



**Northeast
Utilities System**

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-5000
www.nu.com

July 24, 2009

RECEIVED
JUL 24 2009

**CONNECTICUT
SITING COUNCIL**

Mr. S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Docket No. 370 - CT Greater Springfield Reliability Project

Dear Mr. Phelps:

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

Response to CAOPLC-01 Interrogatories dated 07/02/2009

CAOPLC-001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064

Response to CSC-02 Interrogatories dated 04/02/2009

CSC-028-SP01

Very truly yours,

Robert Carberry

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

cc: Service List

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Definitions

- A. As used in these interrogatories, "any" shall include "all," and "all" shall include "any," as needed to make the request inclusive and not exclusive.
- B. As used in these interrogatories, "and" shall include "or," and "or" shall include "and," as needed to make the request inclusive and not exclusive. For example, both "and" and "or" mean "and/or."
- C. As used in these interrogatories, "include" and "including" mean "including but not limited to."

CAOLPC means Citizens Against Overhead Power Line Construction, a grassroots East Granby and Suffield coalition advocating safe and environmentally responsible transmission power line construction.

CL&P, as used in these interrogatories, means inclusively Connecticut Light and Power and its present or former subsidiaries, affiliates, branches, divisions, principals, associated persons, control persons, directors, officers, employees, agents, trustees and beneficiaries; Northeast Utilities (NU); NUSCO; Burns McDonnell; any contractor or sub-contractor hired to perform work under CL&P's direction on the GSRP or NEEWS projects; and to include but not be limited to any law firm, scientific or engineering consulting firm, lobbyist or public relations firm or other professional firm or person engaged by Connecticut Light and Power to furnish professional services, or to perform work on the GSRP or NEEWS projects. Each reference to CL&P shall be deemed to include any, all, or any grouping or sub-grouping of persons and entities named in the foregoing enumeration as needed to make the reference inclusive and not exclusive.

CSC means the Connecticut Siting Committee

FERC means the Federal Energy Regulatory Commission

GSRP means the Greater Springfield Reliability Project

HELCO means the Hartford Electric and Light Company

NEEWS means the New England East-West Solution projects.

NU means Northeast Utilities, the parent company of CL&P, WMECO and Yankee Gas.

ROW means the right of way easement in which CL&P may be approved to construct the GSRP project.

WMECO means Western Massachusetts Electric Company, a NU owned subsidiary company, CL&P's counterpart for the Massachusetts portion of the GSRP.

Response:

CL&P objects to, and does not accept, the purported definition of "CL&P." The definition seeks to create an identity that does not exist. In the following answers, "CL&P" is considered to be The Connecticut Light and Power Company, which is the applicant in this Docket; Northeast Utilities Service Company, which is acting as agent for The Connecticut Light and Power Company in preparing and prosecuting the application; and their employees and agents, acting in the course of their duties as such. CL&P also notes that the Connecticut Siting Council (Council) is misidentified as the Connecticut Siting Committee. In answering these interrogatories, CL&P will consider "CSC" to refer to the Council.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

These questions refer to an EMF calculation done by CL&P and Burns McDonnell for my home on Newgate Road. The study was sent via email on June 16, 2009.

a. CL&P assumes too much knowledge on the part of local residents when communicating to them. We need a basic education in the abbreviated terminology that CL&P's engineers use. Please explain what XS-2 is? Does XS mean a cross section? Is it one type of power pole vs. another type? How does XS-2 relate to, impact, or qualify your answers to the EMF questions below?

b. Please provide a simple "laypersons" formula to convert micro Tesla units (μT) to milliGauss (mG) so that we can accurately reference European EMF studies and standards for EMFs to US standards.

Response:

a. The proposed route was divided into segments that differ according to the design characteristics of existing or proposed transmission lines and/or right-of-way widths. XS-2 refers to cross section 2, a depiction of the existing transmission line and a base-case arrangement for proposed 345-kV transmission line on the right-of-way between Granby Junction (just south of Route 20 in East Granby) and the CT/MA state line in Suffield. This cross-section shows the typical line structures as they would appear looking north from a point on this right-of-way segment, and it specifically shows the tangent structure types for each line, their typical heights, and horizontal distances between the lines and to ROW edges. The conductor positions in each line span with respect to one another are governed by their positions at the line structures.

The XS-2 cross section drawing was included in the handout for the Connecticut Siting Council's June 9, 2009 field review, and it is also in CL&P's Application. In both places there is also a companion drawing identified as XS-2 BMP. The XS-2 BMP drawing depicts a delta arrangement of the proposed 345-kV line, instead of the base-case H-frame line. Per the Field Management Design Plan in CL&P's Application, CL&P is proposing to use this delta line design for a 3.2-mile section of the Granby Junction to CT/MA state line route, beginning opposite to Country Club Lane in East Granby and ending north of Phelps Road in Suffield.

Electric and magnetic field calculation models rely upon the dimensions on these cross-section drawings for positioning the line conductors. Of course, each of the line conductors is not at one height above ground going up the ROW. The conductors of a line are higher above ground at the support structures than they are at locations in the spans between structures. For electric and magnetic field modeling CL&P elected to use a midspan height above ground for the lowest conductors as follows: 30 feet for the 115-kV line and 35 feet for the 345-kV line. Note that CL&P's preliminary design for the proposed 345-kV line (see Plan and Profile Sheet 9 of 13 in Volume 10 of 11 of CL&P's Application) shows a lowest 345-kV conductor clearance across the Legere property of about 55 feet. Accordingly, the magnetic fields on the Legere property, both within and outside of the easement area, would be lower than indicated by the generic modeling provided in the Application.

b. Units of magnetic flux density (aka magnetic field) expressed in microtesla (μT) can be converted to milliGauss (mG) by multiplying by 10. For example, $1 \mu\text{T} = 10 \text{ mG}$. One Tesla equals 10 thousand Gauss, or 10 million milliGauss.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

I would like to preface the next group of questions by commenting on my own situation of trying to understand and quantify EMF risk. It is an example that applies to all GSRP right of way residents.

With all due respect to the information CL&P provided, the average EMF number quoted for my house at the edge of the ROW at 350 feet, is a meaningless number to me and the other residents. To explain this important point that is either being missed or ignored by CL&P:

We could take some comfort in CL&P's quoted EMF number of 2.7 mG at our house at a distance of 350 feet from the edge of the power line ROW, if we intended to stay locked in our homes and not ever venture out. But that is not why someone buys acreage property or chooses to live in the country vs. a city. We spend time outdoors, walking, cross country skiing in the winter, walking our dogs up to Newgate Road and beyond, my orchard in particular is much closer to the power lines, and we do work in our fields like mowing and tree and fire wood cutting - there is a lot of outdoor activity - and that holds true for all of the residents in our area especially for families with children. It is a wonderful place for children to grow up.

Given the above prefaced situation and importantly that that CL&P has quoted a 200 mG reading directly below the proposed GSRP 345 kV power line, our questions are these:

- a. CL&P verbally stated that there is no risk from GSRP EMFs in both East Granby and Suffield public and in residential home meetings. A Suffield resident emailed CL&P to ask that CL&P to put that claim into writing that the GSRP power line will not create health risks and has not received an answer. Will CL&P confirm in writing that there is no EMF health risk to East Granby and Suffield residents from the GSRP power lines?
- b. If the answer is NO, please explain why CL&P is unable to provide a written assurance that the GSRP power lines are safe? Please do not equivocate and say "it is company policy not to comment" because that is meaningless, but instead provide a legal justification if CL&P won't confirm safety as to why.
- c. Please answer and explain if it would then be an appropriate and/or a reasonable assumption for residents who live near the CL&P ROW in East Granby and Suffield to believe that CL&P, by its refusal to answer YES, is concluding that the GSRP power lines are not safe and that there is risk?
- d. What is the dispersion of EMFs from directly under the proposed GSRP 345 kV power line eastbound towards the Metacomet Trail and westbound towards Newgate Road in 20 or 25 foot increments? Please create and produce a dispersion graph.
- e. Because many properties are heavily wooded did CL&P take into account what the change in EMF will be from "leaves up" seasons to the seasons when leaves are off the trees?
- f. We understand that foliage provides a good degree of shielding, is that correct or incorrect? How much shielding in terms of a range of EMF reduction in mG can be attributed to foliage? Would this change the mG reading at 350 feet when leaves are down? Why or why not?
- g. We would like a calculation done for 1204 and 1208 Newgate Road of what the EMFs would be for the proposed 345 kV line directly under the 345 kV line given that the lines slope northward

up a hill causing the lines to be much closer (we estimate 30 to 40 feet) to the ground crossing because of that slope.

- h. We want to know how much more EMF exposure we would have under these sloped power lines than under a level power line. What can or will CL&P do to mitigate EMF exposure when a grade lowers the power line downward towards the place where people cross under the power line? Are there past projects you can point to as examples of CL&P's mitigation solutions?
- i. What calculable and quantifiable effect does height have on EMF levels? For example, if the EMF level is 200mG directly under a 345 kV lines on a 110 foot tower, what would the corresponding EMF levels be under a 90 foot tower, a 150 foot tower and/or a 180 foot tower like those used in the Durham and Middlefield areas? Is there a formula for calculating EMF reduction vs. cable height from the ground? If so please provide it.

Response:

a. CL&P's representative verbally stated at the referenced meetings that no public health risk of transmission line EMF exposure has been established after several decades of research on this topic. CL&P bases its policies and actions with regard to EMF on reviews of scientific research performed by national and international agencies, including the National Institute of Environmental Health Sciences and the World Health Organization, and guidance from the Connecticut Siting Council. None of these agencies have concluded that exposures to EMF in the range of levels encountered by the public (including transmission lines) subject members of the general public to any established health risk.

b. CL&P is not qualified to make health-science determinations such as the safety of exposures to EMF. Rather, CL&P looks to public health agencies, like the World Health Organization, to review the scientific research, evaluate potential risks, and define acceptable risk ("safety") by conducting thorough risk assessments, and to provide appropriate limits and guidance.

c. It would not be an appropriate or reasonable assumption for residents who live near the CL&P ROW in East Granby and Suffield to believe that CL&P has concluded that the GSRP power lines are not safe and that there is risk. See the responses to 3a and 3b above.

d. Please refer to Figures O-6 and O-8 in CL&P's application. On each of these figures is a graph of calculated magnetic fields at one meter above ground for two potential line configurations in the XS-2 right-of-way segment. The structures and their relative locations on the ROW are shown below the graphs for each of the two line configurations. The data behind these curves, in 25-foot increments to a distance of plus and minus 300 feet from the ROW centerline (so east and west as this question requests), can be found in Table A3-1 in Appendix O-3. These figures and this data reflect CL&P's projection of an Annual Average Load condition in 2017, and the tables in Appendix O-3 include similar data for two other projected load conditions. Modeling of the bulk-power electrical system for each of the three example loading conditions yields line currents which are then used in a magnetic field calculation program. These graphs also depict a 2012 pre-NEEWS calculation result without the proposed new line. For purposes of these calculations, CL&P modeled the lines as if the conductors were everywhere at their typical midspan low point above ground. While the results do not extend beyond plus or minus 300 feet from the centerline of the ROW, the tabulated results in Table A3-1 show that at these distances, the magnetic field levels have dropped off to the range of common background levels found in homes. The levels continue to drop off with increased distance from the lines. Relative to the zero point on the horizontal axis of this graph, we estimate that the nearest part of the Legere home is located at a distance of +350 feet, so it is located off the chart, 50 feet to the east of the last data point on this graph.

The calculated electric field level at the nearest point of the Legere home would be about 0.015 kV/m with CL&P's proposed design. See Table A3-4 in Appendix O-3 of the Application for the electric fields data.

e. As applied to power frequency fields, the term "EMF" refers to separate electric fields and magnetic fields. Magnetic fields are not shielded or otherwise changed by trees and their leaves. On the other hand, electric fields from a line will be lower at locations beneath or beyond trees, or other conductive objects, and the degree of shielding may change when leaves are on versus off. CL&P's calculations of electric fields assume no such shielding, so actual electric field levels will be lower than CL&P's calculated values where there is tree shielding.

f. See response to 3e above.

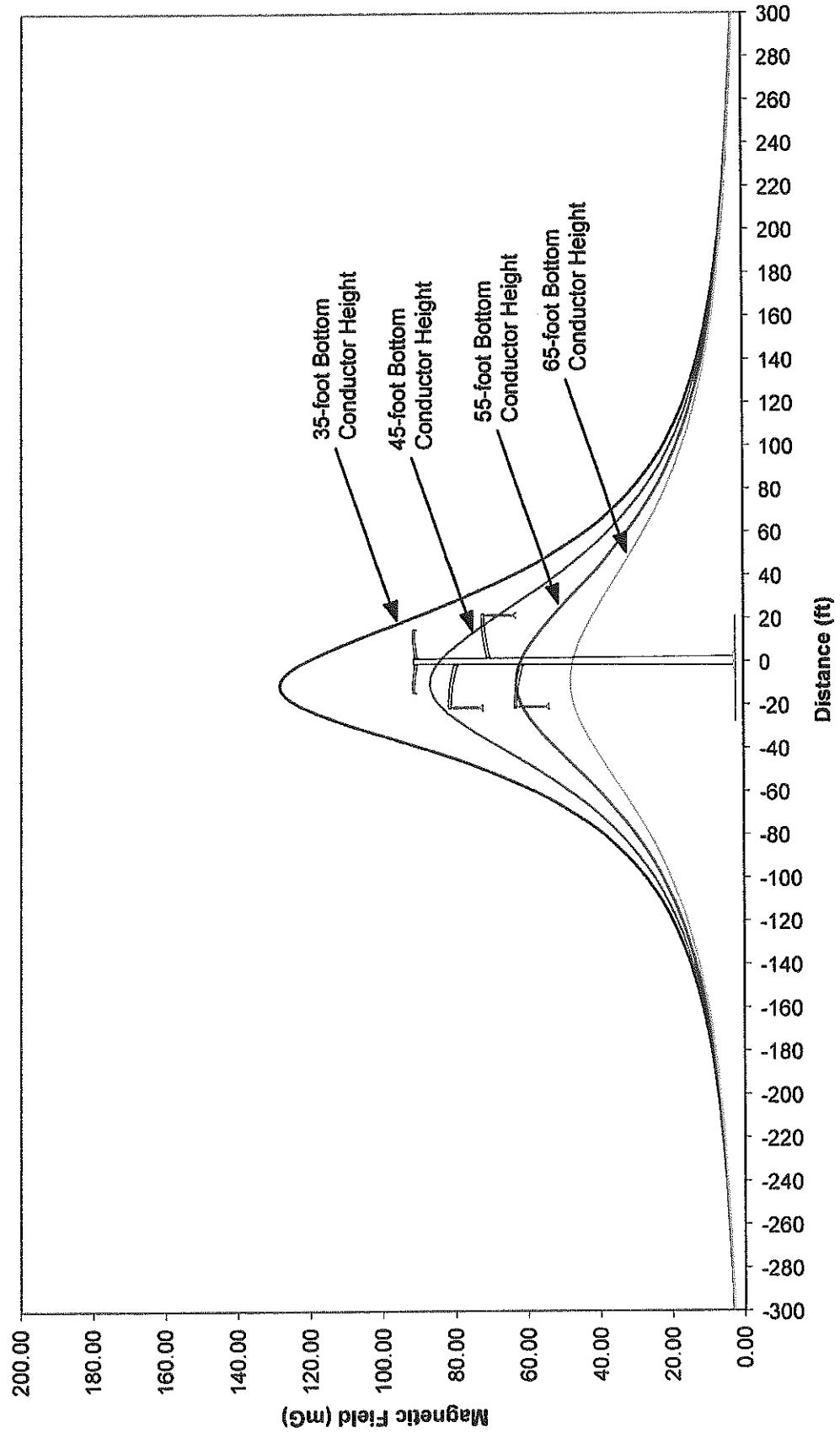
g. Please reference the plan and profile drawing for the preliminary line design on Sheet 9 of 13 in Volume 10 of CL&P's Application. In the plan view, the 1204 and 1208 Newgate Road properties are crossed by the line from a point south of new structure number 0069 to a point north of new structure number 0070. Per this preliminary design, the lowest 345-kV conductor height above ground anywhere in this area is about 55 feet. On page 4 of 4 of this response, please find a cross-section graph of magnetic fields for a 345-kV delta line configuration. The four curves on this graph reflect the calculated ground-level magnetic fields when a typical 345-kV delta line is carrying 1,000 amperes, and each of the four curves displays the magnetic fields for one of four example bottom conductor heights, ranging from 35 feet to 65 feet above ground. Note that a 50% reduction in the peak value beneath this line configuration occurs for a 55-foot height as compared to a 35-foot height. The field levels will be higher or lower for currents which are higher or lower than 1,000 amperes, but this same percentage difference due to conductor height will remain. Please also observe that this range of height difference leads to little to no difference in magnetic field levels at distances beyond about 200 feet from the line.

h. The calculated magnetic field levels presented in the Application reflect bottom conductor heights for the 345-kV line of 35 feet. At all locations where the bottom conductor height is higher than 35 feet, the magnetic fields will be lower. See the response to 3g. As for mitigation, please reference the alternate designs considered by CL&P in the Field Management Design Plan, which is in Appendix O-1 to the Application. Each of the line designs presented in that plan has been used on previous CL&P transmission projects.

i. Please see the response to 3g and also the additional height entries in Table 7 of Appendix O-1 to the Application. Note that it is the height of the conductors above ground, not the tower height that matters. However, to achieve increased conductor heights above ground, taller support structures are required. The referenced materials reflect conductor heights up to 30 feet more than the typical minimum, and show that magnetic field levels on and very close to a right-of-way can be substantially reduced by these conductor height increases. This question asks about even greater heights above ground, perhaps up to 90 feet more than the typical minimum. The magnetic field profile curve for such a height would fall below all of the curves shown in the response to 3g.

