STATE OF CONNECTICUT

SITING COUNCIL

DOCKET NO. 398 – NORTHEAST UTILITIES SERVICE COMPANY, ON BEHALF OF THE CONNECTICUT LIGHT AND POWER COMPANY APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF THE SHERWOOD SUBSTATION LOCATED AT 6 NEW CREEK ROAD, WESTPORT, CONNECTICUT	:	DOCKET NO. 398 MARCH 18, 2010

DIRECT TESTIMONY OF RAYMOND GAGNON REGARDING PLANNING AND ENGINEERING MATTERS CONCERNING THE PROPOSED SHERWOOD SUBSTATION

INTRODUCTION

Q. Please identify yourself and the other members of the panel who will respond to cross examination regarding planning and engineering matters concerning the proposed Sherwood Substation and related facilities (the "Project").

A. I am Raymond Gagnon – Director, Transmission Projects, employed by Northeast Utilities Service Company ("NUSCO"), agent for The Connecticut Light and Power Company ("CL&P"). With me on this panel is NUSCO employee, Kris Aberg – Project Manager. Our resumes are attached. Michael Libertine, Director of Environmental Services for Vanasse Hangen Brustlin, Inc., is also on this panel with us.

Further direct testimony on environmental matters concerning the Project will be provided by Michael Libertine.

Q. Does the Company expect to call on any other personnel to respond to planning or engineering issues?

A. NUSCO employees, including Richard N. Servello, David J. Bebrin, Christopher C. Swan, Jedidiah E. Kiernan, Amanda Mayhew and Robert E. Carberry, may be called upon to respond to questions relating to specific siting or engineering design topics. In addition, the Company may call Linda S. Erdreich, Ph.D, Senior Managing Scientist of Exponent and/or William L. Kenny, CPWS, ASLA of William Kenny Associates LLC, consultants to CL&P. Their resumes are attached (See Attachment 1).

Q. What responsibility have you had in connection with the Application to the Siting Council?

A. I have supervised the preparation and submission of the Application and interrogatory responses with the assistance of Kris Aberg and Michael Libertine. The Application was compiled under my supervision by NUSCO staff and environmental consultants.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide an overview of the proposed Sherwood Substation. I will cover eight primary topics pertaining to planning matters:

1. Overview and General Location of the Project;
2. Transmission Line Connections;
3. Need (including alternatives);
4. Review of Siting Criteria;
5. Electric and Magnetic Fields;
6. Safety and Reliability;
7. Municipal Consultations; and
8. Notices.

1. OVERVIEW AND GENERAL LOCATION OF THE PROJECT

Q. Please describe the Project.

A. CL&P proposes to construct a new bulk-power 115- to 13.8-kilovolt ("kV") substation (the "Substation" or "Sherwood Substation") on property located at 6 New Creek Road in Westport, Connecticut (the "Property" or "Site"). The Substation will add needed distribution delivery-system capacity to serve the growing electric power demands in the Town of Westport. The Substation will be strategically positioned to facilitate connection to an existing 115-kV transmission circuit (#1890) that is located north of the Property.

Q. Please briefly describe the existing distribution service capabilities in the Town of Westport.

A. The existing distribution system supplying the Town of Westport lacks the capacity to efficiently and reliably meet growing electric power demands. Currently,

CL&P's electric load in the Town of Westport is served from two small distribution substations in Westport and three bulk power substations (two in Westport, one in Weston). Since the summer of 2005, demands placed on the existing substations serving Westport, especially Greens Farms Substation, are straining the ability of CL&P to provide reliable service. The addition of a new bulk-power substation in the Town of Westport will create a more reliable system that will serve the growing needs of the Town of Westport while alleviating demands on the existing substations.

Q. Please describe generally the location of the proposed Substation.

A. The proposed Substation would be located on a portion of CL&P's 2.56-acre property, which currently consists of land located immediately northeast of the intersection of New Creek Road and Maple Avenue.

