Northeast Utilities System

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September 27, 2004

Ms. Pamela B. Katz
Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Docket No. 272 - Middletown-Norwalk 345kV Transmission Line

Dear Ms. Katz:

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

While it is not possible to provide all the information requested at this time, the Company is attaching the information which has been completed.

Response to W-M-O-01 Interrogatories dated 09/02/2004
W-M-O - 001 *, 002 , 003 , 004 , 005 , 006 *, 007 , 008

Very truly yours,

Anne B. Bartosewicz /tms

Anne B. Bartosewicz
Project Director - Transmission Business

ABB/tms
cc: Service List

* Due to the bulk nature of this material the Companies are requesting bulk filing status.

CL&P/UI
Docket No. 272

Data Request W-M-O-01
Dated: 09/02/2004
Q- W-M-O-002
Page 1 of 1

Witness: Dr. Bailey
Request from: Towns of Woodbridge, Milford and Orange

Question:
Please provide EMF calculations using the same format as Exhibit 2 to Testimony of Dr. William H. Bailey dated July 19, 2004 for statutory facilities with ID No. P-19, DC-47, S-09, P-48, S-11, and DC-81 under the following conditions:

a. based on line loadings of 50% of normal maximum loading
b. based on line loadings of 75% of normal maximum loading
c. based on line loadings of 100% of normal maximum loading
d. based on line loadings at long-term emergency ratings.

Response:
The Applicants object to these data requests based on the prior agreement of counsel regarding EMF interrogatories. Please see the response to W-M-O-01, Q-W-M-O-001.

Moreover, the information requested has been previously provided in large part in the data response to TOWNS-02, Q-TOWNS-037 and Q-TOWNS-038. and AG-03, Q-AG-016.

* Due to the bulk nature of this material the Companies are requesting bulk filing status.

Witness: Dr. Bailey
Request from: Towns of Woodbridge, Milford and Orange

Question:
Please provide EMF calculations using the same format as Exhibit 2 to Testimony of Dr. William H. Bailey dated July 19, 2004 for residential areas in Woodbridge, Milford and Orange (which shall be defined as any area in which a residential parcel is located within 300 feet from the line) under the following conditions:

a. based on line loadings of 50% of normal maximum loading
b. based on line loadings of 75% of normal maximum loading
c. based on line loadings of 100% of normal maximum loading
d. based on line loadings at long-term emergency ratings.

Response:
The Applicants object to these data requests based on the prior agreement of counsel regarding EMF interrogatories. Please see the response to W-M-O-01, Q-W-M-O-001..

Moreover, the information requested has been previously provided in large part in the data response to TOWNS-02, Q-TOWNS-037 and Q-TOWNS-038.

* Due to the bulk nature of this material the Companies are requesting bulk filing status.

Witness: Roger C. Zaklukiewicz
Request from: Towns of Woodbridge, Milford and Orange

Question:
With respect to the above questions, please state what values and assumptions were used for normal maximum loading and long-term emergency ratings.

Response:
The Applicants object to these data requests based on the prior agreement of counsel regarding EMF interrogatories. Please see the response to W-M-O-01, Q-W-M-O-001.

Please see responses to W-M-O-01, Q-W-M-O-001-003.

*Due to the bulk nature of this material the Companies are requesting bulk filing status.

Witness: Allen W. Scarfone
Request from: Towns of Woodbridge, Milford and Orange

Question:
Assuming a system load of 27.7 GW:

a. what are the summer peak loading, the winter peak loadings, and the annual average loading, in MVA, of the 345 kV transmission line running from Beseck to East Devon;
b. what are the generation dispatch assumptions used to develop the summer peak line loadings,
c. what are the generation dispatch assumptions used to develop the winter peak line loadings; and
d. please describe in detail how the annual average line loading was determined and provide supporting workpapers.

Response:

a. Assuming a New England load of 27.7 GW, the summer peak loading on the proposed Beseck to East Devon 345-kV line is expected to be 896 MVA, (see the response to TOWNS-02 Q-TOWNS-036). Since New England is a summer peaking system, winter peaking cases have not been developed as a winter peak load of 27.7 GW is not expected until well beyond the ten year planning horizon. If a 27.7 GW winter case was developed, the flows on the lines would probably be very similar to that of the summer peak 27.7 GW case.

   Today, the average New England load is approximately 15 GW. The Companies modeled this load level and assumed an economic generation dispatch in SWCT that results in an average power flow of 254 MVA on the proposed Beseck to East Devon 345-kV line. This loading is expected to be representative of the average line loading when peak load reaches 27.7 GW. Over at least the past several years the peak load in New England has grown faster than load levels during the off peak periods due to significant increases in both the number and use of air conditioning equipment by residential and commercial customers. As New England's peak load increases, there has been a corresponding, but smaller, increase in average load levels. It is reasonable to expect that this trend will continue.

b. See the response to TOWNS-02, Q-TOWNS-036.

c. See response to part (a) above.

d. See response to part (a) above. There are no workpapers associated with the work described in part (a).