There is no simple formula for calculating the effect of height on ground-level magnetic fields.

**MAGNETIC FIELDS FOR A 345-KV DELTA LINE CONFIGURATION
WITH 1000-AMPERE LINE CURRENT**



The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 06/30/2009
Q-CAOPLC-004
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

The statement in the report, "At this distance, the actual height of the line conductors above ground has very little effect on the calculation result" written into CL&P's EMF calculation while technically accurate, ignores the point we are making above because it does not assume or account for the fact that we will be closer to, and spend time directly under, the power lines every day. Thus height would play an important role in determining EMF exposure. Agree or disagree? Please explain your answer.

Response:

The cited statement is descriptive. Unless a person spent a large fraction of the year on or very close to the right-of-way, variations in the height of the line conductors would have a minor influence on their long-term average exposure.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-005
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

We want a chart or study that shows cancer or any other health risks vs. time exposed at 115 kV and 345 kV EMF levels. Can CL&P furnish epidemiological data such as this? Given all of the data presented by CL&P in CSC docket 272, did CL&P or its expert witnesses present this type of information? Can and will CL&P present this data at the docket 370a evidentiary hearings, why or why not?

Response:

CL&P knows of no epidemiological study of the type the question describes ever being performed or proposed.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-006
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

On the actual 345 kV power line loads calculated in the study that CL&P sent on June 16, 2009 what and whose assumptions did CL&P use? What percentage increase is CL&P factoring in for growth in electric demand over the next 1, 2, 3, 4, and 5 years, and in 10 years.

Response:

CL&P's assumptions for determining the line currents to model for magnetic field calculations are described in Section O.3.2 of CL&P's Application. Please note in particular following the key assumptions. CL&P assumed that all four of the New England East-West Solution Projects had been completed, that the Connecticut import limit would increase from its current maximum of 2,500 MW to 3,600 MW, and that Connecticut would be importing power at the 3,600-MW limit for the APL loading condition and 2,700 MW for the AAL and PDAL loading conditions. CL&P also assumed that the Connecticut east-west power transfer limit would be significantly increased by the four NEEWS projects from its current maximum of 1,900 MW to 3,400 MW, and that Connecticut's east-west power transfer would be 3,400 MW for the APL loading condition, 2,600 MW for the PDAL loading condition, and 2,300 MW for the AAL Loading condition. These are very conservative assumptions for the post-NEEWS future, meaning that they introduce higher power flows into Connecticut over the proposed 345-kV line than can otherwise occur under normal operating conditions. If the remaining NEEWS projects are not all completed as currently envisioned by CL&P, or if Connecticut maintains a competitive generation fleet such that the state relies less on imported power, then the power flows over the proposed line, therefore currents, will be lower than CL&P used for its modeling of magnetic fields. No matter what the system load growth rate is, the above-mentioned power-transfer limits will dictate. The system must be operated with enough generation on in CT so that power imports and CT east-west power transfers will not exceed the transfer limits.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 06/30/2009
Q-CAOPLC-007
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Has CL&P anticipated the growth of plug in electric hybrids (PHEV) and fully electric vehicles? Are PHEV vehicles and electric cars considered and contained in the demand forecasts and load and reliability assumptions used for the GSRP? If No, please explain why not and why CL&P feels this data can be omitted?

Response:

Assuming this question is in regard to EMF projections, please see the last part of the response to Data Request CAOPLC-01, Q-CAOPLC-006.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-008
Page 1 of 2

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

How much of the actual power that will be transmitted through the GSRP/NEEWS power lines will be used in Connecticut? Please provide a percentage range.

Response:

Power flows are based on physics, and in the tightly intergrated New England transmission system it is virtually impossible to determine whether each kW of the electric power imported into Connecticut is used to serve in-state customer load or whether it combines with electric power generated within the state to be transported out-of-state. The amount of power imported into Connecticut in any hour varies, but the percentage of any imported power that would typically flow on the various Connecticut Import interface lines, once the GSRP line is completed, is provided in a table on page 2 of 2 of this response. Power flows on the Massachusetts/Connecticut interface typically range between 25 and 50% of Connecticut's import demand, and this example reflects 46%. The exact percentage of power that flows on any line varies hour by hour and is controlled by the New England Independent System Operator, ISO-NE.

Interconnection	Line/Equipment ID	Voltage	From Bus	To Bus	% of Import
Lines/Equipment that connect Connecticut to Rhode Island	330 Line	345-kV	Lake Road	Card Street	28%
	1870S Line	115-kV	Wood River	Shunock	1%
	Killingly 2X Autotransformer	345/115-kV	Killingly 345	Killingly 115	7%
Lines that connect Connecticut to Massachusetts	395 Line	345-kV	Ludlow	Barbour Hill	22%
	3216 Line	345-kV	Agawam	North Bloomfield	24%
Lines that connect Connecticut to New York	398 Line	345-kV	Pleasant Valley	Long Mountain	17%
	690 Line	69-kV	Smithfield	Salisbury	1%

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-009
Page 1 of 2

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

How much of the actual power that will be transmitted through the GSRP/NEEWS power lines will pass through Connecticut and ultimately be used by consumers outside of Connecticut's borders? Please provide a percentage range.

Response:

In a tightly integrated transmission system such as New England's, it is virtually impossible to determine whether each kW of the electric power imported into Connecticut is used to serve in-state customer load, or whether some of this power combines with electric power generated within the state and is transported out-of-state.

The table on page 2 of 2 of this response provides ranges for expected normal and emergency power flows on the Connecticut Import interface lines expected after the GSRP project is completed. The exact amount of power that flows on any one of these lines varies hour by hour and is controlled by the New England Independent System Operator, ISO-NE. The table shows that power flows on most of these lines are bidirectional; the direction and amount of power flow are each driven by the economic generation dispatch within New England, the delivery of contracted power, and transmission system reliability requirements. The row in the table in bold shows the power flow on the GSRP 345-kV line in Connecticut.

Expected Flows on lines after Greater Springfield Reliability Project

Interconnection	Line/Equipment ID	Voltage	From Bus	To Bus	Normal Transfer	Emergency Transfer
Lines/Equipment that connect Connecticut to Rhode Island	330 Line	345-kV	Lake Road	Card Street	-300 to 1000	-400 to 1500
	1870S Line	115-kV	Wood River	Shunock	-100 to 100	-150 to 150
	Killingly 2X Autotransformer	345/115-kV	Killingly 345	Killingly 115	50 to 300	50 to 400
Lines that connect Connecticut to Massachusetts	395 Line	345-kV	Ludlow	Barbour Hill	-150 to 700	-300 to 1200
	3216 Line	345-kV	Agawam	North Bloomfield	-150 to 700	-300 to 1200
Lines that connect Connecticut to New York	398 Line	345-kV	Pleasant Valley	Long Mountain	-300 to 300	-400 to 600
	690 Line	69-kV	Smithfield	Salisbury	-10 to 10	-10 to 10
Cross Sound (HVDC) Long Island Cable	481 Cable	300-kV	Halvarsson	Tomson	346	-330 to 346
	601,602,603 Cables	138-kV	Norwalk Harbor	Northport	-10 to 10	-450 to 450

Note that positive indicates flow from the "From Bus" to the "To Bus"

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Here is an explanation of why metrics like the AAL are not meaningful especially to a layperson concerned about his or her EMF exposures and cancer risk: Suppose I had a Ferrari. If my average speed for a six hour European trip was 55 mph that sounds very responsible and safe. But what if I then told you that I derived that average speed by travelling back roads at 37 mph for most of the trip with a couple of bursts to 170 mph on the German Autobahn? The average speed is not problematic or dangerous, the maximum speed is. An average EMF without quantifying the low and high boundary numbers is very misleading and of little or no value. So given this example as our preface:

- a. What is the theoretical maximum EMF that could come from the proposed 345 kV GSRP line at theoretical maximum demand? What is the theoretical minimum and maximum power that can go through the 345 kV transmission lines?
- b. How much more would the EMF's increase on the GSRP power lines if the demand assumptions are wrong and PHEV and/or electric use escalates over the next decade 10%, 15% and 20% beyond current GSRP/NEEWS and ISO-NE demand assumptions?

Response:

The analogy of the speed of a vehicle to the current flow on a transmission line is flawed. While there is a clear relationship between increases in the the speed of a vehicle and increase in risk of harm, such is not the case with respect to EMF exposure. National and international agencies have not determined that magnetic fields associated with electric transmission lines pose any risk, nor have they determined that increasing levels of exposure result in increased risk.

a. CL&P provided calculations of the magnetic field at an expected future maximum load (Annual Peak Loading) in Appendices O-3, O-4, and O-5. This load level was approximately 900 MW. With respect to the assumptions noted in the response to Data Request CAOPLC-01, Q-CAOPLC-006, these results represent the theoretical maximum power that can go through the proposed North Bloomfield to Agawam 345-kV line (whether the energy is used to power lights, electric vehicles, or anything else), with two exceptions. For a brief system emergency period, a higher load could flow until operators responded to make adjustments. Also, if additional transmission lines following the NEEWS program are ever constructed such that Connecticut's power-import limits could be further increased, it's possible that an allowable maximum load over this transmission line would be higher, but it may be more likely that it would be lower.

The theoretical minimum magnetic field from the 345-kV line is zero milliGauss, as when the line is out of service.

b. Please see the last part of the response to Data Request CAOPLC-01, Q-CAOPLC-006.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-011
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Would CL&P ever propose the use of 765 kV power lines in Connecticut? Does CL&P feel that ultra high voltage lines such as 765 kV lines can be safely used in residential areas?

Response:
The integrated bulk-power system in the New England States is built with 345-kV transmission lines. CL&P has no plans to propose 765-kV lines in CT. If a 765-kV line were to be proposed in Connecticut, it would have to meet National Electrical Safety Code, Connecticut Department of Public Utility Control and Connecticut Siting Council requirements for safety.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-012
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
And while technically not an EMF question; please provide estimates on noise (in db levels) that could be expected to arise from the GSRP 345 kV transmission lines both in dry and wet conditions.

Response:

Calculations of the audible noise produced by the 345-kV line in the XS-2 section of the proposed route, after a brief period of weathering removes surface wax on the conductors, are as follows:

XS-2 345-kV Line Design	Fair Weather, West ROW Edge	Fair Weather, East ROW Edge	Foul Weather, West ROW Edge	Foul Weather, East ROW Edge
Base Case H-Frame Line	13.3 dBA	11.4 dBA	38.3 dBA	36.4 dBA
BMP Delta Line	13.4 dBA	12.2 dBA	38.4 dBA	37.2 dBA

On the ROW with either line design, the calculated audible noise levels do not exceed 45 dBA.

These audible noise figures represent 50% levels, meaning that half of the time foul weather levels will be higher by up to 6 dBA. However, the higher noise levels are produced during periods of heavy rain when the level of rainfall noise tends to mask the line noise.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-013
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

We understand that there is much audible noise in foggy or wet conditions from the power line's corona. Does CL&P agree or disagree that just like there is a "buffer zone" for EMF's (established by the CSC in docket 272 to be the ROW edge) that it would be appropriate to establish a "residential noise buffer zone" in the siting of transmission power lines?

Response:

See the response to Data Request CAOPLC-01, Q-CAOPLC-012. Transmission lines like the proposed North Bloomfield to Agawam 345-kV line are designed not to be significant sources of audible noise. In fact the GSRP line is proposed with larger diameter conductors than have been used on other 345-kV lines in Connecticut, which further reduces their production of corona-caused audible noise. A typical ROW width for such a line effectively provides a buffer zone outside of which wet-weather audible noise levels remain below the lowest allowable noise levels at a residential abutter per the State of Connecticut's noise -control regulations.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-014
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

What is CL&P's assessment of the environmental impact on our native fauna from corona noise? Have studies been done on this subject? If so, please include references of where these studies can be found for review.

Response:

Research was conducted in the past to assess the potential for disturbance to fauna from audible noise from high voltage transmission lines (Goodwin, 1975; Schrieber et al., 1976; Rogers et al., 1980; Rogers et al., 1982; Picton et al., 1985). As no clear or adverse effects were reported, further evaluation has virtually ceased. Some of the more comprehensive studies include studies conducted by the Bonneville Power Administration in Idaho of deer and elk (Goodwin, 1975), and in Oregon of grazing cattle (Rogers et al., 1980; Rogers et al., 1982).

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 06/30/2009
Q-CAOPLC-015
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Would CL&P be willing to ask the CSC to develop and adopt regulations for a "residential noise buffer zone"? Why or why not?

Response:

Although noise generated by transmission facilities located on property which is not owned by the public utility and which may or may not be within utility easements is exempt from the Connecticut noise-control regulations, transmission line corona noise at right-of-way edges does not exceed the lowest allowed levels in these regulations for residential areas. CL&P does not perceive that additional requirements beyond those called for by good engineering design and the Connecticut Siting Council are necessary.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-016
Page 1 of 3

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

CAOPLC sent an email to CL&P (Jeff Towle) on October 30, 2008 with several requests and questions regarding work that would be done in the right-of-way easement for the GSRP.

Here is a reprint of that October 30th letter (bold and italics emphasis added). Please read the material below and provide answers to the following questions, including legal justification for your answers:

"(4) I am, and if I may speak for our group Citizens Against Overhead Power Line Construction, uncomfortable and not satisfied with a door hanger notice that provides minimal information about what is going to occur with the drilling process.

Here is what I and Citizens Against Overhead Power Line Construction feels is a reasonable, mutually respectful and realistic request:

(a) We want certificates of insurance from CL&P and/or any sub-contractors who will be entering and working on our properties. This should include General Liability, Workers' Compensation, Automobile, Inland Marine, Umbrella and Professional Liability insurance coverage. The certificates of insurance coverage should follow the (risk management) protocols that CL&P would require of sub-contractors whenever you engage people or companies for CL&P, and that is to include the name of the applicable insurance company per line of insurance coverage, each insurer's A.M Best rating, policy and coverage expiration dates, coverage limits and note any significant exclusions such as a pollution exclusion.

Also, should any of the multitudes of your engineers and consultants and other experts and professionals' work product or expert opinion or expert conclusions be found to be in error and favorable to CL&P, we want to preserve not only our right to sue but make certain that there is an adequate source of funds through a professional liability policy to provide us with appropriate and sufficient compensation for their act, error or omission.

(b) We want a hold harmless from CL&P and any sub-contractor executed in favor of each property owner. Our part of Suffield and East Granby, while residential, is different than say a residential neighborhood in Westport or Milford. Our towns embrace and preserve the historic agricultural heritage that is the very essence of this part of Connecticut, the Metacomet Trail and the Tobacco Valley. I will say this once again, our agricultural heritage is a large factor in our quality of life and why we choose to, and love to, live here.

But that difference means there may also be old metal objects in the soil, strands of barbed wire and other possible injurious objects, animals or other situations in or along the right of way. CL&P is coming onto our property for its benefit and should assume all responsibility for any acts or injuries to workers and sub-contractors and also to our property and affirm so in writing each time it enters our property.

Should there be inadequate insurance coverage, we should be able to refuse entry and property access until satisfactory coverage in place.

(c) CL&P should also ask each time it enters a property and seeks to remove trees or spray herbicides or bring onto the property other injurious chemicals, whether or not this is acceptable to the property owner. We discussed this topic in detail during the in-home meetings this summer.