Q. How does the Company intend to access the proposed Substation?

A. The Substation would be accessible, by a paved driveway, directly from New Creek Road.

Q. Approximately how many vehicle trips to the Site would occur per month?

A. Normally three to four.

Q. What will be the dimensions of the proposed Substation within the fence line?

A. The fenced area of the proposed Substation will be approximately 160 by 137 feet.

Q. What do you propose for the surface of the Substation?

A. The surface would be covered with trap rock.

Q. What facilities and equipment will be located within the proposed Substation?

A. The Substation will be within a fenced area and would consist of:

- two new 115-kV line-terminal structures,
- one 115-kV circuit breaker with associated disconnect switches,
- five 115-kV circuit switchers,
- two 60-MVA power transformers to step down the voltage from 115 kV to 13.8 kV,
- four metal-clad switchgear enclosures, each approximately 21 feet long, 14 feet wide and 14 feet high, to house the switching equipment for ten 13.8-kV distribution feeders, of which six will be activated initially, and
- a protective relay and control equipment enclosure, approximately 48 feet long by 14 feet wide by 14 feet high (the "Control Enclosure"). The Control Enclosure will house protective relaying and control equipment and transmission equipment used to operate the Substation.

In addition, development of the Substation requires protective relay system changes within the control enclosures at three other existing substations – Norwalk Harbor, Glenbrook and Sasco Creek Substations.

Q. Please describe the distribution feeders.

A. Although there will be switching equipment for ten 13.8-kV distribution feeders, only six will be initially activated. Cables for each of the six distribution feeders would exit the Substation via underground conduits and rise above ground on wood poles alongside streets near the Substation. Two of the feeders would rise above ground on two existing wood poles on New Creek Road, one would rise above ground on a new pole to be installed on Maple Lane, and three feeders would rise above ground on existing poles located on Greens Farms Road.

Q. Please describe the lighting.

A. The Sherwood Substation would have low-level lighting for safety and security purposes. These lights would be recessed or activated manually to minimize visual effects at night. Lighting would not affect existing residences in the vicinity of the Property. Additional lighting capability would exist in the Substation to allow for work at night under abnormal or emergency conditions.

2. TRANSMISSION LINE CONNECTIONS

Q. Could you briefly describe how the Substation will be connected with the 115-kV line?

A. Two 115-kV circuits (#1130 & #1890) exist within the overhead transmission line and railroad corridor located to the north of the Property (see Figure F-1, *Substation Location*). At present, the 1130 and 1890 circuits are routed west to east

with respect to the Property. The centerline of the 1890 circuit is approximately 35 feet to the north of the Property's northerly border and the centerline of the 1130 circuit is approximately 100 feet to the north of the Property's northerly border. The existing 1890 circuit would be rerouted into the Substation. The segment of the existing 1890 circuit to the east of the Property would be renamed the 1578 circuit; the remaining segment of the existing circuit to the west of the Property would remain the 1890 circuit.

Q. Will the Substation have the capability for an additional temporary transformer?

A. Yes. There will be an available transformer disconnect switch and circuit switcher that could be used for a temporary mobile transformer connection, when necessary to perform maintenance or to replace a failed transformer.

Q. What is the estimated cost of the Project?

A. $20.1 million. Of that cost approximately $11 million will be allocated to transmission system costs and $9.1 million will be allocated to distribution system costs.

Q. What is the service life of the equipment?

A. In excess of 40 years.

Q. How long do you anticipate the construction phase of the Project to take?

A. Construction is expected to take up to 16 months.

Q. When do you expect to begin construction activities?

A. CL&P plans to begin construction of the Substation as soon as possible following Council approval in 2010.

Q. What is the tentative in-service date?

A. January of 2012.

Q. What will be the general operation of the proposed Substation?

A. The proposed Substation will operate on a 24-hour per day basis.

Q. Will staff be on site?

A. No, not normally. The equipment will be designed so it can be monitored remotely, and personnel will be dispatched for unusual or emergency situations and for routine/scheduled maintenance or inspections.

Q. Has CL&P served the Application on all required parties?

A. Yes (see Affidavit of Service submitted by CL&P). Members of Congress including Senator Joseph Lieberman, Senator Chris Dodd and Representative Jim Hines were served via express mail. In addition, CL&P hand-delivered the Application to State Senator Toni Boucher, State Representative Joseph S. Mioli, and State Representative Kim Fawcett.

