March 18, 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 CSC-01 Interrogatories dated 03/03/2004
CSC - 029 , 034 , 035

Very truly yours,

Anne B. Bartosewicz
Project Director - Transmission Business

ABB/tms
cc: Service List

Witness: **Roger C. Zaklukiewicz; James M. Hogan**
Request from: **Connecticut Siting Council**

Question:
Is the applicant aware of a Greenways Committee exploring a bike trail parallel to the Merritt /Wilbur Cross Parkway? Could an underground transmission line be constructed and partnered in this proposed greenway plan

Response:
In 1993 the Tri-state Regional Planning Association completed a study supporting the feasibility of a bicycle/pedestrian pathway along the entire length of the Merritt Parkway. The Merritt Parkway is 37.5 miles long with only half of its 300 foot wide right-of-way currently occupied. The bicycle/pedestrian pathway along the 680 acres of unoccupied right-of-way would provide the missing link in the East Coast Greenway which runs from Maine to Florida. The Merritt Parkway became listed on the National Register of Historic Places in 1991. Proposals in the early 1990's and 2002 to add additional travel lanes to the parkway have been rejected by the Southwestern Regional Planning Agency.

While it may be possible that a partnered construction effort along the parkway could be coordinated and accomplished, the Merritt Parkway route presents construction challenges, engineering and technology challenges, environmental impacts and additional costs beyond those associated with the proposed route identified in Docket No. 272. Please see the initial review of this matter submitted filed as Bulk Filing #2, item 2.64 of this Application, entitled "Report of Route Options Considered but Eliminated". A more comprehensive review is expected to be completed by March 31, 2004.

The CDOT has stated that they will not permit any utility to install infrastructure in parallel to a Connecticut highway. They have stated that they will vigorously oppose any such proposal

Witness: **Roger C. Zaklukiewicz**
Request from: **Connecticut Siting Council**

Question:
Describe how constructing an underground power line differs significantly from construction of a water, sewer or drainage line in paved roads. Compare typical trench dimensions, traffic disruption, duration of construction, construction nuisance (e.g. noise, air pollution, etc.), paving restoration, etc. as they may apply.

Response:
The Companies assume that this question refers to the underground construction proposed in this Docket, which is 345-kV HPFF cable. The Companies have had no experience with construction of water, sewer and drainage lines, and therefore cannot provide a full comparison. However, the Companies believe some of the differences are as follows:

The overall construction rate for a 345-kV HPFF underground transmission line is slower than what might be expected for water, sewer, or drainage lines. The multiple pipes (6 total), the special treatment (spacing, welding, X-raying, joint coating), the special backfill (fluidized thermal backfill), the siting and installation of splice vaults, and the installation/splicing of the electric cables all require time to be properly addressed. As an example, at each splice vault, the splicing operation alone can take 10-14 days to complete.

There is a need for additional construction equipment at the job site. Aside from the typical equipment required for pavement cutting, trench excavation and trench repaving, a larger variety of material handling equipment (for 3 different pipes and fluidized backfill) must also be present. The construction "train" around an area being actively worked can measure upwards of 1000 feet in length.

The installation and splicing of the electric cable will cause traffic disruption at the splice vault locations along the cable route. Cable installation affects two splice vault locations simultaneously and can take 2-4 days, and cable splicing at each splice vault can take 12-14 days.

The following is a detailed description of the construction effort that would be required for the Project:

The construction being proposed requires the installation of multiple pipes. Two 8-inch steel pipes will contain the conductors, two 5-inch steel pipes will provide for future dielectric fluid circulation, and two 3-inch PVC pipes will contain communication and monitoring cables. These pipes must be properly spaced, welded together in the trench, the joints coated, and finally x-rayed before special fluidized, thermal backfill is poured around them.

The trench must be opened in advance of the pipe laying, typically 200 feet, in order to locate existing utilities and identify a path that can provide for gentle bending radii to the pipe. The slope and the angles placed on the pipe must be minimized to reduce the potential of damaging the cable during installation and reduce the need for special installation techniques to minimize cable movement. At the close of work each day, the open trench will be steel plated.

To assure good heat dissipation around the transmission line, the excavated material is typically removed from the site and replaced with special thermal backfill, which also provides mechanical protection for the pipes. Since excessive heat will degrade the current carrying capacity of the cable, adequate clearances to existing heat sources must be provided when selecting the trench route.

Large splice vaults, typically 8' x 8' x 28', are required approximately every 2000 feet of the route. It is anticipated that, based on the CDOT's stated desire to minimize long-term disruption of the travel lanes on Rte 1, the splice vaults will need to be located in areas off of the paved area whenever possible. Should the available space in the road require the trench to be in one of the middle lanes, then sweeping bends across multiple lanes to enter and exit the splice vaults located off of the travel lanes will be required.

Once the pipes and the splice vaults are installed, the cables (electric, communication, and monitoring) can then be installed. The electric cables are pulled into each pipe 3 at a time from splice vault to splice vault. Once pulled in, the cables are spliced together without interruption in a controlled environment. Construction equipment such as flat bed trucks carrying cable reels, a pulling rig, and a environmental control truck would be present near the splice vaults during these activities.

Additional information has also been provided in Volume 1 of the Application, Section J.2 "Underground Transmission Construction", pages J-10 thru J-17.

Witness: **Roger C. Zaklukiewicz**
Request from: **Connecticut Siting Council**

Question:
Do the applicants plan to upgrade or add to the proposed transmission line right-of-way?

Response:
The Companies have no plans at this time to further upgrade or add to the proposed transmission line, which is expected to serve bulk power supply needs for up to 30 years in the future. However, the rights of way used for overhead potions of the Project could potentially be used for additional or upgraded facilities, should the need for them arise in the future.