- a. Please explain why CL&P refuses to give each ROW property owner or abutter a certificate of insurance showing that any contractor or sub-contractor that CL&P has engaged to perform work in the ROW has proper Workers Compensation and Liability insurance? Please explain CL&P's reasoning and legal justification for this position beyond "it is not our policy to do so."
- b. Given that CL&P is not an invitee and is entering the ROW for its own economic benefit, please explain why CL&P refuses to give each ROW property owner or abutter a hold harmless agreement for any CL&P employee or any contractor or sub-contractor that CL&P has engaged to perform work for CL&P in the ROW. Please explain CL&P's reasoning and legal justification for this position beyond "it is not our policy to do so."
- c. CL&P has refused to refrain from spraying herbicides on ROW property even if and when a property owner asks CL&P not to use chemicals. Please explain in your answer CL&P's reasoning and legal justification for this position referencing the easement agreement and once again, "it is not our policy to do so" is not an acceptable and sufficiently detailed answer.
- d. Has CL&P ever sued a ROW land owner, or sought compensation or legal remedy such as an injunction from the same for an accident to a CL&P employee or contractor? Has CL&P ever sought any of the above remedies for what CL&P felt to be a hazardous condition on a land owner's property?

Response:

CL&P objects to this question, which does not seek information that is relevant and material to this Docket.

Notwithstanding such objection, CL&P responds as follows:

CL&P did receive an e-mail and letter dated October 30, 2008 from you. Since it is not "reprint[ed]" in full in the above question, CL&P has attached copies of the e-mail and letter to this response as CAOPLC-016 Attachment 1 and CAOPLC-016 Attachment 2.

Neither CL&P nor its contractors have engaged in any activity on the ROW that is not authorized by its easement rights, and CL&P has no intention of doing so in the future nor will it authorize its contractors to do so. Indeed, CL&P has to date refrained from performing necessary geotechnical borings within the ROW over your property (which is authorized by the easement) because of your strong statements in your October 30, 2008 letter and in certain other communications.

CL&P vegetation management contractors will apply herbicides in the expanded vegetation management area on the ROW in a very selective manner to control undesirable species, as they have done for years within the portion of the ROW that is now maintained. Herbicides are not sprayed in a broadcast, indiscriminate manner to all areas of the ROW, but only on the individual stems of the plant species that are to be controlled. Herbicides will be used in accordance with current federal regulations, State of Connecticut pesticide statutes, and product labels. Applications of herbicides on CL&P ROWs will be made by certified/licensed applicators, as they are now on the existing ROW.

It is unlikely that CL&P has ever sought compensation from a ROW land owner, through a lawsuit or otherwise, based on an accidental injury to a CL&P employee or contractor. However, an attempt to provide an authoritative answer to that question would require unreasonably burdensome research, and a definitive answer is probably impossible.

When landowners have created conditions on their property in contravention of CL&P's easement rights, and those conditions create a potential hazard to a line within a right-of-way, CL&P has enforced its easement rights by seeking injunctive relief.



"rlegere" <rlegere@cox.net>

To Jeffrey M. Towle/NUS@NU

cc

10/31/2008 03:42 PM

bcc

Subject Please see attached letter

History:

✉ This message has been forwarded.

Jeff:

Please review the attached letter regarding the drilling in Suffield.

Thank you,

Richard Legere

Citizens Against Overhead Power Line Construction

Phone: 860-668-0848

Email: rlegere@cox.net

Web: www.nopowertowers.info



Jeff Towle 10-30-08.doc

Richard and Diane Legere

October 30, 2008

Mr. Jeffrey Towle
NUSCO
P.O Box 270
Hartford, CT 06141-0270

SENT VIA EMAIL AND CERTIFIED LETTER

Re: Test Drilling for NEEWS/Greater Springfield Reliability project on Newgate Road

Dear Mr. Towle:

This letter is to inform you that I have posted my property and also taken the liberty of speaking with some of the drilling sub-contractor crew to inform them that they are not to enter my property without my permission, or a court order or some other legal instrument, for the purposes of test drilling.

I did not mind CL&P looking for archeological artifacts, or cataloguing for example, indigenous native species on the property. Drilling is a different matter.

If I am to correctly understand where the drilling is to occur, it is seventy-five (75) feet directly to the East of the existing 115 kV tower. From the very first time I met with CL&P representatives at the Suffield open house, I voiced very, very strong objections to the siting and construction of a tower in that location, or for that matter East of the existing 115 kV tower for a number of reasons. Once again here are my reasons for this decision:

(1) We own 28.99 acres. That is approximately 1.2 million square feet of property. Our neighbors, the Harris's property is 31 acres. Where do you propose to locate the proposed 345,000 kV line? Approximately 230 feet from the Harris's home, almost directly over their horse barn and approximately 325 feet from our home. That is too close, much too close to provide adequate screening from the visual and EMF impacts of the new 345 kV towers. And if it were not such a serious matter, it is ironically ridiculous and almost laughable with all of the land available for siting a tower.

(2) I will fight as vigorously as possible to protect the stand of old growth trees CL&P wants to clear cut to accommodate the proposed eastward siting of the 345 kV tower. The large color picture on our web site shows the very southern most part of that mature tree stand. It provides three season EMF and visual screening from the 115 kV lines and it is a beautiful and a much treasured part of our property. **To allow you to test drill, sets a precedent that says I am OK with the construction of a tower**

Richard and Diane Legere

for its benefit and should assume all responsibility for any acts or injuries to workers and sub-contractors and also to our property and affirm so in writing each time it enters our property.

Should there be inadequate insurance coverage, we should be able to refuse entry and property access until satisfactory coverage in place.

(c) CL&P should also ask each time it enters a property and seeks to remove trees or spray herbicides or bring onto the property other injurious chemicals, whether or not this is acceptable to the property owner. We discussed this topic in detail during the in-home meetings this summer.

CL&P's response is that we, the property owner should take the imitative contact CL&P whenever CL&P does work to voice any concerns about chemicals. This is exactly backwards. It presumes we will always know when you are on our property doing work and that we should be responsible for chasing CL&P. We could be away on vacation when a door hanger is placed for example. CL&P should take the responsibility to inform us and seek our permission when work of this nature is done, each and every time it is done and not do anything unless expressly approved..

For the record, we have organic fruit trees. **You may not ever use herbicides or other chemicals on my property without our express written permission.** Please note this request in a data base and if you do not have a database for this purpose maybe it would be a good idea to build and implement one.

(d) Should trees be cut, we have no idea what happens to the wood. The wood is our property and wood, especially now with high fuel prices, is a valuable commodity. No mention has ever been made by CL&P to address this issue. We would like it affirmed in writing should any trees be cut, that it will be CL&P's practice to cut the trees into a reasonable length and placed and stack them in an area designated by the property owner.

I would also like to have the trees catalogued by species before they are cut because high value trees such as a black walnut, as an example, should not be dealt with in a cavalier fashion.

Sincerely,

Richard Legere

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read the material below and provide answers to the following questions, including legal justification for your answers:

CL&P has said to me (Richard Legere) when I have questioned work that CL&P wants to do on my right-of-way property, that they have an absolute right to do so. For example I have told CL&P that I do not want herbicides sprayed on our property.

CL&P maintains that when we bought our property my wife and I enjoyed a reduced or below market price for our property because of the existing CL&P 115 kV power lines and that reduction in price establishes their contractual rights under the right-of-way agreement that was originally negotiated by HELCO. Further CL&P says it acquired the right-of-way land as a part of the HELCO purchase and this is what CL&P believes established their present day ROW rights.

On the other hand when it comes to questions of will CL&P compensate East Granby and Suffield residents for the loss of property value from the proposed new 345 kV overhead GSRP power line, CL&P paradoxically has told the affected residents that the new GSRP overhead lines will cause no loss of property value. Logically, either power lines cause a loss of property value or they don't.

- a. Please explain how or why CL&P believes its purported rights to the existing 115 kV power line easement in East Granby and Suffield have been perpetuated and exist?
- b. Why is CL&P refusing to acknowledge that East Granby and Suffield residents are allowed compensation for the diminished property values that will result from the GSRP power lines?
- c. Does CL&P plan to submit a paper on property values that CL&P commissioned from a Dr. James Chalmers, PhD into the CSC proceedings to support CL&P's claim that there is no loss of property value from newly constructed and existing overhead power lines?
- d. Does CL&P plan to call Dr. Chalmers as an expert witness with respect to the commissioned property value study?
- e. Will Dr. Chalmers testify in person at the CSC hearings?
- f. If Dr. Chalmers is not going to offer his testimony will another expert testify? If another person or firm will testify we would like to have their materials in advance for review.

Response:

CL&P objects to this question because it does not seek information that is relevant and material to this Docket. Notwithstanding this objection, CL&P responds as follows:

CL&P's rights with respect to the ROW are those granted in its easements. A set of easements relating to the Legere property, which are typical of those for the ROW north of Granby Junction, is attached hereto as CAOPLC-017 Attachment 1. Note that the 1924 easement, which related to the portion of the ROW where the existing 115-kV line now stands, conveys, among other rights:

...the perpetual right, privilege and easement to enter upon and to erect, maintain, inspect, operate, replace, remove, repair and patrol a line of either wood or steel poles and a line of towers, which lines may be erected simultaneously or at any future time, with lines of wires, cross arms, guy wires and other usual fixtures and appurtenances used or adapted for the transmission of electricity....

and that the 1970 easement, which relates to the entire width of the existing ROW, conveys rights to erect electric transmission facilities, without limiting the number or type of such facilities. That easement conveys, among other rights:

...the right and easement to construct, repair, maintain, replace, relocate, inspect, operate and remove over and across said right(s) of way, poles, towers, crossarms, guys, foundations, anchors, braces and other structures, wires, cables and other conductors and other fixtures and appurtenances useful for conducting electricity and/or for providing and maintaining electric and/or communication service...

Because the easements authorize the proposed construction, the landowner is not entitled to additional compensation for the exercise of these rights.

The existence of an easement on your property is likely to have affected its value when the easement was granted, and when you purchased the property. An easement represents an encumbrance on the property, and thus a potential influence on its market value, whether the easement rights have been exercised at all, or partially exercised (such as by the construction of a single authorized transmission line) or exercised to a greater extent (such as by the construction of two or more authorized lines.)

CL&P does not consider landowners' claims of diminished property value to be within the scope of this proceeding, and accordingly it has not submitted any paper of Dr. Chalmers to the Council, nor submitted any pre-filed testimony from him as part of its direct case. Should another party or intervenor be permitted to introduce this issue into the proceeding, CL&P may call Dr. Chalmers as a rebuttal witness.

CL&P has not maintained that it has "absolute" rights with respect to your property. It has such rights as are conveyed by the easements to which your property is subject. These rights do, however, include the right to construct overhead transmission lines, and "the right to ...cut, clear, and remove, by mechanical means or otherwise...underbrush and other growth, other than crops, any part of which are within the limits of said right(s) of way...and the right temporarily to sterilize said right(s) of way by means of chemicals nonpoisonous to anything except vegetation, such right to sterilize not to apply to any area which at the time of exercising such right is used for growing crops, other than trees, or for mowing or grassland..." See, the 1970 easement, Attachment 1 to this response.

In addition, CL&P's right to construct "foundations" for support structure includes the right to take geotechnical borings necessary for that purpose. Nevertheless, to date, CL&P has refrained from exercising that right due to the strong language in your letter of October 30, 2008 (see CAOPLC-01, Q-CAOPLC-016, Attachment 1) and in other communications from you, refusing to allow a crew on your land to conduct that work.

VOL 49 - PAGE 5 VOL 123 PAGE 539

EASEMENT

For a valuable consideration, receipt of which is hereby acknowledged, STANLEY B. CLARK and CATHERINE A. CLARK, both of the Town of Suffield, County of Hartford, State of Connecticut hereinafter called Grantor (s), hereby grant (s) unto THE HARTFORD ELECTRIC LIGHT COMPANY, its successors and assigns, hereinafter called Grantee, the following rights and easements:

1. The right and easement to enter upon and to travel and transport materials over and across the right (s) of way hereinafter described, and a reasonable right of access over and across adjoining land of the Grantor (s) to said right (s) of way; and
2. The right and easement to erect, construct, repair, maintain, replace, relocate, inspect, operate and remove upon, over, under and across said right (s) of way, poles, towers, crossarms, guys, foundations, anchors, braces, ducts, manholes and other structures, wires, cables and other conductors, and other fixtures and appurtenances useful for conducting electricity and/or for providing and maintaining electric and/or communication service, and monuments and signs to locate said right (s) of way; and
3. The right to conduct electricity and to provide electric and/or communication service by means of the same; and
4. The right to trim and keep trimmed, cut, clear and remove, by mechanical means or otherwise, trees or limbs and branches thereof, underbrush and other growth, other than crops, any part of which are within the limits of said right (s) of way or on adjoining land of the Grantor (s) and which may interfere with the exercise of the rights and/or easements herein granted, or any of them, or which may create a hazard; the right to burn or otherwise dispose of all wood cut; and the right temporarily to sterilize said right (s) of way by means of chemicals nonpoisonous to anything except vegetation, such right to sterilize not to apply to any area which at the time of exercising such right is used for growing crops, other than trees, or for mowing or grassland; and
5. The right to remove any structures within or projecting into the right (s) of way hereinafter described.

Said right of way extends across a certain piece or parcel of land situated easterly of Newgate Road in the Towns of Suffield and East Granby, County of Hartford, State of Connecticut, and being more particularly bounded and described as follows:

Commencing at a point in the southwesterly line of land now or formerly of J. Roy Kehoe in the Town of Suffield which point is marked by an iron pin and which point designates the northwesterly corner of the premises herein described; thence running in a southwesterly direction along other land of the Grantors herein in a line parallel to and 222.5 feet northwesterly from, when measured at right angles thereto, the survey line of the North Bloomfield-Agawam right of way of the Grantee herein, and crossing the town line dividing the Town of Suffield from the Town of East Granby a distance of 1930 feet, more or less, to a point in the northeasterly line of land now or formerly of B. Beman Griffin; thence running in a southeasterly direction along said northeasterly line of land now or formerly of B. Beman Griffin a distance of 305 feet, more or less, to a point; thence running in a northeasterly direction along other land of the Grantors herein in a line parallel to and 82.5 feet southeasterly from, when measured at right angles thereto, the aforesaid survey line and crossing the town line dividing the Town of Suffield from the Town of East Granby to a point in the southwesterly line of land now or formerly of J. Roy Kehoe; thence running in a northwesterly direction along said southwesterly line of land now or formerly of J. Roy Kehoe a distance of 305 feet, more or less, to the iron pin at the point and place of beginning.

Said right of way contains 13.66 acres, more or less, and is designated as Parcel 1 on a certain map entitled, "Right of Way Across Property of Stanley B. Clark & Catherine A. Clark East Granby & Suffield, Conn. The Hartford Electric Light Co. Scale 1" = 300' Date July 8, 1968 No. B273A27", Sheet No. 26, a copy of which is to be filed in the offices of the Town Clerk's of East Granby and Suffield.

Certified copy of original recorded

This date July 2, 1970

Wm. B. [Signature] Pg 539-541 ATTEST [Signature] Town Clerk

Town of Suffield, CT Date: NOV 0 3 2008

6

- 3 - VOL 123 PAGE 541

STATE OF CONNECTICUT
COUNTY OF HARTFORD ss. Suffield Conn. February 14, 1970

Personally appeared Gathering A. Clark Clerk

signer(x) and sealer(x) of the foregoing instrument on behalf of

and acknowledged the foregoing instrument to be the act and deed of

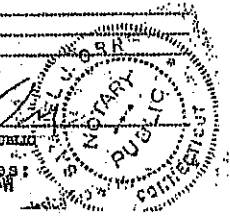
and has free act and deed

before me,

Samuel J. [Signature]
Samuel J. [Signature]

My commission expires:

My Commission Expires Mar. 11, 1974



APPROVED:

Received February 14, 1970 at 10:02 A. M.

Rec 2 5 70
GW 2/2/70

By E. Eric H. Miller Town Clerk.

Received for record June 25, 1970 at 9:30 AM

Harold M. [Signature] Town Clerk

C.P. 8572 All-544-51 C.L.B.

Release of Real Estate Attachment No. 152A Cleveland Legal Blank Service, Inc. Hartford, Connecticut

LIBERO PALINO et al
vs.
COMMON PLEAS Court
HARTFORD County
JAMES M. JACOBS June 8th, A.D. 19 70

RELEASE OF ATTACHMENT

This is to certify that a certain attachment lien filed in the Town Clerk's Office in the town of Suffield in the County of Hartford and State of Connecticut on the 5th day of July, A.D. 19 58, and recorded in Vol. 64 page 179 in favor of LIBERO PALINO et al the plaintiffs in said action and against JAMES M. JACOBS defendant upon certain real estate situated in said town of Suffield and more particularly described in said lien is hereby released and wholly discharged, the debt thereby secured having been fully satisfied.

Dated at Hartford Conn., this 8th day of June, A.D. 19 70.