3. **NEED**

Q. What is the purpose of the Project?

A. The addition of the Sherwood Substation is essential for creating a stronger and more reliable distribution system. Development of the Sherwood Substation would effectively alleviate loads on the existing substations currently serving the Town of Westport by adding a new capacity source to the distribution system. Currently, the electric load in Westport is served primarily from two small distribution substations: Greens Farms and Westport, and two bulk power substations in Westport: Compo and Sasco Creek, along with the Weston Substation (bulk power). The new Sherwood Substation will allow CL&P to maintain reliable service and meet demand, as well as to replace the older, space-constrained Greens Farms Substation and the temporary transformer at Sasco Creek.

Q What is the present situation in the Town of Westport?

A. Temporary measures are now in place to ensure that the electric demand can be reliably served. The first temporary modification to increase capacity was the installation of a 9.375-MVA, 27.6- to 13.8-kV power transformer in May 2006 at Greens Farms Substation. The second temporary modification was the installation of a 17.9-MVA, 115- to 13.8-kV power transformer at Sasco Creek Substation in July 2006 to off-load Greens Farms Substation. CL&P received permission from Metro-North/ConnDOT to install the power transformer only on a temporary basis at Sasco Creek Substation, until a permanent solution was put in place. Because Metro-North/ConnDOT requires

the space occupied by CL&P's transformer for railroad purposes, CL&P plans to remove its transformer from Sasco Creek Substation by no later than 2012.

Additionally, to address a future overload of the 27.6- to 13.8-kV power transformers at Weston Substation, a temporary 20-MVA, 27.6- to 13.8-kV power transformer was installed within the substation in May 2007. This transformer provides back-up to Greens Farms Substation (approximately 10 MVA) via limited feeder ties to Weston.

Q. How will the proposed Substation improve reliability?

A. Construction of the proposed Sherwood Substation would add necessary capacity to the system through the installation of two 60-MVA, 115- to 13.8-kV, bulk-power transformers. This new 13.8-kV distribution power source at the Sherwood Substation would add 47.1 MVA of new capacity to the distribution system.

Q. Was a new substation in Westport identified in any recent Review of The Ten-Year Forecast of Connecticut Loads and Resources published by the Council?

A. Yes; it was identified in the *Connecticut Siting Council Review of the Connecticut Electrical Utilities Ten-Year Forecast of Loads and Resources,* published in 2007, 2008 and again in the report for 2009 (incorporated 2008).

Q. What ISO-NE approvals has the Project received?

A. By letter dated January 7, 2009, CL&P received ISO-NE approval per *Section I.3.9 of the ISO New England Inc. Transmission, Markets and Service Tariff* for the Sherwood Substation (See Attachment 2).

Q. Did CL&P examine system alternatives?

A. Yes, however, available options would produce a distribution system in the Town of Westport that would not be as reliable and flexible as the system that will result from the proposed Sherwood Substation and, ultimately, would not eliminate the need for the proposed facility to meet projected system capacity needs. The Sherwood Substation is the preferred solution because of its proximity to customer load, existing transmission lines and existing distribution feeders. In addition, it offers improved reliability because of decreased feeder length and by enabling load transfers during feeder outages.

Alternative system options that were considered and rejected are as discussed below:

Greens Farms Substation

Constructed over 50 years ago (1956), Greens Farms Substation is located on an approximately 17,000 square-foot parcel of land. It is surrounded by dense commercial properties to the north, east and west and residential properties to the south. Due to the configuration of the property and its small size, there is no room within the fenced area for additional equipment or to expand at this site. The distribution substation is supplied by two 27.6-kV feeders, one from Norwalk Substation and the second from Weston Substation. Both of those supply sources are over four miles from the load,

which increases the risk of outages due to long feeder lengths; and thus, may adversely affect reliability.

