 Needs Report"). The following sections of this response refer to the 2011 Needs Report, copies of which have been provided in redacted form in Volume 5, EX. 4 of CL&P's Application, and in non-redacted form in the CEII Appendix filed on February 2, 2012.

In accordance with the ISO-NE Tariff and Planning Procedures all generator projects with a Capacity Supply Obligation as of Forward Capacity Auction #4 (FCA-4) were included in these reliability analyses and Real Time Emergency Generators (RTEG) were not included. In the 2020 study base cases the Cape Wind Project (connected to Barnstable Substation on Cape Cod) was also modeled. In accordance with ISO's Tariff and Planning Procedures, transmission projects with PPA approvals as of the June 2010 Regional System Plan (RSP) Project Listing were included in the study base cases.

- a. For the New England East to West transfer analyses, the base case (pre-contingency) power flow from Lake Road to Card Street was between approximately 750 MW and 850 MW. For the New England West to East transfer analyses, 2015 base case, the power flow from Lake Road to Card Street was approximately 180 MW, and for the 2020 base case, the power flow from Card Street to Lake Road was approximately 80 MW. The power flow on this line with the modeled contingencies was less than the line's long-time emergency rating and therefore was not separately identified in the power-flow results.
- b. For the base case and contingency modeling, Millstone units 2 and 3 were assumed off-line for the New England East to West transfer analyses. Their total generation output was therefore 0 MW. For the New England West to East transfer analyses, Millstone units 2 and 3 were modeled

in service. Their total generation output was 2,100 MW.

- c. See response to b above.
- d. Section 9 of the (non-redacted) 2011 Needs Report lists the contingency events that were analyzed. These contingencies were analyzed with all lines in service (resulting in N-1 conditions) and also with line-out conditions for the circuits listed in Table 4-5 (resulting in N-1-1 conditions).
- e. Two years were analyzed, 2015 and 2020. The violations were shown in 2015 and became worse in year 2020. Additional violations were found in 2020. The year between 2015 and 2020 in which the violations first appeared was not determined.
- f. No special algorithm was applied to the results of the power-flow simulations.
- g. The total generation output in Connecticut was approximately 5,894 MW for the New England East to West transfer analyses and approximately 8,433 MW for the New England West to East transfer analyses. These values do not include the majority of the smaller generators connected to the Connecticut distribution networks or customer-owned generators which act as load reducers.