STATE OF CONNECTICUT

SITING COUNCIL

THE CONNECTICUT LIGHT AND POWER COMPANY APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF A PROPOSED SUBSTATION LOCATED NORTH OF STEPSTONE HILL ROAD AND EAST OF ROUTE 77, GUILFORD, CONNECTICUT	:	DOCKET NO. 326
	:	APRIL 13, 2007

DIRECT TESTIMONY OF MICHAEL LIBERTINE
REGARDING ENVIRONMENTAL MATTERS
CONCERNING THE PROPOSED STEPSTONE SUBSTATION

EXECUTIVE SUMMARY

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

A. I am Michael Libertine, a licensed environmental professional and Director of Environmental Services in the Middletown, Connecticut office of Vanasse Hangen Brustlin, Inc. ("VHB"). A copy of my resume is attached as Exhibit A to this testimony. In addition, NUSCO employees and specialized Project consultants may be called upon to respond to questions that may require knowledge of specific topics.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to summarize the environmental factors that were considered during the development of plans for the Project, factors which will continue to be important as the Project design, certification, permitting, and construction proceed.

My testimony will cover the following three topics:

1. Approach used to compile baseline environmental data;

2. Environmental studies; and

3. Environmental resources.

1. APPROACH USED TO COMPILE BASELINE ENVIRONMENTAL DATA

Q. What types of data were collected to characterize existing environmental conditions in the Project area?

A. Environmental data for the Project was compiled in accordance with the specifications of the Council's September 19, 2000 Application Guide For Electric Substation Facilities, and involved the collection and analysis of information to support the environmental documents, including the performance of field investigations and consultations with state, federal, and local agencies.

Information was compiled from published sources such as the Connecticut Department of Environmental Protection ("CTDEP") files, soil surveys, U.S. Geological Survey maps, Federal Emergency Management Agency maps and municipal land-use plans. In addition, agencies such as the CTDEP Natural Diversity Data Base and the State Historic Preservation Office ("SHPO") were consulted regarding specific resources within the Project area.

Field surveys were conducted of wetlands, watercourses and wildlife habitats. Baseline noise studies were performed to characterize conditions in the vicinity of the existing and proposed substations. SHPO has reviewed the project and concluded it will have no effect on historic architectural or archaeological resources.

2. ENVIRONMENTAL STUDIES

Q. Please describe the wetland and watercourse studies.

A. As more fully described in Appendix C of the Application (Volume 2 of 2), the wetlands and watercourses were initially delineated by a professional soil scientist employed by Soil Science and Environmental Services of Cheshire, Connecticut, and subsequently field-verified by VHB, using the classification systems of the National Cooperative Soil Survey, United States Department of Agriculture, National Resources Conservation Service and CTDEP.

Q. Will the substation be located in wetlands?

A. No.

Q. Are there any direct or indirect impacts to wetlands from the construction of the proposed Project?

A. No. However, as detailed in Section K.5 of the Application, Volume 1 of 2, limited site work associated with the proposed gravel driveway would occur within 100-foot upland review areas. Minor disturbances within these regulated areas are necessary to establish the new driveway and install a culvert to avoid future surface water ponding along the driveway and washout of the gravel. The nearest construction-related activities encroach within the outer 20 feet of the upland review areas, resulting in earthwork no closer than approximately 80 feet away from wetlands. Areas disturbed for construction activities would be restored by dressing with topsoil and seeding with a New England conservation/wildlife mix, supplying a cover of grasses, forbs, wildflowers and legumes to provide both erosion control and enhanced wildlife habitat value.

Q. Are there any direct or indirect impacts to wetlands from the installation of the proposed two (2) new poles to connect the existing 115-kV transmission line to the Substation or the removal of the existing poles?

A. No. None of the planned installation work will occur in wetlands. Select trees within the upland review area may require cutting to accommodate the new connections between the Substation and the existing transmission line. The nearest tree that may need to be removed is

located approximately 40 feet from wetlands. Existing pole #5902 (see sheet C-4a in Appendix C of the Application, Volume 2 of 2), is currently located on the eastern fringe of a wetland. This pole will be removed by cutting it at the base. CL&P will instruct its contractors to avoid direct disturbances to the wetland by felling the structure eastward, away from this resource.

Q. Will there be any wetland, wildlife or visual direct or indirect impacts on the environment after construction of the Project is complete?