Westport Substation

Constructed over 75 years ago (in 1930), Westport Substation is located on an approximately 11,300 square-foot parcel of land. It is surrounded by commercial and residential properties. Like Greens Farms Substation, there is no space for expansion. Although Westport Substation is the oldest of the area substations, it serves a more unique function in terms of the type of facilities and the area served, specifically the downtown Westport underground network cable system. This distribution substation is supplied by two overhead 27.6-kV feeders from Norwalk Substation and two underground 27.6-kV feeders from Weston Substation. It has three power transformers, two of which supply a very small portion of the overhead distribution system and 4.8-kV underground network cable system for downtown Westport. The third transformer supplies one overhead distribution feeder at 13.8kV.

Compo Substation

Constructed 50 years ago (in 1959), Compo Substation is located on an approximately 11,700 square-foot parcel of land. It is located between I-95 to the north and the railroad to the south. This substation was upgraded in the mid-1990s from a 27.6-kV supply to a 115-kV supply, but due to physical limitations, CL&P is unable to further expand it to provide more capacity.

Weston Substation

Constructed over 65 years ago (in 1944), Weston Substation is located on a 96,000± square foot parcel of land. It is supplied by the 115-kV transmission system, but is not a viable option for extending further into Westport due to its distance from the load center and physical expansion limitations.

Sasco Creek Substation

Constructed in 1983, Sasco Creek Substation was established to exclusively supply electricity to the railroad. In the mid 1990s, a temporary transformer was installed at Sasco Creek Substation to serve CL&P's customers while the Compo Substation was converted to 115-kV supply. However, Sasco Creek Substation is not a viable option for expansion since CL&P does not own this substation or the property. CL&P has planned to remove the temporary transformer in 2012.

Q. Please summarize the project demand for the load serving Westport.

A. Table G-2 of Section G of the Application, Volume I, provides a summary of peak demand increases based on planning projections of 2% increases per year. Table G-2 contains a note that explains that the 2010 estimate reflects an off-load of 3 MVA from Westport Substation, based on a 2008 off-load that went to Compo Substation. However, that 3 MVA was not carried forward for Compo Substation to 2010-2015. If Compo Substation were to continue to receive that 3 MVA of load, then the figures for Compo Substation would be as follows: 2010: 44.62 MVA, 2011: 45.51 MVA, 2012: 46.42 MVA, 2013: 47.35 MVA, 2014: 48.29 MVA, 2015: 49.26 MVA. Accordingly, the total figures in Table G-2 would increase by about 3 MVA for each year from 2010-2015. Also, the 2012 "Before" and "After" peak loads for Compo Substation would change in Table G-3 to 46.42 MVA before and 36.10 MVA after with a similar change in the total figures. With this off-load of 3 MVA to Compo Substation, there actually would be a greater demand than was initially estimated in Tables G-2 and G-3.

Q. Could you briefly elaborate on customer-side programs that CL&P has embarked on in the region where the proposed Substation is planned?

A. In its analysis of alternative system design options to meet the challenges in Town of Westport, CL&P considered increases to Distributed Generation ("DG"), Demand Response and Conservation and Loan Management Programs. While helpful toward addressing the overall growing need in the Westport area, these customer-side programs will not preclude the need for the Sherwood Substation.

Q. Please elaborate on CL&P's Distributed Generation efforts.

A. Pursuant to Connecticut Public Act 05-01, *An Act Concerning Energy Independence*, the Connecticut Department of Public Utility Control ("Department") established a program to award monetary grants for capital costs of customer-side distributed resources ("Grant Program") to support the development of DG and EG projects. The Grant Program is designed to reduce costs borne by Connecticut electric consumers that are associated with the region's competitive generation market.

Specifically regarding projects in the Westport area, two projects (totaling 0.4 MW) have been approved by the Department, consisting of two EGs in 2007 and 2008 (0.2 MW each) and no DGs.

The Department has suspended the EG portion of the Grant Program. In addition, CL&P does not expect a significant level of future DG or EG projects in this area.