Received for record
July 2, 1970 at 9:30 AM

Harold M. [Signature]
Town Clerk

PLAINTIFFS - Libero Palino et al
by Anthony A. Toward Attorney of Record
Anthony K. Toward
and the authority subscribing the writ of attachment.
Plaintiff

Know All Men By These Presents, That I, Mary Guozots of the town of Suffield, Conn., do hereby release and discharge a certain mortgage from Charles and Afnes Elkince to myself dated Nov. 8, 1922 and recorded in the Records of the town of Suffield County of Hartford and State of Conn. in Vol. 55, at Page 225 towchick reference may be had;

In Witness Whereof, I have hereunto set my hand and seal this 30 day of April in the year of our Lord, nineteen hundred and twenty four.

Signed, Sealed and Delivered in the presence of

L. G. Allen

Evelyn G. Broughton
State of Connecticut,
County of Hartford

Certified copy of original recorded

this date May 15 1924

Vol. 56 Page 225-226 ATTEST

Town of Suffield, CT

Town Clerk
NOV 03 200

ss Suffield, April 30, A.D. 1924.

Personally appeared Mary Guozots, Signer and Sealer of the foregoing Instrument, and acknowledged the same to be her free act and deed before me

Louis G. Allen, Notary Public.

Received for Record April 30, 1924 and recorded by Louis G. Allen, Town Clerk, 2 P.M.

#####

Cemetery Agreement.

Know all Men by these Presents that I, Fannie K. Spencer the undersigned, in accordance with the provisions of Section 3039 of the General Statutes of the State of Connecticut, Revision 1918, and in accordance with the vote taken by the Town of Suffield, as provided by Section 3041 of said General Statutes, at a Town meeting held October 7th, 1895, accepting the trust provided for in the above section, do hereby give unto the Town of Suffield the sum of fifty dollars in perpetuity, to be controlled by the Selectmen and Town Treasurer for the following purposes, to wit; To use the income and increase therefrom for the purpose of keeping "The Thaddeus H. Spencer Burial Lot," so-called, located in Woodlawn Cemetery, and the monuments and headstones on said lot in good condition forever.

So much income as may be necessary to keep the lots in good condition shall be expended thereon annually and the accumulations of income shall be expended upon the monuments and headstones as shall appear necessary from time to time.

Mrs. Fannie K. Spencer.

Above trust accepted by the Town of Suffield by;

Ames B. Crane Selectmen of
Judson L. Phelps The Town of
Edwin G. Warner Suffield, Conn.

Dated at Suffield, Conn., this 1 day of April, 1924.

Received for Record May 6, 1924 and recorded by Louis G. Allen, Town Clerk.

#####

Right-of-Way Easement.

To All People To Whom These Presents Shall Come, Greeting; know ye that I, Willett B. Clark, of the Town of Suffield, County of Hartford, State of Connecticut, hereinafter known and designated as "Grantor," for the consideration of the sum of one dollar and other valuable considerations to me in hand paid by Thw Hartford Electric Light Company, a corporation organized under the laws of the State of Connecticut, herinafter known and designated as "Grantee," receipt whereof is hereby acknowledged, do hereby grant, bargain, sell and confirm unto the said grantee, and grantee's successors and assigns;

The perpetual right, privilege and easement to enter upon and to erect, maintain, inspect, operate, replace, remove, repair and patrol a line of either wood or steel poles and a line of towers, which lines may be erected simultaneously or at any future time, with lines of wires, cross arms, guy wires and other usual fixtures and appurtenances used or adapted for the transmission of electricity and for telephone or telegraph use together with all necessary

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Without asking CL&P or its attorneys to comment in detail on pending litigation, Yes or No answers will suffice for the following questions on the class action lawsuit brought against CL&P by the residents of Durham and several other Connecticut towns. This law suit alleges that significant loss of property value resulted from the installation of overhead line transmission lines on the Norwalk to Middletown part of NEEWS. This material is in the public record Reference to the Durham lawsuit can be found in the Hartford courant archives or at this link to the WFSB web site, <http://www.wfsb.com/news/13490346/detail.html> .

- a. Is it CL&P's stated position in defending against this law suit that power lines do not cause a loss of property value? Yes or No.
- b. Is CL&P proceeding to trial on this matter? Yes or No.
- c. Has CL&P offered to negotiate a settlement with any or all of the plaintiffs? Yes or No.
- d. Has CL&P reached a settlement with any or all of the plaintiffs? Yes or No.
- e. If CL&P reaches a settlement with plaintiffs does CL&P seek to keep the settlement confidential? Yes or No.
- f. Should CL&P reach a settlement with the Durham lawsuit plaintiffs, will CL&P voluntarily offer to fairly compensate East Granby and Suffield residents if GSRP overhead lines are approved and independent appraisals confirm that there is a loss of property value?
- g. Is CL&P willing to provide a boilerplate settlement agreement similar to the one that it would potentially use in the above settlement questions? Yes or No.
- h. Since the above question is general in nature and is not a question associated directly with the pending litigation, if CL&P's answer is NO, please explain why CL&P would not be willing to provide such a document for the CSC and other parties and intervenors to review to ascertain whether or not CL&P is treating plaintiffs fairly or onerously in settlement negotiations.

Response:

CL&P objects to this question, which does not seek information that is relevant and material to the issues in this Docket. Notwithstanding this objection, CL&P responds:

The litigation to which you refer is not a "class action". Rather, individual actions were brought on behalf of the owners of 28 of the more than 500 parcels crossed by easements where overhead transmission facilities were constructed as part of the Middletown to Norwalk project (which is not part of NEEWS). The claims were resolved by stipulated judgments, in most cases after a partial summary judgment had entered in favor of CL&P. An example of the stipulated judgments is provided as CAOPLC-018 Attachment 1 to this response.

CL&P declines to provide copies of any non-public documents relating to these dispositions. CL&P will not offer to make payments to landowners in East Granby and Suffield for the exercise of its easement rights, regardless of whether claims for such payments are supported by purportedly independent appraisals.

DOCKET NO. (X06) UWY-CV-09-4019304-S : SUPERIOR COURT
PAUL J. SIRES, ET AL. : COMPLEX LITIGATION
VS. : J.D. OF WATERBURY
THE CONNECTICUT LIGHT AND
POWER COMPANY, ET AL. : JUNE , 2009

STIPULATION FOR JUDGMENT FOR DEFENDANT

The plaintiffs, Paul J. Sires and Tracie R. Sires, and the defendants, The Connecticut Light and Power Company and Northeast Utilities Service Company hereby stipulate that judgment shall enter in favor of the defendants and against the plaintiffs on all counts of the operative complaint in the above-captioned action, each party to bear its own costs ("Stipulation"). The parties further stipulate that:

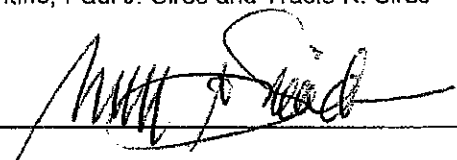
1. That certain Easement in favor of The Connecticut Light and Power Company dated October 11, 1958 and recorded on the land records of the Town of Wallingford at Volume 269, Page 447 includes, but is not limited to, and to avoid doubt, the right to install any and all electric transmission lines, structures, facilities and/or appurtenances thereto as approved by the Connecticut Siting Council in Docket Number 272 and the right to remove vegetation and install access roads performed in connection with the installation of said transmission facilities.

2. A judgment file, by the Court, in the form attached hereto may be recorded upon the land records.

3. The undersigned counsel represent that they have consulted with their clients with respect to the terms of this Stipulation, and that they are authorized to accept the terms of this Stipulation and that they are duly authorized to sign this Stipulation on behalf of their clients.

Plaintiffs, Paul J. Sires and Tracie R. Sires

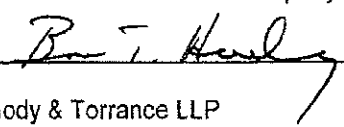
By


Benson A. Snaider, P.C.

The Defendants

The Connecticut Light and Power Company and
Northeast Utilities Service Company

By


Carmody & Torrance LLP

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read the material below and provide answers to the following questions, including legal justification for your answers: CAOPLC conducted anecdotal interviews with area residents asking how HELCO established the East Granby and Suffield ROW easement. In the limited number of conversations we had with Suffield's ROW landowners or their children, those who sold ROW land to HELCO, it was said that how HELCO acquired the right of way property was to say, "We need your property to build a power line. You have two choices: We either pay you what we determine is fair market value or we will take your land through eminent domain and pay you nothing."

- a. Eminent domain takings require fair compensation. So in CL&P's opinion if the land was sold at "gun point" does that or would that violate a key principle of contract law that of free entry into the contractual agreement? Please explain in detail if CL&P's answer is No, why in CL&P's opinion no principles of contract law were violated.
- b. There was little negotiation on either price or contract terms and records show HELCO paid usually \$1.00; did the landowner get fair and reasonable compensation? Please explain in detail if CL&P's answer is Yes, why in CL&P's opinion no principles of contract law were violated.
- c. We would like CL&P's comments and legal opinions on whether or not because of HELCO's actions and practices in acquiring the right-of-way agreement that the present ROW easement with CL&P could be rescinded because it is invalid under the principles of a "Contract of Adhesion" or that of an "Unconscionable Contract" or "Unjust Enrichment."
- d. Does CL&P agree or disagree with the following statement, "If a demonstrable loss of property value occurs to a property owner from CL&P's GSRP overhead power line ROW construction project(s), that loss of property value constitutes a de facto Eminent Domain taking of property without giving the ROW resident the benefit of due process and legal representation." Please answer in detail with a legal justification for your answer.

Response:

CL&P objects to this question because it does not seek information that is relevant and material to this application.

Notwithstanding such objection, CL&P responds as follows;

Its current ROW was acquired in stages. Initially, CL&P's predecessor in title, the Hartford Electric Light Company (HELCO), acquired a ROW in this location, typically 100 feet wide, in or about 1924. Thereafter, HELCO widened the ROW to its current typical widths of 385 feet (south of Granby Junction) and 305 feet (north of Granby Junction). These acquisitions took place generally in the late 1960's and early 1970's. It is unlikely that any of these acquisitions were accomplished at "gun point." In general, a utility seeking to acquire property must exhaust good faith negotiations with the property owner as a condition of thereafter resorting to its eminent domain power, if it chooses to do so. The property owner always has the choice of refusing all offers by the utility and obtaining a court award of fair market value for the interest taken. In fact, none of the easements for this ROW were acquired by eminent domain. It is likely that the reason why some portions of the existing ROW were not expanded is that the landowners were not willing to sell and HELCO did not seek to exercise its eminent domain power to acquire the easements.

HELCO did not pay only a dollar for the easements. It was and is common practice to recite consideration in a deed as "One Dollar (\$1.00) and other valuable consideration," without disclosing the actual purchase price paid. That is likely the reason why the person who was the source of your information may have thought that only a dollar was paid.

CL&P has no doubt that the easements acquired by HELCO are valid and enforceable.

The 1970 easements that CL&P now holds, and for which HELCO paid fair value, convey the right to build, operate, and maintain overhead transmission lines within the easement, and do not restrict the voltage class of such lines. Accordingly, the exercise of these long-standing rights, for which HELCO paid long ago, is not a taking and requires no additional compensation to the landowner.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please explain the design, siting and procurement process for the GSRP and NEEWS with regard to the following questions:

Introductory Comment: When asked about why CL&P is strongly proposing and advocating overhead vs. underground power lines, especially in light of CT 04-246 which requires underground lines in residential areas, in both public and in-home meeting with local residents, CL&P representatives, especially Mr. Carberry referred to a "least cost mandate" and said that CL&P is held to a "least cost mandate"?

- a. Please define and explain what the "least cost mandate" is and provide a copy of its language for review. Is it a Connecticut law? Is it something imposed by DPUC or the CSC? Is it an internal cost saving mandate, or a business model, created by CL&P's management?
- b. CL&P is proposing to use low H-frame wooden towers for the GSRP. What were the key considerations, criteria and metrics used, for proposing the H-frame design for the GSRP overhead power lines to the CSC?
- c. Given that much higher steel towers were used in the overhead sections of the NEEWS power line in Durham and Middlefield, and given that CL&P can model the EMFs from the proposed 345 kV power lines: Why would CL&P re-propose to use H-frame power poles that would not offer much mitigation from EMF exposures in the submitted design for the GSRP in East Granby and Suffield?

Response:

There is no "least cost" mandate. The CL&P representatives may have referred to the legislative requirement that the Council balance certain other values with the need to provide reliable utility service "at the lowest reasonable cost to consumers." In addition, the Siting Council may approve only facilities that are "economically practical." Further, CL&P seeks to assure that transmission improvements that it proposes will be cost-effective. This is not necessarily the same thing as a "least cost" standard.

There is a transmission cost allocation process pursuant to which the construction costs over and above those required by standard good utility practices, including the excess cost of underground line construction where there is an available right-of-way for overhead line construction, will be "localized." See, the pre-filed testimony of Allen Scarfone at 54-58; the pre-filed testimony of Robert Carberry and Scott Newland at 44-53; and CL&P's responses to Data Requests OCC-01, Q-OCC-005 and OCC-007 and CSC-02, Q-CSC-023.

CL&P has proposed H-frame line construction as the "base" design for the North Bloomfield to Agawam ROW because it is the lowest, least visually intrusive, and least expensive option. CL&P has further recommended that steel monopoles with the conductors arranged in a delta configuration be substituted for the H-frame line construction along a 3.2-mile-long section of the ROW, which CL&P has designated a focus area for EMF Best Management Practices. CL&P's reasons for recommending this substitution are set forth in detail at pages 1-34 of its Field Management Design Plan provided as Appendix O-1 to Volume 1 of the Application; and summarized in the pre-filed testimony of Robert Carberry and Scott Newland, at 41-43.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

With regard to specifying and selecting the most appropriate components for use in the GSRP/NEEWS transmission project in terms of cost, reliability, maintenance issues, life span and other important criteria:

- a. How does CL&P determine which and what type of cable(s) it will evaluate and propose for use in the GSRP? Please list the selection criteria
- b. Does ISO-NE opine on and/or suggest transmission power line designs or materials?

Response:

a. Conductor type and size selection for overhead lines and cable type and size selection for underground cable systems each take into account availability, reliability, maintainability, life span and the costs to acquire and install the conductor or cable as well as to operate and maintain it. The conductor type choice for the GSRP 345-kV overhead line is between Aluminum Conductor Steel Reinforced ("ACSR") and Aluminum Conductor Steel Supported ("ACSS"). The cable type choice for an underground 345-kV line is between cross-linked polyethylene cables ("XLPE") and high-pressure fluid-filled cable systems ("HPFF"). The circumstances of a particular application will dictate the number of cables needed for an underground application. Because HPFF cables have much higher capacitive charging requirements than XLPE cables, and a potential for fluid leaks which can be costly to clean up, XLPE cables have become the more common choice for most new applications, despite shorter experience with this technology.

b. For its planning and operating studies, ISO-NE needs to know the electrical characteristics of new lines and their capacity ratings, but ISO-NE does not suggest line designs to utilities. In the exercise of its role in determining transmission cost allocation for the New England region, ISO-NE expects utilities to employ good utility practice for building new transmission lines. ISO-NE does not approve for regional cost recovery, the costs of building a new line above those of a practical and feasible alternative.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-022
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Given that global warming is a serious concern, did CL&P and/or ISO-NE perform a "GREEN ANALYSIS" on overhead vs. underground construction, for example, looking at and quantifying factors such as the environmental impact and environmental and societal costs of clear cutting forest land CAOPLC found that heavily wooded forest such as the forest found in the Metacomet Trail area can absorb as a "carbon sink" 9.2 tons of CO2 per year per hectare (2.471 acres).?

Response:

CL&P will not be "clear cutting forest land". The relative environmental and societal costs of overhead vs. underground line construction are discussed in Section L of Volume 1 of the Application and in the pre-filed testimony of Louise Mango.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Did CL&P consider siting the GSRP transmission lines in the natural gas pipeline right of way that is owned by the Tennessee Gas Pipeline Company? This pipeline ROW runs parallel to CL&P's 115 kV ROW easement through Bloomfield, East Granby and Suffield to CL&P's and goes into Massachusetts. Given the footnoted statistic about forests being a valuable "carbon sink", would CL&P consider doing so? Please explain why or why not in detail.

Response:

CL&P has not considered siting the proposed GSRP transmission lines along the Tennessee Gas Pipeline easement for the following reasons:

Tennessee Gas easements are typically 30 feet wide; the proposed H-frame transmission line requires a ROW width of 150 feet. There would be many homes and businesses along the gas line corridor affected by the installation of the new overhead line which currently do not have nearby overhead transmission lines. In addition, the runway at Bradley International Airport is located approximately 2500 feet from the gas line ROW; installing overhead lines within the gas easement would not be practical.