A. No. After construction is complete, the Project will have no permanent adverse effects on the environment. CL&P will take the following steps to assure this:

- All disturbed/exposed areas would be stabilized and revegetated. These areas would be dressed with topsoil and seeded with a New England conservation/wildlife mix, to establish a cover of grasses, forbs, wildflowers and legumes that would provide both soil stability and wildlife habitat value.
- Erosion controls would remain in place until final site stabilization is achieved.
- All transformers will have secondary containment consisting of an underlying and surrounding polyvinyl-lined sump, designed to hold 110% of the transformers' capacities and use the Imbiber Beads Drain Protection System®.
- The site location and configuration provides sufficient setback from the road to allow a natural tree buffer to be maintained.
- Existing wooded buffers on the eastern, western and northern portions of the Property will be retained for screening.
- Although the Property provides substantial vegetative buffers from neighbors, CL&P will develop and incorporate a landscape plan into its D&M Plan to further mitigate for any potential views of the Substation.

- Plantings will be strategically clustered around the Substation and along the driveway to provide an additional visual buffer as well as habitat for resident and migratory wildlife.

- Restoration of disturbed areas and supplemental plantings will mitigate the effects of temporary disturbances during construction.

Q. Are there any direct or indirect impacts to watercourses?

A. No. There are no watercourses located on the Property.

Q. Will the construction activities have any significant long term adverse effect on vegetation, wildlife or habitat values?

A. No. Construction will have only temporary effects, if any, because the wildlife species currently inhabiting the area are very adaptable to minor habitat modification and there is a substantial amount of similar habitat in the surrounding area to support them. After restoration efforts are completed and the Substation is in service, the Property should maintain its diversity of wildlife species.

Q. Does the Site serve as habitat for any "Threatened Species" or "Endangered Species"?

A. No. There are no threatened or endangered species of plant or animal life on the site.

Q. Does the Site serve as habitat for any "Species of Special Concern"?

A. Yes. Nevertheless, CL&P's activities will not have any adverse effect on them.

Q. Please describe any plant species of Special Concern that may occur on the Property.

A. The CTDEP was asked to review the Natural Diversity Data Base maps and files regarding the Property. In response to CL&P's inquiry, CTDEP informed CL&P that Virginia snakeroot (*Aristolochia serpentaria*) was historically reported to exist under the CL&P power lines adjacent to Route 77 (a location over 280 feet from any Project-related construction activities). A recent field survey did not locate any plants of this species. If any plants remain, none appear to be located within or near the proposed construction areas and, therefore, no adverse effects are anticipated.

Featherfoil (*Hottonia inflata)*, another Connecticut "Species of Special Concern" plant, was observed on the Property during the field survey but it would not be adversely affected because it is located within a wetland located approximately 500 feet from the proposed development.

Finally, a deceased specimen of the Eastern Box Turtle, a reptilian "Species of Special Concern", was identified on the Property near Route 77 during the field study. The proposed development will not adversely affect any potential Eastern Box Turtle population utilizing the Property as the Substation would occupy a relatively small portion of the Property and habitat

types similar to that proposed for disturbance exist in the immediate area, both on and off the Property.

The CTDEP Wildlife Division staff after reviewing a copy of the field survey data and report responded that the proposed activities will not affect the locations of *Hottonia inflata* and *Aristolochia serpentaria*, State Special Concern species. The CTDEP suggested implementing precautions if work were to be conducted in the areas of potential habitat and CL&P will integrate them into its D&M Plan if it determines that there might be a need to work in those areas. The CTDEP recommended that, prior to construction, these two areas be flagged to prevent any inadvertent negative impacts. CL&P will comply with this recommendation.

Q. Will the construction activities have any effect on federal or State-listed species?

A. No.

Q. SHPO has reviewed the Project, could you please summarize the SHPO's response?

A. SHPO has determined that the Project will have no adverse effect on historic, architectural or archaeological resources on or eligible for the National Register of Historic Places. A letter of "no effect" was issued by the SHPO on June 23, 2005. A copy of the SHPO Determination Letter is included in CL&P's Application, Volume 2 of 2, Appendix E (*Agency Correspondence*).

Q. Please describe the results from your noise analysis.

A. The noise analysis that was performed determined that the Substation will not generate noise impacts in excess of State or Guilford standards. During construction some large construction equipment will be in use. To mitigate this noise construction hours would, to the largest extent possible, be limited to 7 am to 5 pm, Monday through Friday. Because of the difficulty of scheduling outages for interconnecting to the transmission system there could be relatively short periods when some work will need to take place on a weekend or hours beyond the 7 am to 5 pm period.

