STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

September 15, 2011

Jeffery D. Cochran, Esq.
Senior Counsel
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270

RE: **LIFE-CYCLE 2011** – Connecticut Siting Council Investigation into the Electric Transmission Line Life-Cycle Costs

Dear Attorney Cochran:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than September 29, 2011. To help expedite the Council's review, please file individual responses as soon as they are available.

Please forward an original and 15 copies to this office and a PDF version to be filed electronically. In accordance with the State Solid Waste Management Plan, the Council is requesting that all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. Fewer copies of bulk material may be provided as appropriate.

Yours very truly,

Linda Roberts
Executive Director

LR/MP

c: Council Members
Parties and Intervenors

LIFE-CYCLE 2011
CL&P Pre-Hearing Interrogatories, Set One

1. Provide updated costs for operation and maintenance of The Connecticut Light & Power Company's (CL&P) existing overhead and underground transmission lines (FERC Accounts 563, 564, 571, and 572).

2. Provide updated capital costs ($/mile) for overhead transmission lines that CL&P uses to compare alternative single circuit line structures and designs for 115 kV and 345 kV lines of the following types:
   - Wood pole
   - Steel pole
   - Confirm that you still do not use steel tower structures in any of your designs

   If possible, break these costs into the following categories:
   - Conductors
   - Towers/supporting structures
   - Land costs
   - Insulation costs
   - Other (please specify)

   If the costs are not available for all of these categories, please provide them in as much detail as possible for the categories CL&P routinely uses.

3. Provide the same information requested in the previous question for double circuit structures and lines or confirm the discontinued use of double circuit designs for 115 kV and 345 kV transmission lines.

4. Provide updated capital costs ($/mile) for underground transmission lines that CL&P uses to compare alternative 115 kV and 345 kV lines of the following types:
   - High pressure fluid filled (HPFF)
   - Cross-linked polyethylene (XLPE)

   If possible, break these costs into the following categories:
   - Cable costs
   - Piping and associated supporting structures
   - Conduit costs
   - Other supporting structures
   - Land costs
   - Installation costs
   - Other (please specify)

   If the costs are not available for all of these categories, provide them in as much detail as possible for the categories CL&P routinely uses.

5. Provide an estimate of the total operating and maintenance (O&M) costs per circuit-mile for overhead and underground 115 kV and 345 kV transmission facilities as applicable for the years 2006 through 2010.

6. In the 2006 CSC Interrogatories, CL&P indicated they use primarily Western Red Cedar structures treated with pentachlorophenol (Penta) for transmission construction.

   a) Does CL&P continue to use Penta as a wood pole preservative?
   b) Is CL&P exploring other alternative treatments and/or pole materials for future transmission line construction?
   c) How would these alternatives affect the life-cycle costs for transmission lines?

7. In the 2006 CSC Interrogatories, CL&P stated that for transmission line life-cost analysis, the estimated lifespan for transmission lines is 40 years. Does CL&P still agree with this estimate?

8. In the 2006 CSC Interrogatories, CL&P indicated they agreed with the following life expectancies for 115 kV transmission facilities from the 1996 Acres Report:

   - Wood Pole 40 years
   - Steel Pole 60 years
   - Underground Cable 35 to 40 years

   a) Does CL&P still agree with these life expectancies?
   b) If not, what typical life expectancies would CL&P use for each of these transmission types?
   c) Previously, CL&P indicated they would expect the same life expectancy for a 345 kV transmission line as for 115 kV lines using similar materials. Would you still agree with this?
   d) CL&P indicated an expected operational life of 35 to 40 years for both 115 kV and 345 kV HPFF and XLPE underground cable in the 2006 CSC Interrogatories. Provide any updated life expectancies for 115 kV and 345 kV HPFF and XLPE underground cable based on experiences since the previous interrogatories.

9. Provide any updates to CL&P's use of polymer, porcelain and glass insulators for 115 kV and 345 kV transmission lines.

10. Has CL&P performed any more research, evaluation, or possibly even installation, of composite conductors on any of your transmission facilities? If so, what is the estimated life cycle cost impact? Break into first cost and O&M cost elements.

11. Has CL&P experienced, in the last five years, issues with construction or maintenance of transmission lines in locations that required special processes or procedures due to environmental sensitivity? If so, please describe the situations and the cost impacts.

12. Would CL&P say the ISO-NE planning and operating standards for design and operations of transmission facilities have had an impact on CL&P transmission line life cycle costs and if so, to what extent?

13. Has CL&P identified any other ISO-NE policies or operating procedures that impact transmission line life cycle costs since responding to the previous interrogatories? If so, what are they and what is the anticipated impact?

14. Provide any updates to CL&P's consideration of using high voltage direct current (HVDC) lines and the impacts to life-cycle costs as compared to alternating current (AC) transmission lines?

15. Provide any comments and/or suggestions regarding how the Council's *Life Cycle 2007* report could be improved.