Q. Please elaborate more on CL&P's Demand Response efforts.

A. In addition to CEEF and DG, CL&P and ISO-NE jointly support an initiative to reduce the region's peak electricity demand. The program, Demand Response, provides incentives to power users, such as manufacturing plants and office complexes, to reduce their electric load during periods of peak demand. The Demand Response program helps customers manage their facility's load while obtaining revenue opportunities created by today's variable electric market. CL&P's reductions in 2008 summer peak load due to Demand Response were 0.64 MW.

Q. Please elaborate on CL&P's Conservation and Load Management efforts.

A. CL&P develops and manages an array of traditional energy efficiency and DSM programs statewide through the Connecticut Energy Efficiency Fund ("CEEF"). In 2006, 2007 and 2008, CL&P estimates that through participation in these CEEF programs, customers in the Westport area have achieved summer peak-demand savings of approximately 1.2 MW. Annual savings for the period 2006 through 2008 are 5,142,658 kilowatt hours ("kWh") and customers will save approximately 68,312,039 kWh of energy over the life of the installed measures.

Q. Please summarize the measures implemented to reduce demand in the Westport area.

A. As a result of the Distributed Generation, the Demand Response programs and Conservation and Loan Management, the summer peak demand has been reduced in

the Westport area by 1.8 MW in 2008, as follows:

1.	Distributed Generation	0.0 MW
2.	Demand Response	0.6 MW
3.	Conservation and Loan Management Programs	1.2 MW
	Total	1.8 MW

Participation in these programs declined from 2007 to 2008 and the economic incentives previously provided through the Grant Program are no longer available. Moreover, the limited savings that have been achieved represents only a fraction of the capacity that would be supplied by the Sherwood Substation. These programs combined would represent approximately 2% of the capacity provided by the Substation.

Q. If additional projects were completed and became operational, would they eliminate the need for the Sherwood Substation?

A. No. The pressing need for the Sherwood Substation would remain because the projects would not provide nearly enough relief for the area.

4. REVIEW OF SITING CRITERIA

Q. Please review the siting criteria that were used to identify the proposed Substation site.

A. CL&P evaluated sites for the best location for the proposed Substation using the following criteria:

- Proximity to distribution load pocket and existing feeders;

- Proximity to existing transmission electrical circuits;
- Ease of access;
- Earthwork requirements;
- Sufficient size and shape;
- Zoning and land-use constraints;
- Wildlife and habitat;
- Wetlands, vernal pools, watercourses and floodplains; and
- Proximity to public water supply watershed and/or aquifer protection areas.

Q. What other locations were considered?

A. As discussed in Section I of the Application, Volume I, 5 other locations were considered:

1. Terminus of Post Office Lane (between I-95 and Metro-North Railroad);
2. Interstate Right-of-Way, north of Sherwood Island Connector;
3. West of existing Sasco Creek Substation;
4. Saugatuck Avenue at Exit 17, south side of I-95; and
5. Wooded lot across from #247 Greens Farms Road.

Q. Why was the 6 New Creek Road location selected?

A. After extensive due diligence and evaluation of the potential locations, this location was selected because it was the only site that met all nine of the major siting criteria and effectively balances the Project goals while minimizing adverse environmental effects.

Q. What will be the view of the Sherwood Substation from Beachside Avenue near Greens Farm Academy?

A. CL&P has prepared a simulation depicting the view of the Sherwood Substation from that location. See Attachment 3.

5. ELECTRIC AND MAGNETIC FIELDS

Q. What are Electric and Magnetic Fields?

A. Electric fields ("EF") are produced when a voltage is applied to a conductor. The level of an electric field at a given location near to a power line depends on the magnitude of the voltage applied, the arrangement and spacing of the line conductors and the distance from the conductors to the location.

Magnetic Fields ("MF") are produced when electric current flows on a conductor. The level of a magnetic field at a given location near to a power line depends on the magnitude of the current, the arrangement and spacing of the line conductors, and the distance from the conductors to the location.

EF and MF are collectively referred to as "EMF". Levels of each field fall off quickly as the distance from the conductor source is increased. Objects such as trees or building walls weaken or block electric fields, but magnetic fields are not affected by most materials. In the case of parallel lines of circuit conductors, the levels of EF and MF also depend upon the phasing of the circuit conductors and the directions of current flow.