Q. Have you reviewed local, State and federal land use plans, particularly with respect to existing and future development?

A. Yes.

Q. Will the Project be consistent with the land uses and policies presented in these plans?

A. Yes. The Town of Guilford permits public utility buildings, structures or uses in all districts subject to special permit and the CTDEP does not prohibit utility facilities in Aquifer Protection Zones.

3. ENVIRONMENTAL RESOURCES

Q. Will the Project have any adverse effect on any water-supply areas?

A. No. The design of the facility will protect ground water from any adverse effects. As noted, amongst other things, there will be sump protection for any possible leakage from the transformers; a gravel base within the Substation to help reduce surface water runoff; a post-construction restoration plan to re-vegetate disturbed areas of ground; and very limited activity at the site after the Substation becomes operational. Moreover, the Town of Guilford Planning and Zoning Commission and Inland Wetland Commission have reviewed and approved the location of the Substation. In addition, the First Selectman of the Town of Guilford wrote to CL&P that the Town supports the Project and siting of the Substation on the Stepstone Hill Road Property. (Application Vol. 2 of 2 Appendix E)

Q. The Department of Public Health ("DPH") has commented that a portion of the Substation would be located in an Aquifer Protection Zone and should be moved. Do you believe the Substation should be moved as suggested by the DPH?

A. The DPH has suggested that CL&P explore moving the site of the plant to the east to avoid locating part of the Substation in an Aquifer Protection Zone. Putting aside for the moment that a substation is not prohibited from being located in an Aquifer Protection Zone, moving the planned location would increase the environmental impact and, because of the

Substation's already careful design, would not increase the aquifer's protection. We prepared an alternate site plan (attached as Exhibit B) showing the modified location of the proposed Substation outside of the Aquifer Protection Zone. I have compared the site plan layout contained in the Application to the alternative site plan.

As proposed, the Substation literally straddles the Aquifer Protection Zone line and design elements have been employed to provide a gentler grade than what exists today within the footprint of the facility. The processed stone base will allow surface water to infiltrate to the subsurface and any increase in additional surface water runoff would be considered negligible. Moreover, the only potential source of releases to the environment associated with the Substation is the dialectic fluids (non-PCB containing mineral oil) within the transformers. These units would be located within secondary containment sumps with capacities for 110% of the transformer's oil volume. Therefore, potential releases to the surrounding environment from the transformers are mitigated. Importantly, no hazardous or other regulated materials would be present at the site.

On the other hand, moving the Substation off the Aquifer Protection Zone as suggested, would add substantial earth work efforts at the site. A significant cut (almost 13 feet) within the eastern embankment would be necessary. Excavations to that depth could encounter bedrock in this area, possibly requiring blasting which is not contemplated for the proposed location.

Construction activities would occur immediately adjacent to nearby wetlands. Nearly 10 feet of fill would need to be placed within 11 feet of the wetlands to the north.

The alternate location would place the Substation approximately 100 feet closer to the nearest property line (eastward). Additional tree removal would be required and new plantings needed to replace the existing natural vegetative buffer, likely making the Substation more visible to residences to the east. Any new landscaping would not be as effective as current conditions.

Although the proposed pole locations could remain the same as the original submission, the utility connections to the proposed poles would require modifications by CL&P. Furthermore, the access drive to the west would require sharper and multiple curves to accommodate the entrance points to the Substation.

Q. How would the environment be protected from the insulating oil used for the transformers?

A. Each transformer would have its own secondary containment, consisting of an underlying and surrounding polyvinyl-lined sump, capable of holding 110% of the transformer's oil capacity. In addition, an Imbiber Beads Drain Protection System® will be installed in a secondary containment structure. This design has been approved by CTDEP and incorporated into other operational substation designs by CL&P.

Q. How would the sumps be protected from storm-water infiltration?

A. The top of the sump extends above the surface level of the gravel base within the Substation, so that any surface water accumulation cannot enter directly into the sump.

Q. Will the sumps be inspected and maintained on a regular basis?

A. The design of these sumps requires minimal maintenance. Annual maintenance inspections are performed to assess accumulations of silt and debris that could inhibit water from discharging through the system.

Q. Approximately how many trees six (6) inches or greater in diameter will be removed in connection with the construction of the Substation and related facilities?