As for clearing impacts, an H-frame typically requires a 150-foot-wide maintained corridor. However, if the H-frame is constructed next to adjacent overhead lines, only approximately 100 feet of additional vegetation removal is required due to the overlap of vegetation removal between the lines.

The gas line is typically cleared 30 feet in width. Installing a new H-frame transmission line would require an additional 120 feet in width of vegetation removal to occur along this corridor.

In general there are many advantages to siting new transmission lines along existing overhead corridors.

- The impacts to adjacent landowners is reduced because of the existing overhead lines already present, compared to installing a new overhead line along a corridor with only underground facilities.
- The clearing impacts are reduced. Two identical lines on separate independent corridors require more clearing compared to two lines on the same corridor.
- Only one corridor requires maintenance, access roads, and clearing, as opposed to two independent corridors.
- Adjacent lines in the same corridor require less ROW and would have fewer adjacent landowners, compared to the same lines in multiple corridors.
- Eliminates the need for mitigation measures for operational/maintenance concerns associated with installing transmission lines along joint-use corridors, such as gas pipelines.
- Utilizing ROW with existing rights avoids the need to acquire new ROW.
- Utilizing existing transmission corridor is less expensive than acquiring new ROW.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-024
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Does CL&P and/or ISO-NE perform LCA analysis (Lifecycle Assessment Analysis) to analyze the "cradle to grave" CO2 impact of materials selected for use in GSRP/NEEWS construction?

Response:

CL&P has not performed such an analysis. By increasing the Connecticut import capability, GSRP, together with the other NEEWS projects, will provide greater access to low-carbon sources of power.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-025
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Is LCA cost presented in materials submitted to the CSC so that the CSC can fulfill its role "to objectively balance the statewide public need for adequate and reliable services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state?" If not, why not?

Response:

CL&P has not performed such an analysis, nor is any such analysis required by statute or by the Connecticut Siting Council's Application Guidelines.

By increasing the Connecticut import capability, GSRP, together with the other NEEWS projects, will provide greater access to low-carbon sources of power.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-026
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please furnish a vendor list of the cable manufacturers CL&P considered and contacted to provide product specifications for CL&P's evaluation in the design process for the GSRP.

Response:

CL&P has not contacted any cable manufacturers regarding product specifications for GSRP. If/when cable would ultimately be procured, CL&P would determine the final specifications for the cable and provide it to cable vendors for competitive bidding. Work completed to date for GSRP has not required any interaction with cable vendors. CL&P and their engineers are sufficiently familiar with existing cable technologies to make appropriate assumptions to base their work upon, and ultimately to specify the cables to meet the needs of the project.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-027
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Is it a common practice for utility and power infrastructure vendors and manufacturers to offer incentives, inducements, or take decision makers on trips such as golf outings, conduct seminars in resort areas or offer company sponsored vacations? This is a common marketing practice in many other industries is it so with CL&P's vendors and manufacturers? Has ISO-NE ever sponsored trips, "executive get-a-ways" or vacations?

Response:

CL&P objects to these questions, which do not seek information that is relevant or material to this docket. Consistent with and without waiving this general objection, CL&P responds that such activities are not common practice, and that ISO-NE should be asked directly about the events it sponsors

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-028
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Does CL&P have a corporate ethics policy prohibiting or setting a monetary limit on the value of a gift or inducement that a CL&P employee is allowed to accept from a vendor or manufacturer? What is prohibited by this policy?

Response:

See the response to Data Request CAOPLC-01, Q-CAOPLC-027. Consistent with and without waiving this general objection, the Northeast Utilities Standards of Business Conduct and Personnel Policies and Procedures, which apply to CL&P, contain conflicts of interest policies and guidance (relevant provisions are attached). In addition, various business units (eg, accounting, purchasing, information technology, etc.) may have additional policies and guidelines that further guide employee behavior in those business units.

Conflicts of Interest

Policy Name: Gifts and Entertainment

NUP Number: 53

Effective Date: 08/09/2007

Revision Date: 08/09/2007

Responsibility: Ethics

Accepting or extending gifts, gratuities or invitations can create or appear to create a sense of obligation or appearance of favoritism of one employee, vendor or customer over another. We must use common sense and good judgment when offering or receiving gifts, gratuities or invitations. Additionally, the acceptance of gifts and/or entertainment by immediate family is prohibited.

"Immediate family" members are defined as an employee's spouse, domestic partner, parents, siblings and children, and an employee's mother-in-law and father-in-law, sons-in-law and daughters-in-law, brothers-in-law and sisters-in-law, and any other persons sharing the same household.

In general, gifts, gratuities and invitations of moderate value may be accepted. Similarly, NU recognizes that voluntary employee donations in support of a co-worker with an unexpected medical or family crisis; gifts to charities on behalf of an employee; donations to help celebrate special occasions such as the birth of a child, wedding or retirement; and exchanges of nominal gifts, lunch invitations and similar gestures of appreciation between friends are acceptable examples of interactions between co-workers that contribute to a positive workplace environment.

In addition, **if you can answer "yes" to each of these questions**, then the offer or acceptance of a gift or invitation is **usually permissible**:

- Does the gift, gratuity or invitation provide a business benefit for NU?
- Is it customary under the circumstances?
- Does it occur infrequently?
- Is it moderate, not overly expensive, in cost?
- Is it extended openly and publicly?
- Is it fair, equitable and impartial?
- If an event, is it attended by both the employee and the individual making the invitation?

However, **if you answer "yes" to any of the following questions**, then generally, the offer or acceptance of the gift, gratuity or invitation is **not appropriate and should be declined or returned** with an appropriate explanation:

- Can it create a conflict of interest?
- Is there potential to create a feeling of obligation?
- Was it solicited?
- Could it appear to improperly influence a business decision?
- Could it result in compromised objectivity?
- Does it occur frequently?

Prohibited gifts or entertainment:

- explicit or suggestive sexual material or entertainment;
- offensive or discriminatory materials concerning race, gender, age, national origin, ancestry, disability, or sexual orientation;
- gifts of cash, gift cards, etc.

(Ownership of a nominal interest in securities of a publicly owned corporation will not have itself be considered a conflict.)

Business Relations

Policy Name: Purchasing and Vendor Relations

NUP Number: 23

Effective Date: 08/09/2007

Revision Date: 05/15/2008

Responsibility: Purchasing

Individuals involved in NU purchasing activities, decisions and approvals are responsible for fair and consistent relations with vendors and must avoid situations that may present the appearance of a conflict of interest.

NU's policy requires you to:

- engage in a competitive bid process for transactions over \$50,000.00 in value, with certain limited exceptions described in the Purchasing Manual;
- provide a sole source justification for sole sourced transactions over \$50,000.00 in value that meet the criteria set forth in the Purchasing Manual;
- obtain a properly authorized Purchase Order issued by the Purchasing Department prior to instructing a vendor to start any work (including the delivery of material) for NU;
- Exceptions to this requirement are limited to emergency situations such as storm restoration, environmental events not covered by existing emergency response Purchase Orders or situations involving unsafe working conditions that pose an immediate threat to the safety of the public, NU employees, or vendors. In such cases, the Material Request in the Materials Information Management System ("MIMS") must be generated promptly and the nature of the emergency must be communicated to the Purchasing Department in writing (preferably in the notes panel of the Material Request), with Management approval.
- make fair, equitable and impartial purchasing decisions based on quality, competitive price, reliability, availability and service;
- avoid conduct that could be construed as preferential treatment or favoritism toward one supplier over another;
- refuse gifts, gratuities, or invitations from vendors, suppliers, or customers on behalf of yourself or your immediate family* where it is reasonable to believe that any such gift, gratuity or invitation was offered with the intent to influence how you perform your job (See Gifts and Entertainment); and disqualify yourself from any recommendation about, or review or approval of, a purchasing action that involves a vendor in which you or an immediate family member has any direct or indirect interest.

It is against Company policy and may be unlawful to:

- offer or receive, directly or indirectly, any payment in the nature of a bribe or kickback;
- use your position at NU to obtain personal favors or special consideration for yourself, a relative or any other person;
- accept loans on behalf of yourself or your immediate family from any individual

If you feel a particular proposal or offer should be accepted, please discuss it with your supervisor and follow the guidelines set forth in this policy before making any commitments.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-029
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Does CL&P have a corporate conflicts of interest policy? What is prohibited by this policy?

Response:

See the responses to Data Requests CAOPLC-01, Q-CAOPLC-027 and CAOPLC-01, Q-CAOPLC-027. Consistent with and without waiving this general objection, CL&P's employees are subject to the policies and related guidelines described in the response to CAOPLC-01, Q-CAOPLC-028. The relevant policies forbid CL&P employees from accepting gifts, gratuities or invitations that can create or appear to create a sense of obligation or appearance of favoritism, but do not contain a dollar limitation.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-030
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Has any CL&P person involved with GSRP or NEEWS (noting the broad definition of CL&P used in these interrogatories) participated in or enjoyed any type of vendor's or manufacturer's gift, inducement or trip in excess of \$20 dollars?

Response:

CL&P objects to this question, which does not seek information that is relevant and material to this Docket.

Notwithstanding this objection, CL&P responds that it is not aware that any CL&P (as CL&P is defined in the objection to the definition thereof) employees involved with GSRP or NEEWS have violated the policies referenced in Data Requests CAOPLC-01, Q-CAOPLC-027 and CAOPLC-01, Q-CAOPLC-028.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-031
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

In one of CL&P's interrogatory answers The answer was to a data request: OCC-01, dated 04-02-09, Q-OCC-005 page 7, CL&P furnished a chart showing a cost estimated for the construction of the power lines. The following questions refer to that chart:

Response:

See the response to Data Request CAOPLC-01, Q-CAOPLC-032.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

In CL&P's chart what does "AFUDC" refer to? What does "escalation" mean or refer to? What is calculated or estimated to be in the "contingency" category? How was item #5, "Connecticut Taxes" calculated?

Response:

AFUDC is the acronym for "Allowance for Funds Used During Construction". AFUDC represents the cost of borrowed and equity funds used to finance a project's construction. The AFUDC rate is based on a formula prescribed by the Federal Energy Regulatory Commission that develops an average rate using the cost of a company's short-term financing as well as a company's capitalization (preferred stock, long-term debt, and common equity). The rate is applied to all estimated project costs; direct, indirect, contingency and escalation.

Transmission project costs are estimated based on known costs at the time the estimate is generated. Understanding that prices increase over time due to various factors, to provide a true reflection of the anticipated costs of a project, these estimates are escalated based on an assumed escalation rate to the years of projected spending. This rate is established using recent and long-term experience and Industry indices.

Contingency as defined by the American Association of Cost Engineers is "specific provisions for unforeseeable elements of cost within the defined project scope, particularly important where previous experience relating estimates and actual costs are likely to occur." Based on the confidence in the level of information in hand at the time of the estimate, a contingency value of roughly 15% was applied to the project.

The State of Connecticut has entered into an agreement with CL&P pursuant Conn. Gen. Stat. Sec. 12-420b for the application of taxes on CL&P's purchases, including on utility projects. The list below identifies some of the components of this agreement.

1. Material purchased on a Northeast Utilities purchase order is taxable, except for cable that will transmit electric power, which is non-taxable.
2. Line Construction work is non-taxable, except for line removal which is taxable.
3. Construction of new substations is non-taxable. Renovation work in existing substations is taxable.
4. All Subconsultant engineering labor is taxable.
5. For materials provided by a contractor (i.e., pursuant to a new construction EPC contract), the material must include CT sales tax.

Total Connecticut taxes estimated to be paid for this project represent approximately 3% of the total project cost.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-033
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Since CL&P was sued by the residents of a number of Connecticut towns in the class action Durham lawsuit, and since CAOPLC members told CL&P that we would likewise file a class action law suit if overhead towers were approved and if independent appraisals showed that we lost property value:

- a. Does CL&P include a line item for "litigation and legal contingencies" as part of the cost for overhead lines?
- b. If the answer to the above question is NO, why does CL&P not consider litigation to be an expense worthy of disclosure to the CSC?

Response:

The estimated cost for both overhead and underground lines includes a contingency factor. There is no specific line-item for litigation costs within the contingency. CL&P does not know how many property owners, if any, other than Mr. Legere are the "CAOPLC members" referenced in the question. CL&P expects that any litigation costs incurred to defend claims by Mr. Legere or any such members would be covered by the contingency.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-034
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please explain what "reliability" means to a lay person. What types of fines does CL&P incur for reliability violations?

Response:

The meaning of "reliability" to a lay person is exemplified by the Merriam Webster dictionary, which defines "reliability" as "the quality or state of being reliable" and then gives the synonym for reliable as "dependable." All consumers now expect that when they turn on a switch the lights go on. When designing a transmission system, reliability not only means that each element of the system should perform its intended power-delivery function reliably but that the bulk-power system must continue to operate reliably under many potential conditions (e.g., certain generators unavailable, different load scenarios, some circuits not in service because of maintenance or forced outages). That is, the system continues to provide power to consumers on demand.

The North American Electric Reliability Corporation ("NERC") can impose fines on a transmission owner of up to one million dollars per day, per violation, if a transmission system design is not in compliance with national planning standards. NERC can also fine the Independent System Operator for failing to operate the transmission system in compliance with national operating standards, and transmission owners for not complying with national maintenance standards, including vegetation management near to transmission lines. In addition to these fines, various state regulatory agencies can impose penalties on CL&P if the system as planned does not reliably serve consumer load.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-035
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
What is system congestion? What types of fines does CL&P incur for congestion violations?

Response:

System congestion describes the condition when the capability of the transmission system is limited and unable to deliver the amount of power required in an area to serve all customer load reliably. To comply with national and regional operating standards, the Independent System Operator ISO-NE will schedule a generating unit(s) in the area that is experiencing the transmission congestion to operate out-of-merit to relieve the congestion and maintain the integrity of the transmission system. An out-of-merit generating unit is a unit that has not been dispatched on economics and is called upon to operate by ISO-NE for system reliability reasons. The additional cost of running these out-of-merit generators would be passed on to consumers in the local load area. The entire state of Connecticut is considered as a load area, so these additional costs in Connecticut would be shared by all the consumers in Connecticut. If redispatching of generation does not relieve the congestion, ISO-NE operators would then implement more drastic actions, such as implementing New England emergency procedures, interrupting non-firm and firm out-of-state transfers, and as a last action, interrupting local customer load. Utilities are not subject to fines for transmission-caused congestion, but rather for violations of mandatory reliability standards. The costs of congestion are borne by consumers.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-036
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Would it be correct to assume that a 345 kV transmission line is not a perfect electrical conductor and that some generation losses will occur? If so, has CL&P modeled the generation losses from the proposed GSRP overhead power lines? What are those losses in a percentage of loss? Would underground lines have similar generation losses or would they offer an improvement and transmit energy more efficiently?

Response:

Yes, it is correct to assume that a 345-kV transmission line is not a perfect electrical conductor. The losses from all transmission lines are accounted for in the power-flow programs used by CL&P in performing their analyses. CL&P has not specifically identified the losses of the proposed GSRP overhead transmission lines. However, with the proposed GSRP lines, losses to serve customer loads in the greater Springfield area and Connecticut would decrease.

Transmission system losses are typically about 2.5% for the entire New England system. Losses on any one transmission circuit are equal to the square of the instantaneous current being carried on the circuit's conductors, times the resistance of the conductors. The resistance per mile of the proposed bundled overhead line conductors is larger than the resistance per mile of the alternative, parallel underground cables. The dielectric losses of underground cables are also quite small relative to the proposed overhead transmission line. Therefore, for the same current flow, the underground cable system variations would have lower losses. However, if shunt reactors must be installed to control voltages on the underground cable system variations, the losses of the combined overhead and underground transmission line may not be lower than that of a pure overhead transmission line.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-037
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
What is the transmission cost per kilowatt hour in Canada? If it is different, please explain why it is different?

Response:

Canada has three major interconnected power grids that cross international, provincial and territorial borders. The Canadian power industry was previously comprised of integrated companies that performed all electric market functions: generation, transmission and distribution. Similar to the U.S., some areas in Canada have undergone (or are undergoing) fundamental changes in the structure of their electric markets. In addition, regulation of the electricity industry is generally the responsibility of the individual provinces and territories.

CL&P is not familiar with the configuration of transmission cost per kilowatt hour in Canada. CL&P believes that transmission costs vary throughout the country, and that there is no country-wide transmission cost per kilowatt hour in Canada.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-038
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

What is the cost of transmitting power over high voltage power lines expressed in the cost per kilowatt hour of transmitting power and in terms of a cost per mile? Does this cost vary between 115 kV lines and 345 kV power lines? If so please provide both costs. Does this cost vary regionally? If so, why?