Q. Will the Sherwood Substation produce electric and magnetic fields nearby?

A. Yes. However, the fields produced by the Sherwood Substation equipment will decrease in level rapidly with distance, reaching very low levels at short distances beyond the fenced area. Typical background magnetic field levels in residences range up to 4 milligauss ("mG"), and the magnetic fields off the property of this proposed Substation due to currents in the substation equipment will commonly be in this same range. Like most other substations, the highest levels of electric and magnetic fields around the perimeter fence and property lines of the Sherwood Substation will be produced by the transmission and distribution lines entering and leaving the Substation.

Q. Do magnetic fields currently exist at the property lines of the proposed Substation?

A. Yes. The predominant sources of existing power-frequency electric and magnetic fields ("EMF") at and beyond the boundaries of the Property are from the existing 1130 and 1890 transmission line conductors that are routed west to east with respect to the Property. The centerline of the 1890 Line's conductors, which are mounted on the railroad catenary structures, is approximately 35 feet to the north of the Property's northerly border; the centerline of the 1130 Line's conductors is approximately 100 feet to the north of the Property's northerly border. The two circuits as they are constructed today utilize phasings such that cancelling of interaction of their power-frequency MF is optimum.

The highest levels of EMF would be found beneath the northernmost transmission circuit (1130) and beneath the southernmost transmission circuit (1890). Field levels drop off rapidly with distance from a source, so the levels of EMF at all points south and north, respectively, of these transmission circuits will be much lower than the levels found directly beneath the circuits.

Q. Have you made any calculations of existing magnetic field levels close to the substation?

A. Yes. Existing magnetic field levels were calculated along two lines, one located about 400' to the west of the Substation and one located about 400' to east of the Substation. Each line is perpendicular to the transmission lines and extends 300' to the north and south of the existing transmission lines shown on Figure M-1 of the Application. The values are depicted on Figures M-2 – M-5, Section M of the Application, Volume I.

The highest magnetic field levels calculated were 15.07 mG beneath the northernmost transmission circuit, and 20.1 mG beneath the southernmost transmission circuit. These calculations represent magnetic field levels for a specific condition and should only be considered as an example of existing conditions on or near the Property. During peak-load periods, loads on the two transmission circuits would be higher which may result in higher MF levels.

Q. Have you made calculations to project what changes to the magnetic fields close to the Substation would be anticipated?

A. Yes. The highest post-project levels of MF will be found near the transmission circuits and on the property lines directly beneath where the transmission circuit conductors cross or come closest to the property line. Post-project magnetic field levels were calculated along two lines, one located about 400' to the west of the Substation and one located about 400' to east of the Substation. Each line is perpendicular to the transmission lines and extends 300' to the north and south of the existing transmission lines shown on Figure M-1 of the Application. The values are depicted on Figures M-2 – M-5, Section M of the Application, Volume I.

Q. Will there be any changes to the magnetic field levels as a result of the Substation?

A. Yes. There would be a small change to the existing magnetic field levels at points on and beyond the Property lines due to the change in loads flowing in the looped transmission line into the Substation. Even though this is an application for a substation, CL&P calculated the peak-hour and peak-day average circuit loads to be consistent with the Council's Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut, December 14, 2007.

Q. Where is the closest residence to the Substation?

A. The closest residence is about 400 feet, located to the west of the proposed location of the Substation.

Q. How far is that residence from the existing transmission line, closest to the Substation?

A. Approximately 300 feet.

Q. What effect will the new loads have on the MF at this property owner's property?

A. Under some conditions, the MF will slightly increase and under some circumstances, the MF will slightly decrease.

Q. Has the Company considered the Council's EMF Best Management Practices?

A. Yes. The location of the Substation will incorporate field management practices that are consistent with the Council's Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut, dated December 14, 2007. The projected changes to magnetic fields described above are consistent with the policy within this document. In particular, optimum circuit phasing would be retained to enhance magnetic field cancellation. While the line loads projected on the 1890 transmission circuit during seasonal peak conditions in 2017 are expected to decrease from the existing levels, the magnetic field levels would increase by 0.08 mG at a point 300 feet south along Line West. The magnetic fields at this same point would **decrease** (not increase as incorrectly indicated on page M-12 of the Application, Volume I) by 0.12 mG during the seasonal peak

average load conditions, five years after the Substation is placed in service. This is due to the fact that the 1890 transmission circuit would provide less cancellation of the magnetic fields caused by the 1130 transmission circuit.