Witness: Allen W. Scarfone
Request from: Towns of Woodbridge, Milford and Orange

Question:
Assuming a system load of 30GW:

a. what are the summer peak loading, the winter peak loadings, and the annual average loading, in MVA, of the 345 kV transmission line running from Beseck to East Devon;
b. what are the generation dispatch assumptions used to develop the summer peak line loadings,
c. what are the generation dispatch assumptions used to develop the winter peak line loadings; and
d. please describe in detail how the annual average line loading was determined and provide supporting workpapers.

Response:

a. Assuming a New England load of 30 GW, the summer peak loading on the proposed Beseck to East Devon 345-kV line is expected to be 990 MVA, (see the response to TOWNS-02 Q-TOWNS-036). Since New England is a summer peaking system, winter peaking cases have not been developed as a winter peak load of 30 GW is not expected until well beyond the ten year planning horizon. If a 30 GW winter case was developed, the flows on the lines would probably be very similar to that of the summer peak 30 GW case. As explained in the "Direct Testimony of John Prete Concerning Magnetic Field Modeling" dated 9/24/04 it is reasonable to expect that when the New England summer peak load reaches 30 GW, the average load will have risen to approximately 18.2 GW. The Companies modeled this load level and assumed the same dispatch as in the 15 GW case. This resulted in a power flow of 360 MVA on the proposed Beseck to East Devon 345-kV line.

b. To provide consistency, the dispatch used is the same that was used in the 27.7 GW case, which is designed to stress the system, and assumes that generation in SWCT that would otherwise be dispatched is unavailable. See the response to TOWNS-02 Q-TOWNS-036. While this dispatch is reasonable for the purposes of modeling thermal load flows at a 27.7 GW New England load for system planning and design, it is not representative of typical system conditions. By the time the 30 GW New England load is reached, there would be additional generation or transmission will need to be added to the system.

c. See response to part (a) above.

d. A spreadsheet was created to determine the average load at 30 GW. This was done by applying a 2% annual load growth (the approximate average growth 1999-2003) to the 2003 hourly loads until the peak reached approximately 30 GW. From these values, an average was estimated for the 30 GW load level. The spreadsheet is attached as bulk.

* Due to the bulk nature of this material, copies are being provided to the DPUC, OCC and AG only.

Witness: **Allen W. Scarfone**
Request from: **Towns of Woodbridge, Milford and Orange**

Question:
Assuming a system load of 32GW:

a. what are the summer peak loading, the winter peak loadings, and the annual average loading, in MVA, of the 345 kV transmission line running from Beseck to East Devon;
b. what are the generation dispatch assumptions used to develop the summer peak line loadings,
c. what are the generation dispatch assumptions used to develop the winter peak line loadings; and
d. please describe in detail how the annual average line loading was determined and provide supporting workpapers.

Response:

a, b, c, and d) Cases have not been developed for a 32 GW New England load. Additional generation and/or transmission will have to be developed before the peak load reaches 32 GW. Modeling a 32 GW New England load case would require predicting where new transmission and generation will be sited, and would be highly speculative. It is likely, however, that such additions if sited in SWCT could have the effect of reducing the loading on the proposed line, as compared to the peak power flow on the Beseck to East Devon 345-kV transmission line at a 30 GW load level. There are no workpapers in support of a 32 GW model.

Witness: **Allen W. Scarfone**
Request from: **Towns of Woodbridge, Milford and Orange**

Question:
Assuming a system load of 34GW:

a. what are the summer peak loading, the winter peak loadings, and the annual average loading, in MVA, of the 345 kV transmission line running from Beseck to East Devon;
b. what are the generation dispatch assumptions used to develop the summer peak line loadings,
c. what are the generation dispatch assumptions used to develop the winter peak line loadings; and
d. please describe in detail how the annual average line loading was determined and provide supporting workpapers.

Response:

a, b, c, and d) Cases have not been developed for a 34 GW New England load. Additional generation and/or transmission will have to be developed before the peak load reaches 34 GW. Modeling a 34 GW New England load case would require predicting where new transmission and generation will be sited, and would be highly speculative. It is likely, however, that such additions if sited in SWCT could have the effect of reducing the loading on the proposed line, as compared to the peak power flow on the Beseck to East Devon 345-kV transmission line at a 30 GW load level. There are no workpapers in support of a 34 GW model.