Response:

All network load in New England pays to support the costs of the high-voltage regional transmission network, which is made up of 115-kV and 345-kV transmission lines, substations and other related equipment.

In New England, the Regional Network Service (RNS) transmission rate is designed to recover the combined costs of the high-voltage transmission system. The RNS rate is referred to as a "postage stamp" rate. Similar in concept to mailing a letter, the cost to transmit power is the same regardless of how far the power is transmitted. Therefore, there is only one price to purchase wholesale transmission service to meet each New England utility's network load obligation, and that rate is \$60/kW-year, or \$5/kW-month.

Each electric utility company in New England receives an RNS transmission bill from ISO-New England for their network load. A utility's RNS transmission expense is calculated by taking each utility's monthly coincident peak load and multiplying it by the RNS transmission rate. This value would equal that utility's share to support the regional high-voltage transmission system.

For CL&P electric customers, the average rate to support the regional high-voltage transmission system, along with other related transmission costs, equals 1.446 cents/kW-hour. The transmission rate on customer's electric bills varies by rate class and individual customer usage.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-039
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
How much, as a percentage, of the Connecticut residential electricity rate is attributable to transmission expense?

Response:

On average, the transmission component of rates represents 8% of total current rates for CL&P residential customers.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-040
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
How much, as a percentage, of the Connecticut business electricity rate is attributable to transmission expense?

Response:

On average, the transmission component of rates represents 8.3% of total current rates for CL&P business customers.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-041
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
What will happen to this transmission expense percentage if the GSRP is constructed overhead?

Response:

As noted in the responses to Data Requests Q-CAOPLC-039 and Q-CAOPLC-040, respectively, on average, the transmission component of current retail rates represents 8% of total rates for CL&P residential customers and 8.3% of total rates for CL&P business customers.

Assuming increases to CL&P's transmission expenses associated with the proposed overhead line configuration of the GSRP, the transmission component of retail rates would, on average, increase approximately 0.6 percentage points, increasing the transmission component of retail rates for residential customers to 8.6% and, for business customers, to 8.9%.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-042
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
What will happen to this transmission expense percentage if the GSRP is constructed underground?

Response:

As noted in the responses to Data Requests Q-CAOPLC-039 and Q-CAOPLC-040, respectively, on average, the transmission component of current retail rates represents 8% of total rates for CL&P residential customers and 8.3% of total rates for CL&P business customers.

Assuming increases to CL&P's transmission expenses associated with an all-underground line configuration of the GSRP in Connecticut, the transmission component of retail rates would, on average, increase approximately 2.2 percentage points, increasing the transmission component of retail rates for residential customers to 10.2% and, for business customers, to 10.5%.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Introductory Comment: When Executives and Financial Officers of a corporation announce an acquisition or a major capital expenditure to their investors, the terms accretive to earnings or dilutive to earnings are frequently used to describe an asset that either positively impacts the company by adding value or negatively impacts a company by adding costs and diminishes value.

- a. How would CL&P view transmission lines, not from the perspective of its balance sheet but from the perspective of a rate payer? Is a transmission line accretive or dilutive? Please explain your answer.
- b. Is renewable energy accretive or dilutive?
- c. Is a transmission line the only solution to solving reliability and congestion problems?

Response:

- a. Accretive and dilutive are terms used to describe impacts on a corporation's earnings per share. Earnings per share is used as the basis since a corporation's action may add to earnings, but if financing that action requires the sale of additional common shares earnings per share might actually go down. Hence, investments that increase earnings per share are considered accretive and, conversely investments that decrease earnings per share are considered dilutive. Accretive and dilutive are terms frequently used in determining the value to shareholders for a merger or acquisition.

From a ratepayer's viewpoint accretive and dilutive are not terms that have any real meaning. The value of a transmission line should be reviewed with a consideration of a number of factors including the costs of the line, its impact on the transmission part of the retail rate, benefits to system reliability and other impacts which could include reduced congestion costs or reliability must run payments.

Unlike the example of a corporate investment, the purpose of consumers' indirect investment in GSRP is not to produce profits. However, GSRP will provide many diverse economic benefits to consumers. Julia Frayer of London Economics, will testify in this Docket that GSRP, during the first ten years of its operation, will most likely produce combined energy-market and locational forward reserve market benefits for New England ratepayers in the first ten years of its operation with a discounted present value of between \$217 million and \$287 million. She will further estimate the present value of the portion of the savings that will accrue to Connecticut ratepayers over that period as between \$85 million and \$113 million. These estimated savings represent up to 63% of the estimated cost of GSRP to Connecticut load, if the project is built overhead as proposed. (*See, the corrected pre-filed testimony of Ms Frayer.*) Under some plausible circumstances, such as a prolonged unscheduled loss from service of the Millstone 3 power plant, these benefits would be much greater - by hundreds of millions of dollars. *See, Frayer Testimony at 44 - 56.* Generally, see "Electricity Transmission Infrastructure Development in New England *Value Through Reliability, Economic and Environmental Benefits*" New England Energy Alliance, Polestar Communications & Strategic Analysis, December 2007. <http://www.newenglandenergyalliance.org>

Most important, apart from these market benefits, GSRP (and MMP), like all reliability-based transmission projects, provide significant economic benefits by providing protection against power outages. In a paper posted on the website of the Connecticut Energy Advisory Group, Pfeifenberger and Newell of the Brattle Group estimate that "the average value of lost load easily exceed[s] \$5,000 to \$10,000 per MWh." <http://www.ctenergy.org/pdf/Shea4.pdf> Using similar estimates, economists have estimated the economic cost of the Northeast Blackout of 2003 as between \$6 Billion and \$10 Billion. For an extended discussion of the different categories of direct and secondary losses included in such estimates, and a summary of the range of estimates made by various economists and agencies, see "The Economic Impacts of the August 2003 Blackout," Electricity Consumers Resource Council, February 9, 2004, <http://www.elcon.org/Documents/EconomicImpactsOfAugust2003Blackout.pdf> In CAOPLC-01, Q-CAOPLC-045, CAOPLC cites an equivalent, or perhaps the same, estimate of "\$10 Billion in damages" caused by the 2003 Blackout.)

- b. The same concepts as described in subpart a, above would apply to renewable resources. The value of renewable resources for customers would include their potential to help meet state-mandated renewable portfolio standards, enhanced levels of fuel diversity and reduced carbon emissions from plants whose operation is displaced.
- c. A transmission line is not always the only solution to reliability and congestion problems. In some circumstances, non-transmission alternatives such as Demand Side Management (DSM) measures, large scale generation, distributed generation and combined heat and power (CHP) plants or combinations of these alternative solutions. However, none of these theoretical alternatives offer a practical and feasible alternative to the GSRP and MMP. See, the pre-filed testimony of Maria Scheller and the ICF Report included in Volume 5 of CL&P's application.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Introductory Comment: The next question relates to power transmission in the Pacific Northwest, an area that has used hydroelectric power for generations. Please explain the Pacific DC Intertie, also known as Path 65, which is used to bring hydroelectric power from the Pacific Northwest to California. Explain what the intertie does, how it is constructed, the technology that is used, and whether or not the same or updated design and technology would benefit hydroelectric power transmission on the East Coast.

Response:

The Pacific DC Intertie, also called Path 65, is a High Voltage Direct Current (HVDC) transmission line that transmits electricity from the Pacific Northwest to the Los Angeles, California area, from where the power is further transmitted over AC lines. The 846-mile-long line, completed in 1970 is now capable of carrying 3,100 MW. It originates near the Columbia River at the Celio Converter Station on the Bonneville Power Administration's bulk power grid and terminates at the Sylmar Converter Station north of Los Angeles which is owned by five utility companies and managed by the Los Angeles Department of Water and Power. The line takes advantage of the different demand patterns in the Pacific Northwest versus southern California. In the summer when peak demands occur in the southern California area due to air conditioning usage, the relatively cooler northwest has little demand and surplus electricity flows on the intertie from north to south. Although the line is multi-directional, generally power flows from north to south.

The line utilizes HVDC technology and is comprised of the north and south HVDC converter terminals connected by an overhead line utilizing two uninsulated conductors. The line operates at a voltage of +/-500 kV.

The technology employed on the Pacific Intertie is similar to what has been used in New England on its existing HVDC connection with Hydro-Quebec. The NU/NSTAR proposed new transmission tie line with Hydro-Quebec would likely use similar technology, although its design has not been finalized. That line would most likely terminate in New Hampshire. Power could be transmitted from the terminal point over the New England bulk power system, which would include the NEEWS projects.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
How would CL&P respond to the following material?

On reliable power, a key part of why CL&P wants the new power lines, CL&P forgets the 2003 blackout. It was largest power failure in recent history, 55 million people lost power, 11 people died and there was \$10 billion in damages. The 2003 blackout was caused by a tree branch falling on an overhead power line in Ohio. If the power lines were underground, no blackout.

When proposing overhead power lines vs. underground power lines, should the CSC include or discount past historic events such as the 2003 blackout? Please explain your answer in detail.

Response:

The CSC should very much appreciate that system planning criteria for bulk power systems aim to build robust systems with very low vulnerability to large-area blackout events and are informed by such events. Preventing future blackouts is an important objective of system planning and system operations. The consequences of the 2003 blackout which are cited in the question make very clear the value of bulk power system reliability.

The 2003 blackout was not "caused by a tree branch falling on an overhead power line in Ohio". Like any previous large-area blackout event in North America, many events combined over a period of a few hours and led to this blackout. Two of the more significant early events on August 14, 2003 were 1) the Midwest ISO's state estimator (a system monitoring tool) became ineffective due to inaccurate input data, and 2) the Eastlake 5 generating unit tripped off line (while Davis-Besse and Eastlake 4 were also shut down on this day) which depleted critical voltage support in a transmission-constrained load area in Ohio. Subsequent higher loading (but not overloading) of transmission lines occurred, and the system operator lost situational awareness due to computer failures. A short time later one 345-kV line then short-circuited and tripped out of service when its additional sag under higher loading caused contact with a tree which had been allowed to grow too tall (to 42 feet) beneath the line. Other 345-kV lines picked up more loading after that outage, and subsequently two other 345-kV lines also made sag contact with too-tall trees beneath them and tripped out. The system became weaker with each loss of an element and ultimately collapsed.

NERC's response to the 2003 Blackout included the adoption of strict and mandatory vegetation management standards, and a provision for fines that may be imposed on utilities that do not comply with them. NERC did not recommend that new extra high voltage lines be built underground to avoid tree contacts. Such a standard would decrease, rather than increase, reliability.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read the following material that is from Duke Energy's web site:

Solar Distributed Generation Project

In May 2009, the North Carolina Utilities Commission issued a revised order allowing Duke Energy to proceed with a proposal to install electricity-generating solar panels on the roofs and grounds at up to 400 sites in North Carolina, including homes, schools, office buildings, shopping malls, warehouses and industrial plants.

The project, one of the first large-scale initiatives of its kind in the U.S., will create a solar distributed generation network capable of supplying electricity to about 1,300 homes. Distributed generation is energy created close to customers rather than at large, centralized power plants.

Duke Energy will own and maintain the solar panels during their expected 25-year lifespan. The company also will own the electricity generated and pay a rental fee to property owners who host the panels for use of their roofs or land, based on the size of the installation and amount of electricity generated at any given site.

- a. Instead of CL&P's and WMECO investing in a transmission power line, if CL&P and WMECO created similar plans and invested more extensively than Duke Energy is doing in local distributed generation projects, would that be a viable solution to the reliability and congestion problems the GSRP purports to solve?
- b. Would decreasing demand through conservation along with the above plan and a smaller transmission project create the same outcome as a 345 kV power line?
- c. Did CL&P and or ISO-NE model solutions such as the ones above? If not, why not?
- d. Given that one of the preeminent fuel cell companies is located in Connecticut and is a part of UTC, did CL&P investigate using UTC fuel cells and a mix of solar in a distributed generation plan as an alternative to a transmission line?
- e. Please comment if CL&P's business model would let it make the same profits and return on investments and equity as that of transmission lines if conservation cut electric demand by the governor's mandated 20% and if DPUC did not approved a rate increase?

Response:

- a. CL&P retained ICF International LLC to conduct an extensive and detailed power-flow study to assess the potential for non-transmission alternative solutions to the GSRP project. In assessing the potential for alternative resources to either displace or defer the Greater Springfield Reliability Project, ICF considered the following three Non-Transmission options *both individually and in combination:*

1. **Combined Heat and Power/ DG Resources (CHP):** Resources that would typically serve large industrial or commercial loads with both steam and electric power. They are typically the primary source of power for these loads and hence, there is no direct demand from the loads for regional generation resources. This implies that the demand for transmission services to serve such loads is none.
2. **Demand-Side Resources (DSM):** Demand Side Management resources tend to reduce the demand for system generation and transmission services either through direct reductions in the load, or the addition of generation as a distributed source.
3. **Large Scale Generation close to the Load Centers:** Large scale generation resources of appropriate sizes located close to the load demand centers may also help reduce the overall load on the transmission system.

ICF performed detailed power-flow analysis of the system assuming both normal and emergency conditions for over twenty resource alternatives scenarios based on these three non-transmission alternatives options, i.e, large-scale generation near load centers, demand side management and CHP/DG resources. Based on the results of the analysis performed in the study, which included addition of large scale generation, DSM, and CHP resources, ICF concluded in its study report that no Non-transmission alternatives to the Greater Springfield Reliability Project were found to be satisfactory or sufficient in nature to displace or defer the need for the Project. The study found that even with highly impracticable levels of load reduction, large amounts of CHP resources and the addition of significant amounts of large scale generation near the load centers in the greater Springfield area, the greater Springfield and north-central Connecticut area reliability problems continued to persist.

Thus, CL&P does not believe that a practicable distributed generation solution exists to solve the greater Springfield and north-central Connecticut area reliability problems.

- b. Although a combination of transmission, demand side management (DSM) and CHP/generation solutions were not tested in the ICF non-transmission alternatives, the study results do indicate that if such an alternative were to exist, significant levels of large-scale generation near load centers and possibly, impracticable levels of DSM may be required along with some form of transmission to alleviate the greater Springfield and north central Connecticut area reliability problems. Furthermore, ISO-NE and CL&P have evaluated a solution that uses a lower voltage (115 kV) transmission line and have determined that the 115-kV line would not resolve all the identified system reliability problems.
- c. Please see responses to part (a) and (b) above.
- d. CL&P and ICF in their analyses did not include generating resources based on their specific technologies such as fuel cells or solar resources. Rather, CL&P and ICF, in their detailed power flow analyses, included several generic new hypothetical large scale generating resources and CHP resources at appropriate locations to alleviate transmission system reliability problems such as transmission line and transformer overloading problems. It should be noted that power flow analyses do not distinguish between fuel cell technology and other conventional generating resources such as gas fired power plant or smaller CHP generating resources when simulating network power flow simulations. Also, the type of technology used in any generating resource alternative, be it large-scale generation or CHP/DG resources, does not have any bearing on the transmission facility overloads and system reliability problems.
- e. The question is unclear. It seems to postulate a scenario where a mandated 20% cut in electric demand eliminates the need for new transmission facilities. It appears that this assumption is confusing the Connecticut 20% Renewable Portfolio Standard requirement by 2020 with an electric demand reduction. The question further defines the scenario as one where no retail rate increases are approved.

To begin and try to assess this scenario, one would first have to test if the reliability needs of the bulk-power system would indeed be satisfied if loads were 20% lower and there were no new transmission line. If reliability needs could be met in that scenario, then CL&P would not need to invest capital for the transmission line and its amount of equity return would be lower due to less equity investment. If reliability studies continued to show a need for new transmission, then some amount of investment would need to occur and CL&P would earn its associated return on that investment.

The part of the question that assumes no rate increases are approved is much more difficult to answer. CL&P would have a certain amount of costs that would remain - even in a scenario with 20% less electric use. To the extent that revenues in that scenario were not sufficient to cover CL&P's revenue requirements, then CL&P's return on equity would be lower.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-047
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read the following material from the National Association of Regulatory Utility Commissioners (NARUC):

State Public Utility Commissions around the country are expressing increasing interest in energy efficiency as an energy resource. However, traditional regulation may lead to unintended disincentives for the utility promotion of end-use efficiency because revenues are directly tied to the throughput of electricity and gas sold. To counter this "throughput disincentive," a number of States are considering alternative approaches intended to align their utilities' financial interests with the delivery of cost-effective energy efficiency programs. "Decoupling" is a term more and more are hearing as a mechanism that may remove throughput disincentives for utilities to promote energy efficiency without adversely affecting their revenues.

Is NU and CL&P advocating decoupling with state and federal legislators? Why or why not? If NU and CL&P is opposing decoupling please explain in detail why this is so in especially in light of Governor Rell's 20 x 20 mandate.