Q. Has the Company complied with State and Federal EMF standards?

A. There are no State or Federal limits to electric or magnetic field levels at the property line of a substation; however, the Institute of Electrical and Electronic Engineers ("IEEE") International Committee for Electromagnetic Safety (ICES) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) have issued guidelines for long-term public exposures to magnetic fields. The ICES reference level is 9,040 mG; the ICNIRP reference level is 833 mG.

Q. How will the MF from the proposed Substation compare with those guidelines?

A. The existing and projected levels of magnetic fields at and beyond the property lines of the Substation are well below these limits and typical for all similar substations. Based on these aforementioned guidelines and reviews of EMF research by the World Health Organization and other national and international scientific and health agencies, these magnetic field exposure levels will not pose a safety or health hazard to persons or property at or adjacent to the Property.

6. SAFETY AND RELIABILITY

Q. How would reliability be maintained?

A. The Substation would be equipped with measures to ensure continued service in the event of outages or faults on transmission or substation equipment. Protective relaying equipment would automatically detect abnormal system conditions) and would isolate the faulted section of the transmission system.

Additional protection will be provided by a Supervisory Control and Data Acquisition system ("SCADA"). The SCADA system allows for remote control and equipment monitoring by the Connecticut Valley Electric Exchange System Operator, and would be housed in a weatherproof, relay/control enclosure. Moreover, the "loop-through" design configuration for the 115-kV line helps ensure operational reliability.

Q. Would the proposed Substation pose any safety risk to the public?

A. The proposed Substation would not pose a safety threat or create any undue hazard to the general public. The proposed Substation would be designed and constructed in accordance with all applicable national, electric utility industry, State and, to the extent practical, local codes. Importantly, the perimeter of the proposed Substation would be surrounded by a seven-foot high chain-link fence with an additional foot of barbed wire on top to discourage unauthorized entry or vandalism. A locked gate would be installed across the driveway entrance. Visitors would never be left alone on the Property. They would be accompanied by Company employees and required to adhere to prescribed safety rules including, when required, the wearing of protective equipment.

Q. What fire protection systems will be maintained at the proposed Substation?

A. CL&P incorporates IEEE, American National Standards Institute ("ANSI") and National Fire Protection Association ("NFPA") standards for fire protection in its new substation designs and operates these facilities to minimize the occurrence or impact of fire. CL&P also trains its employees and the local fire department on the safe methods to deal with a substation fire. The relay/control enclosure would be equipped with fire extinguishers, and also be equipped with smoke detectors that would be monitored from a remote location. Smoke detection would automatically activate an alarm at CONVEX and the system operators would then take appropriate action.

Q. Could you describe worker protection at the proposed Substation?

A. In addition to the careful design and construction of the Substation in accordance with all applicable national, electric utility industry, State and, to the extent practical, local codes, strict procedures and training for worker safety will be maintained when employees and contractors are on the site.

Q. Mindful of the Council's position in Docket 346, what steps has CL&P taken regarding energy facility security?

A. In addition to the design features and the measures discussed above to monitor the operation of the Sherwood Substation and to discourage unauthorized entry onto the Site, CL&P met with law enforcement and emergency response personnel in

Westport to discuss the Substation and coordination of efforts to protect its security. On November 5, 2009, Project team members, along with CL&P's Southern Division Safety Administrator, met with Westport First Selectman Gordon Joseloff, Police Chief Al Fiore and Assistant Fire Chief Jonathan Gottfried. CL&P provided a briefing on the lay-out of the Substation and site features, including the fencing design for the Substation yard: height (7 feet), three strands of barbed wire atop the fence, and chain link with vinyl coating, as well as plantings and landscaping.

