

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

RE: JOINT APPLICATION OF THE : DOCKET NO. 272
CONNECTICUT LIGHT AND POWER :
COMPANY AND THE UNITED :
ILLUMINATING COMPANY FOR A :
CERTIFICATE OF ENVIRONMENTAL :
COMPATIBILITY AND PUBLIC NEED FOR :
A 345-KV ELECTRIC TRANSMISSION LINE :
FACILITY AND ASSOCIATED FACILITIES :
BETWEEN SCOVILL ROCK SWITCHING :
STATION IN MIDDLETOWN AND :
NORWALK SUBSTATION IN NORWALK : FEBRUARY 5, 2004

OFFICE OF CONSUMER COUNSEL'S
FIRST SET OF INTERROGATORIES

The Office of Consumer Counsel ("OCC") requests that the Applicants respond to the attached interrogatories by **February 19, 2004**. If there are objections to any questions, or if providing responses to certain questions would be unduly burdensome, please contact the undersigned as soon as possible.

OCC-1 In the second paragraph of page ES-2 of Volume 1 of The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI) joint application to the Connecticut Siting Council, it is stated that, "*Construction of the proposed line will (together with the 115-kV construction between Norwalk and Stamford) enable the Companies to meet national and regional reliability criteria that govern the interconnected grid.*"

Please use the following format to compare specific quantitative measures of bulk supply system performance, with and without the project, under "normal conditions". By "normal conditions" we refer to expected SWCT

load, generation retirements and generation and transmission availability. Where data is not readily available for the year specified, please provide readily available data for a year closest to the specified year.

i. Loss of load expectation (LOLE) for SWCT

	NERC/NEPOOL Annual LOLE Standard	Projected Annual LOLE in 2008	Projected Annual LOLE in 2010
SWCT LOLE without the project	0.1 days/year		
SWCT LOLE with the project	0.1 days/year		

ii. Please list each system component of the SWCT bulk supply system that experiences short circuit duty violations and which the proposed project is targeted to remedy. Please use the format shown below to quantify the nature of each short circuit violation and how the proposed project serves as a remedy.

System component	Short circuit rating	Projected Short circuit duty in 2008 without the project	Projected Short circuit duty in 2008 with the project
.	.	.	.
.	.	.	.

iii. Please list each electrical node, location or component of the SWCT bulk supply system that experiences voltage performance violations and which the proposed project is targeted to remedy. Please use the format shown below to quantify the nature of voltage performance violations and how the proposed project serves as a remedy.

Electrical node, location or component	Rated Voltage	Voltage in 2008 without the project	Voltage in 2008 with the project
.	.	.	.
.	.	.	.

OCC-2 Please refer to question OCC-1 above. For each sub-part of the answers to this question, provide work papers detailing the assumptions and methodology used to perform the analyses for the purpose of arriving at the quantities in presented in OCC-1. Specifically,

- i. For the LOLE quantities, provide assumptions on generation capacity and availability (or outage rate), transmission import capability assumptions, forecast load assumptions, load duration curves, and reference any commercial model(s) utilized.
- ii. For the short circuit analysis, indicate the type(s) of electrical faults considered, the fault locations analyzed, SWCT system loading, assumptions on available generation capacity, and reference any commercial model(s) utilized.
- iii. For the voltage analysis, provide load flow diagrams to support the results in question OCC-1 above. These diagrams should include typical detailed assumptions about generator output levels, load levels, element-by-element power flows, and node voltages. Please reference any commercial model(s) utilized.

OCC-3 Please refer to question OCC-1 above and use the following format to compare similar, specific quantitative measures of bulk supply system performance, with and without the project, under any “stress conditions” studied. By “stress conditions” we refer to typical system stresses considered for planning studies, such as higher than normal load and higher than normal generation and transmission unavailability. Where data is not readily available for the year specified, please provide readily available data for a year closest to the specified year.

i. Loss of load expectation (LOLE) for SWCT

	NERC/NEPOOL Annual LOLE Standard	Projected Annual LOLE in 2008	Projected Annual LOLE in 2010
SWCT LOLE without the project	0.1days/year		
SWCT LOLE with the project	0.1days/year		

- ii. Please list each system component of the SWCT bulk supply system that experiences short circuit duty violations and which the proposed project is targeted to remedy. Please use the format shown below to quantify the nature of each short circuit violation and how the proposed project serves a remedy.

System component	Short circuit rating	Projected Short circuit duty in 2008 without the project	Projected Short circuit duty in 2008 with the project
.	.	.	.
.	.	.	.

- iii. Please list each electrical node, location or component of the SWCT bulk supply system that experiences voltage performance violations and which the proposed project is targeted to remedy. Please use the format shown below to quantify the nature of voltage performance violations and how the proposed project serves a remedy.

Electrical node, location or component	Rated Voltage	Voltage in 2008 without the project	Voltage in 2008 with the project
.	.	.	.
.	.	.	.

OCC-4 Please refer to question OCC-3 above. For each sub-part, provide work papers detailing the assumptions and methodology used to perform the analyses for the purpose of arriving at the quantities in question OCC-3. Specifically,

- i. For the LOLE quantities, provide assumptions on generation capacity and availability (or outage rate), transmission import capability assumptions, forecast load assumptions, load duration curves, and reference any commercial model(s) utilized.
- ii. For the short circuit analysis, indicate the type(s) of electrical faults considered, the fault locations analyzed, SWCT system loading, assumptions on available generation capacity, and reference any commercial model(s) utilized.
- iii. For the voltage analysis, provide load flow diagrams to support the

results in question OCC-3 above. These diagrams should include typical detailed assumptions about generator output levels, load levels, element-by-element power flows, and node voltages. Please reference any commercial model(s) utilized.

- OCC-5 Please summarize the results of any analyses performed by CL&P or UI, or performed by others and reviewed by CL&P or UI that investigate the feasibility of applying techniques, such as series reactor installation, for the purpose of mitigating excessive short circuit duty at substations and generation stations in SWCT. Such summary should clearly indicate:
- i. Locations on the SWCT bulk supply system where such an installation has been determined to be a feasible solution to existing or anticipated excessive short circuit duty,
 - ii. Any locations where such an installation have been studied but determined to be inappropriate as a solution to existing or anticipated short circuit problems.

- OCC-6 Please refer to question OCC-5 above and provide supporting work papers for any analysis referenced.

- OCC-7 Assuming the project is constructed as proposed:
- i. At what load level do CL&P/UI anticipate that additional bulk supply infrastructure will be required to ensure compliance with governing reliability standards?
 - ii. When do CL&P/UI anticipate this load level will be reached? Please explain the basis for your response and provide all supporting work papers.

Respectfully submitted,

MARY J. HEALEY
CONSUMER COUNSEL

By: _____
Bruce C. Johnson
Litigation Attorney

CERTIFICATION

I hereby certify that a copy of the foregoing has been mailed and/or hand-delivered to all parties and intervenors of record this 5th day of February 2004.

Bruce C. Johnson
Commissioner of the Superior Court