Response:

CL&P implements one of the most successful conservation and load management programs in the country, with its programs having been recognized as one of the top 3 programs in the nation based on size and cost effectiveness.

Connecticut law provides for the DPUC to implement decoupling. In CL&P's last rate proceeding the DPUC approved a revised rate design to accomplish the goal of decoupling revenues from sales.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-048
Page 1 of 2

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read the following material from FERC (bold and italics added). From: A GUIDE TO THE FERC ELECTRIC TRANSMISSION FACILITIES PERMIT PROCESS, pages 3 and 4

Landowners are fundamental to FERC's siting process.

FERC encourages landowner participation in all aspects of certification. FERC notifies property owners of a proposal, convenes public hearings and provides assistance for landowners seeking to get involved in the pre-filing or filing phases of proposal review. This is done either directly or through the developer. Landowners are full-fledged participants in the FERC process. They have a seat at the table, with those representing environmental organizations, utilities, states and federal agencies, and others with an interest in the project, during the pre-filing process.

Landowners are heard. FERC has a record of changing routes for projects to avoid problems with individual landowners' homes or businesses. In one gas pipeline case, a company proposed running a pipeline through the front yard of an elderly man's property. The man had felled the trees and built the house himself - it was something special to him. The man, who was ailing, attended a public meeting and laid out his situation. The pipeline offered a route modification to move the pipeline from the front yard to the back yard. Eventually, the pipeline was rerouted around his property.

This policy applies to businesses as well. In one pipeline case, a dairy farmer complained about a project proposed to run near his gestation and lactation facilities. The dairy owner explained the disruption would interfere with his cows' birthing and milk production. FERC staff developed a route variation in response to the landowners concern that avoided impact to his dairy operation.

Does CL&P agree with FERC's position and approach to solving land owners' problems? Why or why not? Please explain in detail including any legal justification or support of why CL&P would not want to comply with FERC's policy of resolving land owner problems. Can CL&P offer at least five examples of similar successful win-win resolutions of land owners' issues in prior NEEWS projects?

Response:

As the quoted statement reflects, FERC has only recently acquired limited jurisdiction in the siting of electric transmission facilities, but has a long history of siting natural gas pipeline facilities. The primary responsibility for siting electric transmission facilities is still with the states. The anecdotes cited in the FERC document appear to refer to the selection of new "greenfield" routes ("routes for projects"), not policies concerning encroachments into existing ROW's. CL&P knows of no FERC policy supporting the maintenance of encroachments in ROWS. In any case, FERC's description of its sensitivity to landowner concerns could well be applied to the Connecticut Siting Council. The Council encourages landowner participation in its siting proceedings, through limited appearances, participation in public comment hearings, and full participation in Dockets as intervenors, or in some cases, parties. The Siting Council has on occasion ordered route changes proposed by landowners, and CL&P has on several occasions worked with landowners to relocate a ROW on their properties. Where such accommodations can be made without undue cost to ratepayers and without compromising safety or other critical design criteria, CL&P is willing to consider them. That does not mean that CL&P will abandon its easement rights.

GSRP is the first NEEWS project to be proposed by CL&P, so CL&P cannot point to any landowner accommodations made in prior NEEWS projects. However, in the recently completed Middletown to Norwalk Project (approved by the Council in its Docket 272): (i) CL&P, in its application, proposed three "supported changes" in the route initially proposed in the Municipal Consultation Process, all of which were developed in consultation with landowners or towns during that process, which are described in Section I and shown in Figure H-2 of the Docket 272 application; and (ii) the Council ordered a significant revision of CL&P's proposed overhead line route (the "Royal Oak Bypass") in response to submissions made by a group of affected residents.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Introductory Comment: CAOPLC has noted that CL&P's has identified a few structures (horse barns) in the Newgate Road area that are very close to the eastern edge of the ROW. Further CL&P has said that these structures will have to be torn down and removed and that it will work with the residents to relocate them.

The barn on the Harris property at 1208 Newgate Road in Suffield has a similar history to the first case in FERC's above materials. It was hand built by the senior Mr. Harris (the father) and his son, Tim. Mr. Harris has now passed away. Mrs. Bev Harris, his wife, is now in her mid-80's and while she no longer rides her 5 horses, she enjoys looking after them every day.

Would CL&P extend the same courtesy that FERC did to find an alternative place for the GSRP power tower if a tower is approved by the CSC so that the Harris' barn is not demolished?

Response:

CL&P believes that the "courtesy" described by FERC in the referenced statement did not include sufferance of the continuing encroachment of a building within a ROW, particularly not one that was built entirely within the boundaries of a ROW. See the response to CAOPLC-01, Q-CAOPLC-048.

However, the barn on the Harris property at 1208 Newgate Road in Suffield (the "Harris Barn") need not be "demolished." CL&P will work with the landowner so that it may be relocated, if feasible and if that is the landowner's preference.

The "Harris Barn" is built entirely within the ROW, encroaching approximately 145 feet into the ROW. See CAOPLC-049 Attachment 1

If the new line were constructed in this area with the proposed "BMP" delta steel monopoles, the horizontal clearance between the nearest point of the Harris Barn and nearest conductor (without considering the conductor "blowout" distance) would be about 20 feet. See CAOPLC-049 Attachment 2. If the Council were to select the "Base" H-frame design in this area, that distance would be about 10 feet.

The CL&P ROW over the Harris property was established in 1924 and expanded in 1970. The terms of the easement require the landowner not to "erect any building or structure" and authorize CL&P "to remove any structures within or projecting into the right of way..." According to the records of the Town of Suffield, the Harris Barn was constructed in 1986 and then expanded in 1988.

CL&P's Right-of-Way Encroachment Policy provides that a building will be not permitted within an easement or "permitted only under strict controls." In its present configuration and location, the Harris Barn may create a violation of the National Electrical Safety Code after the new line is constructed. In addition, the barn would be so close to the line structures and conductors that permitting it to remain in place would be inconsistent with CL&P's ROW Encroachment Policy. The barn could present a potential hazard, particularly in the event of fire. It also obstructs the ROW position where any future line would be constructed.

As explained in the response to the next question, there is no simple option of moving the proposed line structures to accommodate the encroachment of the Harris Barn. Nor would such an accommodation be consistent with CL&P's ROW Encroachment Policy.



LEGEND:

- LINE 1768 115-KV CENTERLINE
- LINE 3216 345-KV CENTERLINE
- EXISTING R/W BOUNDARY

**PRELIMINARY -
SUBJECT TO CHANGE**

NORTHEAST UTILITIES SERVICE CO.

FOR GREATER SPRINGFIELD RELIABILITY PROJECT

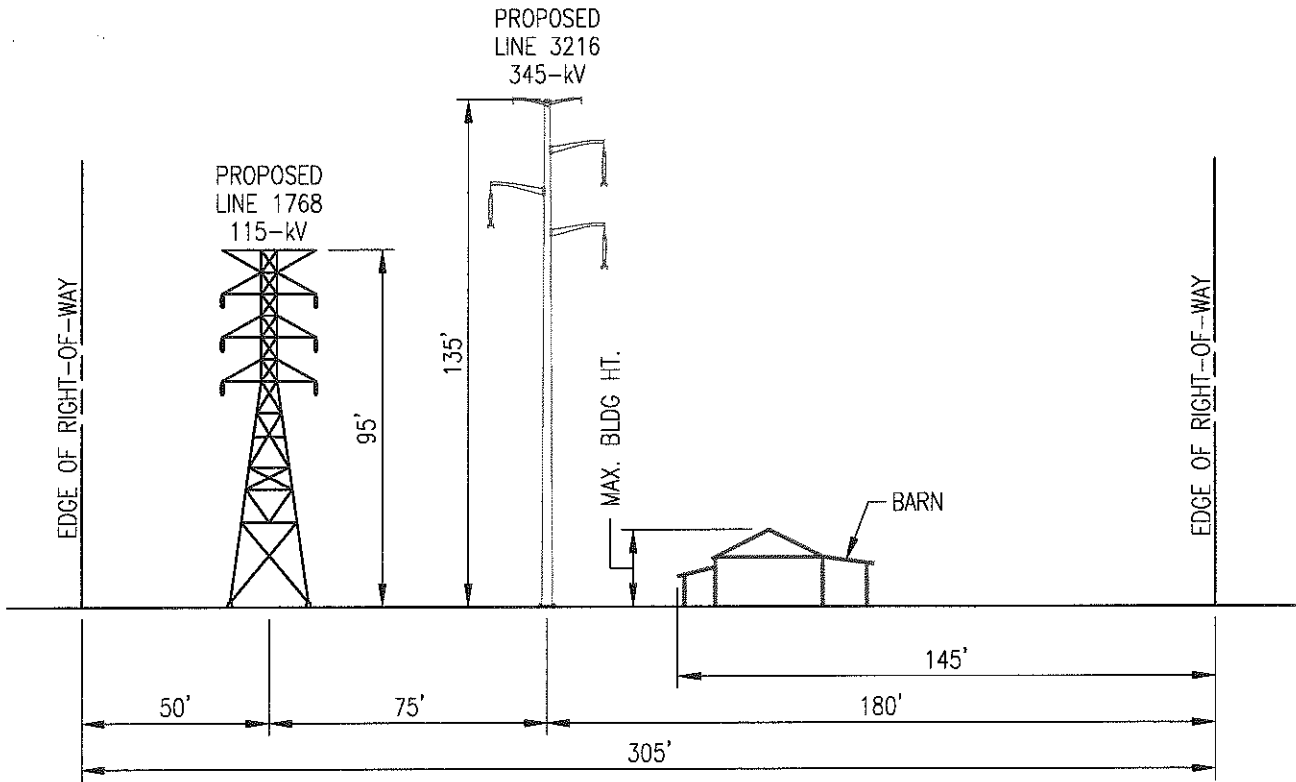
TITLE
NORTH BLOOMFIELD - AGAWAM
LL 1104, WEST SUFFIELD, CT

BY NHZ	CHKD PMW	APP	APP
DATE 7/24/09	DATE 7/24/09	DATE	DATE

SCALE NONE	A	DWG NO CSC-LL 1104 SHEET 2 OF 2
------------	---	---------------------------------------

NO.	DATE	REVISIONS	BY	CHK	APP	APP

N:\USCSO\45709\Cadd\Privileged Non-Records-Retained\OH\Planometric\Encroachments\Encroach-6SRP_CSC-LL1104.dwg (CSC-LL 1104 sht 1) 07-24-2009 09:15 M.M. BMMcd



CROSS SECTION

N. BLOOMFIELD - AGAWAM

LL #	ADDRESS	MAX. BLDG HT. (FT)	WEATHER CASE	MODELED CLEARANCE (FT)	
				HOR.	VERT.
1104	1208 NEWGATE RD. W. SUFFIELD, CT	20.5	NESC 100 MPH WIND	0.0	65.4
			NU 9 PSF WIND	0.6	58.7
			MAX OPERATING	20.0	49.5

NOTES:

- CLEARANCES AND DISTANCES SHOWN ARE BASED UPON PRELIMINARY STRUCTURE LAYOUTS AND LOCATIONS UTILIZING AERIAL LIDAR SURVEY, THEY ARE LIKELY TO CHANGE WITH FINAL DESIGN AND COMPLETION OF GROUND SURVEY.
- HORIZONTAL CLEARANCES ARE BASED UPON THE PORTION OF THE OBJECT CLOSEST TO THE LINES. VERTICAL CLEARANCES ARE BASED UPON THE TALLEST PORTION OF THE OBJECT.
- HORIZONTAL CLEARANCES UTILIZE POLE TIP DEFLECTION 5% OF THE POLE HEIGHT AT NU 9 PSF WIND AND 10% DEFLECTION AT NESC 100 MPH WIND.

**PRELIMINARY -
SUBJECT TO CHANGE**

							NORTHEAST UTILITIES SERVICE CO.						
							FOR GREATER SPRINGFIELD RELIABILITY PROJECT						
							TITLE NORTH BLOOMFIELD - AGAWAM LL 1104, WEST SUFFIELD, CT						
							BY	NHZ	CHKD	PMW	APP	APP	
							DATE	7/24/09	DATE	7/24/09	DATE	DATE	
							SCALE	NONE	A		DWG NO		
							NO.	DATE			REVISIONS	BY	CHK
											CSC-LL 1104 SHEET 1 OF 2		

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-050
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Note that CL&P chose to locate the proposed new GSRP tower at the far eastern edge of the ROW and that there is plenty of room to move the tower westward in the middle of the right of way towards the existing 115 kV tower, or alternatively to combine both lines onto one tower and place it where the existing 115 kV tower is now.

Would CL&P embrace and adopt one or both of these above solutions for unique situations such as the Harris' barn?

Response:

CL&P does not propose to construct the new line on the "far eastern edge of the ROW." Rather, the new line would be a little west of the center of the ROW. If the Harris Barn were to remain on the ROW, it would be between the new line of structures and the eastern edge of the ROW, roughly in the position where an additional future line could be built. Accordingly, there is no room to move the new line toward the center of the ROW; it is already proposed to be there. Moreover, the new 345-kV line cannot be practically constructed on a single set of towers with the existing 115-kV line, in the same location where the 115-kV line now is, because the 115-kV line must remain in service and as-is until the new line is constructed and energized. Thus, these suggestions would be impractical, even if CL&P were willing to pursue them. Any possible solution that would allow the Harris Barn to remain on the ROW would entail significant extra expense, which would have to be absorbed by Connecticut electric customers or paid by the landowner.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

CL&P's answer to the below CSC interrogatory question on the Metacomet trail was the following:

- a. Would CL&P identify (i.e. cite a page or page numbers) where in the Metacomet Monadnock Mattabesett Trail System National Scenic Trail Feasibility Study & Environmental Assessment document that CL&P feels the document specifically addresses the issues of power line construction or any type of construction or development adjacent to the MMM Trail?
- b. Is there such a section in this Trail Feasibility Study & Environmental Assessment document that specifically permits electric utility infrastructure development next to the trail?

Response:

The *Metacomet Monadnock Mattabesett (MMM) Trail System National Scenic Trail Feasibility Study & Environmental Assessment (EA)*, which was completed in 2006, was designed not to determine what uses are appropriate along the trail, but rather to assess the best approach for ensuring the long-term viability of the trail.

In response to this question, it is useful to briefly review the history of the 220-mile MMM Trail System, as well as the purpose of the trail feasibility study and EA.

As described in the study, the majority of the MMM trail system has been in existence for more than 40 years, and some of the Connecticut sections of the trail were established more than 75 years ago. The trail system is maintained by volunteers from the Connecticut Forest & Park Association (CFPA) and the Appalachian Mountain Club (Berkshire Chapter). In Connecticut, the trail is part of the CFPA's blue-blazed trail system. At the urging of these stewardship organizations and with the support of Congressional representatives from Massachusetts and Connecticut, in December 2002, Public Law 107-338 authorized the National Park Service (NPS) to conduct a trail feasibility study and EA, the primary objectives of which were to determine:

- (1) How to assure the long-term viability of a continuous public use trail system from Long Island Sound through Connecticut and Massachusetts to the New Hampshire border; and
- (2) Whether designation as a National Scenic Trail would serve as a means for achieving the long-term viability goal.

In addition, the guiding principles of the study included involving trail advocates, landowners, and other interested parties; respecting private property rights; strengthening existing trail system partnerships and characteristics of use, maintenance, ownership, and voluntary stewardship; and avoiding federal condemnation of land as an option in establishing or protecting the trail system.

The MMM Trail traverses approximately 110 miles through Connecticut, crossing 463 parcels owned by 274 landowners. As discussed in the feasibility study (pages 13-14), in Connecticut, the CFPA works with landowners to secure rights for the trail system across privately owned properties. Northeast Utilities has a long-standing relationship with the CFPA, as noted on page 14 of the study, and owns property through which the MMM trail crosses.

r on first page:

Docket No. 370
Data Request CAOPLC-01
Dated 07/02/2009
Q-CAOPLC-051, Page 2 of 2

CL&P's existing transmission line right-of-way, along which the proposed 345-kV line would be located, was established in 1924, prior to the creation of the MMM trail, and was expanded in the late 1960's and early 1970's. The location of the proposed transmission line within this existing ROW is not expected to conflict with the continued use of the trail. Specifically, the feasibility study recognized that the trail system traverses or is located near a variety of land uses:

The fact that the trail has existed in harmony with adjacent land uses for many decades speaks to a broad compatibility between the trail and present (and anticipated future) land use patterns (feasibility study, page 40)

The feasibility study (pages 53-57) included "A Blueprint for the Management of the Trail", the purpose of which was to establish a basis for the management of the trail, should it be designated as a National Scenic Trail. This trail management blueprint specifies that all existing landowner uses and rights will continue (page 53); no new regulatory protection of a "trail corridor" or a "view corridor" is required (page 54); and, if the MMM trail receives national scenic designation, the NPS will not impose any land use restrictions or viewshed restrictions (page 56).