In addition, CL&P discussed moving the main entrance driveway from its initial location in the vicinity of the existing driveway to a point facing almost due east towards the northbound railroad parking lot entrance, to help reduce the impact and visibility of the Substation yard from nearby properties and people driving down Maple Lane towards New Creek Road.

CL&P also suggested that the Town of Westport increase the number of streetlights from the Greens Farms Academy exit drive to the train station. CL&P recommended the use of small, 70 watt lights, on existing utility poles currently without lights, to increase security for all properties in the vicinity and pedestrian safety. The Town and CL&P plan to continue their discussions on additional lighting as the Project progresses.

Site construction was also discussed. CL&P will work closely with the Westport Police Department to establish off-duty protection at the site during the course of major construction activity.

7. MUNICIPAL CONSULTATIONS

Q. Did you consult with officials of the Town of Westport? If so, please provide details of those consultations.

A. Yes. On several occasions over the eighteen months prior to filing the Application, CL&P consulted with several Westport officials. CL&P consulted with the Chief Elected Official of the Town of Westport, First Selectman Gordon Joseloff, regarding the electric service provided by CL&P to the Westport community and CL&P's desire to improve the reliability of that service. In addition, CL&P representatives met with the Director of Planning and Zoning, Laurence Bradley, Conservation Director, Alicia Mozian, and Director of Public Works, Stephen Edwards.

Q. Have local land-use agencies reviewed the Project?

A. Yes. CL&P filed a "Location Review" submission with the Westport Conservation Commission and with the Planning and Zoning Commission ("P&Z"). On June 8, 2009, CL&P participated in a joint site walk. CL&P also gave presentations to the P&Z and the Conservation Commission at their regular meetings on June 11, 2009 and June 17, 2009, respectively. Both Commissions issued comments, which CL&P addressed.

Q. Did CL&P meet with any other Westport agencies?

A. Yes. On July 14, 2009, at the request of P&Z, CL&P met with the Westport Architectural Review Board to present the Project.

Q. Was there any dialogue with the Town after the municipal consultation filing?

A. Yes. At First Selectman Joseloff's request, CL&P attended public meetings of the Conservation Commission and P&Z on November 18th and 19th, 2009, respectively. Both Commissions provided letters indicating their positions that are included in the Application, Volume II, Exhibit 6.

Q. Has First Selectman Joseloff commented on the Project?

A. First Selectman Joseloff sent CL&P a letter dated December 10, 2009 (included in the Application, Volume II, Exhibit 6), supporting the Sherwood Substation at the New Creek Road location. Mr. Joseloff acknowledged the years of dialogue with CL&P, the Town's awareness of the temporary measures in place to assure reliable service to Westport customers and the need for a permanent solution. He also cited the Town's active participation in reviewing and commenting on the plans as they evolved and noted that the Town's satisfaction with CL&P's responses and plan changes (see Attachment 4).

Q. Have you had any contact with the Southwestern Regional Planning Agency ("SWRPA") other than serving a copy of the Application?

A. Yes. We reached out to SWRPA and received a letter from them (see Attachment 5).

8. NOTICES

Q. What measures were undertaken to inform the public and the property owners in the vicinity of the Project?

A. As more fully described in Section Q of the Application, Volume I, legal notices for the Project were published in The Westport News on December 18th and 23rd of 2009 and in the Norwalk Hour on December 17th and 22nd of 2009, newspapers circulated in the Town of Westport. Additionally, notices were sent by certified mail to all abutters and nearby property owners.

CL&P representatives also sent letters to neighbors with general information prior to attending any meetings with Town commissions.

Q. Were signs posted at the Site informing the public of the Council's hearing to be held on March 31, 2010?

A. Yes. On March 16, 2010, 4 foot by 6 foot signs were posted on behalf CL&P at 2 locations: near the edge of the existing driveway and near the property line closest to where the relocated driveway is proposed. Pictures of the signs and their locations are included as Attachment 6.

Q. Does this conclude your testimony?

A. Yes.