With the March 2009 designation of the MMM Trail System as the New England National Scenic Trail (2009 Omnibus Public Lands Act (Public Law), the U.S. Secretary of the Interior is directed to use the trail management blueprint as the framework for managing and administering the trail system. This blueprint encourages trail protection with the concurrence of the affected landowners. In addition, the NPS is authorized to provide funding and technical assistance to the CFP and AMC for protecting the trail, but will not own or manage any lands along the trail. CL&P's proposed transmission line project will not affect the long-term viability of the trail or these management goals.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-052
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please read and review this description of the mission and purpose of the National Trails System Act of 1968:

The National Trails System Act of 1968 instituted a national system of historic, scenic, and recreation trails. National Scenic Trails are extended trails "so located as to provide maximum outdoor recreation potential, and for the conservation and enjoyment of nationally significant scenic, historic, natural, or cultural qualities of areas through which such trails may pass." From the text of the NEW ENGLAND NATIONAL SCENIC TRAIL DESIGNATION ACT

In CL&P's opinion does this text from the Act, "National Scenic Trails are extended trails so located as to provide maximum outdoor recreation potential, and for the conservation and enjoyment of nationally significant scenic, historic, natural, or cultural qualities of areas through which such trails may pass" express, communicate or suggest that the maximum outdoor recreational, scenic, historic, natural and cultural potential would be enhanced or conserved by the GSRP's rusty metal power towers and crackling transmission lines all of which would be visible and audible along the route of the MMM Trail? Please provide a detailed answer.

Response:

As described in the response to Data Request CAOPLC-01, Q-CAOPLC-051, CL&P's transmission line right-of-way pre-dates the establishment of the Metacomet Trail by the CFPA. The presence of the transmission lines did not deter the alignment of the trail across this right-of-way at that time and did not adversely affect the March 2009 designation of the MMM Trail System as the New England National Scenic Trail. In fact, along its 220-mile length, the Trail traverses a wide variety of land uses, including utility corridors and state / interstate highways such as Interstates 84 and 90. This is not inconsistent or unexpected, given that National Scenic Trails, by definition, are long, linear recreational paths located in proximity to urban areas.

As noted in the MMM Trail feasibility study and EA (page 5):

The National Trails System Act (Public Law 90-543, as amended through Public Law 107-325) institutes a national system of historic, scenic, and recreation trails. National Scenic Trails are trails at least 100 miles long that provide for maximum outdoor recreation potential, and for the conservation and enjoyment of nationally significant scenic, historic, natural, or cultural qualities of trail areas. Section 2 [16USC1241] of the National Trails System Act notes that "trails should be established (i) primarily, near the urban areas of the Nation, and (ii) secondarily, within scenic areas and along historic travel routes of the Nation which are often more remotely located.

[1] From the text of the NEW ENGLAND NATIONAL SCENIC TRAIL DESIGNATION ACT

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-053
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Do high voltage power lines such as those proposed for the GSRP have an effect on cell phone communications? If Yes, please describe the effects.

a. What is the radius in which the effects would be most pronounced? At what distance or radius from a high voltage power line would any disruptive effect not be discernable?

Response:

The physical presence of the towers and lines may reduce the cell phone coverage similar to the way buildings or other structures could reduce cellular coverage. However, since the frequencies at which cell phones operate are largely outside the range of corona noise from transmission lines, neither CL&P nor its customers have experienced harmful interference with cell phone communication.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-054
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Do high voltage power lines such as those proposed for the GSRP have an effect on ham radio communications? If Yes, please describe the effects. (Please include all authorized amateur radio frequencies)

a. What is the radius in which the effects would be most pronounced? At what distance or radius from a high voltage power line would any disruptive effect on ham radios not be discernable?

Response:

The interaction between amateur radio communications and power lines depends on the frequency and communication mode. AM detectors in the amateur HF bands are more affected by power-line noise than other modes of communication, or any amateur modes in the VHF bands and above (30 MHz or higher). HF frequencies include the amateur 160-, 80- or 40-meter bands (1.8-2.0 MHz, 3.5-4.0 MHz and 7.0-7.3 MHz), in which power-line interference is often transient or correctible.

Potential electrical interference to amplitude-modulated signal reception in amateur HF bands is due to spark discharges in tiny gaps. Such discharges can occur in thermostats, doorbells, electronic ignition systems, old wall switches, fluorescent lamps, and in the small motors used in home appliances like mixers and drills. They can also occur anywhere there is a poor electrical connection between two metal objects on a power line, for example, between a metal cross-arm brace and a bolt on a distribution line pole. Sources generated within a home may propagate over 120-volt wiring to the wiring in neighboring homes. Sources on power lines are largely limited to the lower voltage lines where wood poles and lighter wiring is used, and the frequencies and radius within which radio-frequency noise can be detected will depend upon the dimensions of the metal parts where it occurs. Such noise is a maintenance issue when it occurs; sources can be located and fixed. Wet-weather corona noise from 345-kV transmission lines is rarely a source of interference to radio communications, except to some AM radio signal reception in cars when passing underneath.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Do high voltage power lines such as those proposed for the GSRP have an effect on public safety agencies including fire, police, the Red Cross and other agencies also depend on the use of the special propagation properties found only in the HF radio spectrum? If Yes, please describe the effects.

- a. What is the radius in which the effects would be most pronounced? At what distance or radius from a high voltage power line would any disruptive effect not be discernable on Public safety agencies including fire, police, the Red Cross and other agencies?

Response:

High frequency ("HF") radio channels are used in the USA primarily for marine and long-range terrestrial use. This frequency band ranges from approximately 1.6 MHz to 30 MHz. Emergency responders can supplement VHF and UHF communications with HF communications in times of emergency. HF propagation is either via ground-wave, which is used to communicate over shorter distances usually less than 50 km, or via sky-wave, which is used to communicate reliably over medium to long distances up to 3,000 km. With either type of propagation, an HF operator must choose a site that is not affected by terrain, and is as distant as practical from structures and tree cover.

Man-made interference to HF communication depends on the frequency and communication mode. Electrical interference to SSB, CW, and AM modes in the lower HF bands can be caused by overhanging power lines, high power generators, air-conditioners, thermostats, refrigerators and vehicle engines when in close proximity to an antenna. The result of such interference may cause a continuous or intermittent increase in the level of background noise.

Such man-made interference is reduced by the same practices that pertain to the selection of an HF operating location generally, namely, the selection of a site free from structures and other obstructions.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
CL&P's answer to the below CSC interrogatory question (CSC-01, Q-CSC-019) was the following:

Question:
Do any wireless telecommunications carrier antennas exist along the ROWs that would be impacted by the proposed GSRP or MMP? If so, identify existing locations?

Response:
Yes, there is one wireless communication antenna installation on structure 20003 along the Manchester - Meekville Junction transmission corridor. This antenna can remain on this structure, and it will not be affected by the proposed construction. There are no wireless telecommunication antenna collocations on the North Bloomfield - Agawam corridor, and no installations on the Connecticut portion of the Southern Route alternative.

- a. Why did CL&P choose to omit the large cell phone tower located in Suffield that is adjacent to the power line ROW (near Mountain and Phelps Roads) from its answer to the CSC?
- b. Why did CL&P not point out the cell phone tower location when the CSC field trip bus stopped at the Suffield Sportsman Club location?
- c. What methodology does CL&P use to identify cell phone structures such as the Suffield tower and why did it fail to identify this structure? Does CL&P notify cell phone companies of impending transmission line construction and CSC proceedings? If not, why not?

Response:

- a. CL&P read the question to be about wireless telecommunication antenna installations on CL&P transmission line structures. The referenced telecommunications tower is not a CL&P structure nor is it on CL&P's right-of-way.
- b. CL&P's representatives would have pointed out the telecommunications tower location if they knew of a reason why this was important to point out.
- c. CL&P did not fail to identify this telecommunications tower. It is clearly evident on Mapsheet 36 of 45 for the CT portion of the proposed overhead 345-kV line in Volume 11 of CL&P's Application. CL&P does not notify cell phone companies of proposed transmission line projects unless their facilities, because of a shared structure use, would be affected by the project.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

On Friday May 22, 2009 the Hartford Courant ran an article entitled "NU Gets Line To 'Clean' Power." The article discussed how 1 billion would be spent to construct the two hundred mile power line, how the line would bring 1,200 MW of hydro power into New England and how power is expected to arrive by 2014.

- a. Given that all New England states have mandates similar to Governor Rell's 20 by 20 plan to have 20% of all CT energy be renewable or green energy by 2020, how will competition for Canadian hydro power be managed and who will managed it? Would a classic supply vs. demand competitive situation develop where all the New England states compete and drive up the price for this energy?
- b. How much of this 1200 MW of hydro power generated electricity is expected to actually go to Connecticut? Given Governor Rell's 20 by 20 plan to have 20% of all CT energy be renewable or green energy by 2020, what percentage of Connecticut's renewable or green energy production would this be?
- c. What type of transmission systems does Canada have? Is Canada like European countries that use different transmission line technology than the USA? If so, how is NU and/or CL&P going to "bridge" or adapt one technology to work with another?
- d. If construction is going to start in 2011, have transmission technology manufacturers or vendors been selected? Which manufacturers or vendors have won contracts?
- e. Will the Canadian Hydro power line be the same technology as the transmission line technology CL&P is proposing for GSRP/NEEWS and prior completed sections of NEEWS? If not, why not?

Response:

- a. Under current state RPS requirements, Canadian hydro power does not qualify as a renewable resource, so it would not count toward meeting the RPS targets set by Connecticut. The Canadian hydro power would help New England in meeting its carbon emissions requirements under the Regional Greenhouse Gas Initiative.

With respect to the competitive environment for Canadian power, New England has connections to both Quebec and New Brunswick. Both provinces believe they have clean generation resources that could be exported to New England, so there is some natural supply competition there. Quebec also has alternatives for its power, having adjacent markets with Ontario, New York, New Brunswick and New England. It is highly likely that Quebec will seek to sell their power in the most favorable market. New England also has significant amounts of renewable resources that could be developed, including on- and off-shore wind facilities and biomass generators. Given the range of choices around supply and the various markets for it, it is unlikely that prices will be driven up.

- b. As described in the response to Part A, above, the Canadian hydro power currently does not qualify as a renewable resource under Connecticut's Renewable Portfolio Standards.

NU and NSTAR who will be the joint owners of the proposed HVDC line to Quebec are currently negotiating the pricing terms for a Power Purchase Agreement (PPA) with Hydro-Quebec. To the extent that Connecticut regulators find the pricing terms under the PPA acceptable, they will authorize

their utilities to enter into long-term contracts for its purchase.

- c. Canada has a transmission system comprised of both DC and AC facilities. In Quebec, where the proposed HVDC line will connect, AC transmission facilities range from 735 kV to 230 kV. In addition, Quebec has a number of HVDC facilities. The Quebec connections with Ontario and New Brunswick and with New York and New England all employ DC technology. The proposed new line with Quebec must also use DC technology. This is because of the nature of the generation resources in Quebec which are mostly slow, rotating hydro turbines and the New England system generators which are generally much higher speed rotating thermal units. The DC connections are required to ensure the stability of the two systems. Large convertor stations are required where HVDC lines connect to AC transmission systems.
- d. Technology vendors for the HVDC project have not yet been selected.
- e. As described in Part C, above, the new line to Quebec will employ DC technology. GSRP and the other parts of NEEWS will use AC technology.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-058
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Does CL&P have any ownership interest in Burns and McDonnell?

Response:

CL&P objects to this question, which does not seek information that is relevant or material to this Docket. Notwithstanding that objection, CL&P responds, "No."

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-059
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Does CL&P (noting the broad definition of CL&P used in these interrogatories) have any ownership interest in any other contractor, vendor or manufacturer who may participate in the GSRP/NEEWS projects?

Response:

CL&P objects to this question, which does not seek information that is relevant or material to this Docket. Notwithstanding this objection, CL&P responds as follows. E. S. Boulos Company, an electrical contractor that is an indirect subsidiary of Northeast Utilities, and thus an affiliate of CL&P (as CL&P is defined in the objection to the definition thereof), is a potential contractor for the GSRP/NEEWS projects.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-060
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Please list and detail if CL&P, or any PAC sponsored or directed by CL&P made any political contributions to any of the Selectmen in any of the towns that the GSRP project is anticipated to affect?

Response:

CL&P does not make political contributions. CL&P does not sponsor or direct any PAC that makes contributions to Connecticut municipal officials.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-061
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:
Please list and detail if CL&P, or any PAC sponsored or directed by CL&P made any political contributions to any of the Selectmen in any of the towns that the NRG generation project is anticipated to affect?

Response:
CL&P does not make political contributions. CL&P does not sponsor or direct any PAC that makes contributions to Connecticut municipal officials.

The Connecticut Light and Power Company
Docket No. 370

Data Request CAOPLC-01
Dated: 07/02/2009
Q-CAOPLC-062
Page 1 of 1

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

Please list and detail if CL&P, or any PAC sponsored or directed by CL&P made any political contributions to any of the state legislators who represent any of the towns that the GSRP/NEEWS and/or NRG generation project is anticipated to affect?

Response:

CL&P does not make political contributions. CL&P does not sponsor or direct any PAC that makes contributions to Connecticut legislators.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

At the East Granby and Suffield CSC public hearings a number of civic groups spoke in opposition to underground power lines. Their messages had similar talking points: (1) that low income and elderly individuals and families would be disadvantaged by the alleged high cost of underground power lines, (2) that underground power lines cost tens times that of overhead power lines, (3) that underground power lines would make Connecticut businesses less competitive by raising utility costs.

- a. Please describe and provide details on the mission, goals and operations of CL&P's public and legislative relations outreach that CL&P conducted as a part of the GSRP/NEEWS project.
- b. Please list and detail the civic and business groups CL&P contacted for the GSRP/NEEWS project.
- c. Please detail how and in what form(s) of communication CL&P contacted various civic and business groups to build advocacy for CL&P's proposed overhead power line design for the GSRP. If letters were sent to these groups, please provide samples of these communications.
- d. Please list and detail any legislators and city and town officials CL&P contacted for the GSRP/NEEWS project.

Response:

CL&P's extensive public outreach efforts are summarized at pages 64- 67 of the pre-filed testimony of Robert Carberry and Scott Newland. In addition, as required by section 16-507 (b)(3) of the General Statutes, CL&P has provided extensive information about the GSRP and the MMP to each member of the legislature in whose assembly or senate district any part of the proposed GSRP and MMP would be located; and as required by sections 16-507 (e) and 16-507 (b)(i) of the General Statutes, CL&P has engaged in an extensive Municipal Consultation process with all municipalities in which any part of the projects may be located and any municipalities within 2,500 feet of any portion of such projects.

Witness: CL&P Panel
Request from: Citizens Against Overhead Power Line Construction

Question:

a. Would CL&P agree or disagree with the following statement? Please explain in detail.

Connecticut is the only New England state that does not have a law to allow low income and elderly residents to receive the wholesale vs. the retail rate for electricity. There was a bill to do that this year with bi-partisan support and the Governor's approval and it was passed by Connecticut's House. But it did not make it out of the Senate. It would be better to champion legislation to achieve this worthy goal rather than try to place the blame for increased utility rates on East Granby's and Suffield's residents and underground power lines.

b. What was CL&P's position on the above low income/electric rate relief legislation? Did CL&P lobby for this legislation or did CL&P oppose it?

c. If CL&P took a neutral stance on the legislation, why did CL&P do so considering the goals of the bill and the relief to low income and elderly CL&P customers that the legislation would provide?

Response:

a. CL&P would not agree to the statement as drafted.

b. CL&P testified in favor of legislation that would initiate a DPUC study of the potential implementation of a rate for limited income customers.

c. Not applicable.

The Connecticut Light and Power Company
Docket No. 370

Data Request CSC-02
Dated: 04/02/2009
Q-CSC-028-SP01
Page 1 of 1

Witness: CL&P Panel
Request from: Connecticut Siting Council

Question:

Provide peak demand and mean demand for each year from 1998 through 2008 for the north-central Connecticut area, the entire State of Connecticut and the Springfield, MA area.

Response:

The table below contains the Connecticut, north-central Connecticut, and greater Springfield, Massachusetts area peak loads from 1998 through 2008 shown in megawatts (MW). The Connecticut peak load was provided by ISO-NE. The north-central Connecticut and Springfield, Massachusetts areas are metered values which may include estimated data.

AREA	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Connecticut	5987	6350	5931	6874	6903	6674	6444	7130	7532	6939	7073
North-Central CT	1023	1120	1005	1163	1171	1132	1109	1209	1280	1243	1224
Springfield MA	884	955	894	978	986	968	954	1003	1070	1023	1000