A. As stated in CL&P's response to the Council's first set of interrogatories, using overly conservative assumptions, it is estimated that up to 256 trees with 6" or greater diameters at breast height may need to be removed. This accounts for the Substation footprint, including a 20-foot area beyond the fence limits because of construction activities, the access drive, and areas where the transmission line-Substation interconnections will occur (please see Site Plan drawings C-3 and C-3a in Volume 2, Appendices, of the Application).

Q. What efforts were undertaken to minimize tree removal?

A. The layout of the Substation and driveway were selected to balance overall potential environmental impacts, and only those trees directly within construction areas will be

removed. In addition, the access drive is designed to make maximum use of an exiting woods road on the Property to minimize the need to clear vegetated land.

Q. What efforts will be implemented to mitigate the loss of trees?

A. CL&P expects to include in its D&M Plan landscaping features as mitigation measures.

Q. Do the affected trees provide significant wildlife habitat value?

A. No. The Property will maintain most of its original habitat characteristics after the Substation is completed.

Q. Will the loss of trees result in greater visibility of the Substation to the neighbors?

A. No. The design of the Substation, its strategic location in the center of the sizable piece of Property, and the remaining vegetation will all serve to minimize direct sight lines into the Substation and effectively screen the Substation from nearly all the neighboring parcels through-out the seasons.

Q. Does this conclude your testimony?

A. Yes.

Exhibit A

Resume of Michael Libertine

Michael Libertine, LEP

Director of Environmental Services

Mr. Libertine is a Licensed Environmental Professional in Connecticut. His primary responsibilities at VHB are managing and overseeing the environmental science and engineering projects in our Middletown, Connecticut office. His experience includes regulatory compliance, site assessments and field investigations for property transfers, remedial strategy development, environmental due diligence and permitting support, environmental assessments for NEPA compliance, RI/FS investigations, Brownfields redevelopment projects, and remedial investigations at RCRA facilities, state and federally recognized hazardous waste sites, and Manufactured Gas Plant (MGP) sites. Mike has been Project Manager on over 1600 environmental site assessments (ESAs) and field investigations for property transfers in Connecticut, Rhode Island, New Hampshire, Massachusetts, Vermont, New Jersey, New York, Washington, D.C., Florida, Kansas, and Canada. Representative projects are summarized below.

Environmental Services for Wireless Telecommunications Clients

Program Manager for environmental due diligence and permitting services in support of various telecommunications clients in Connecticut. Mr. Libertine has worked directly with the major licensed PCS carriers since 1997. Management duties include the coordination and oversight of preliminary site screenings, compliance documentation and environmental assessments to fulfill NEPA requirements, land use evaluations, Phase I ESAs, Phase II field investigations, remedial planning and oversight, wetland assessments, vegetative/biological surveys, noise analyses, visual resource analyses, graphic support, preparation of regulatory applications and permitting support, including representation at municipalities and Connecticut Siting Council hearings.

Certificate of Environmental Compatibility and Public Need, Killingly, Connecticut

Project Manager in support of an Application to the Connecticut Siting Council (CSC) for the permitting of a new 345/115 kV substation in eastern Connecticut on behalf of Connecticut Light & Power (CL&P). This project required extensive coordination of numerous team members, including client's in-house discipline managers and engineers, consultants, legal counsel, VHB staff, and subcontractors. Mike was responsible for overseeing Site data collection and analysis, site/civil layout, and drafting of municipal documents and the Application to the CSC. Services included conducting natural resources inventories of existing flora and fauna, habitat evaluations, wetland delineation, noise and EMF analyses, hazardous waste investigations, site layout and design drawings, landscape architecture, preparation of technical documents, coordination with State and local agencies, and permitting. His team has also provided environmental monitoring for adherence to the CTDEP's General Permit for Construction Activities and environmental requirements set forth in the Client's contract documents and specifications.

Regulatory Permitting, Barbour Hill Substation Modifications, South Windsor, Connecticut

Project Manager responsible for the preparation of a Petition to the Connecticut Siting Council for a determination that no Certificate of Environmental Compatibility and Public Need was required for the proposed modifications to CL&P's Barbour Hill Substation in South Windsor, Connecticut. The project included the replacement and expansion of an existing facility and the modification of line interconnections. Responsibilities included conducting natural resource inventories, wetland delineation, noise study, soil and groundwater sampling, preparation of site/civil design drawings, supporting graphics, photo-simulations, and local and state permit documents. Under Mr.

Libertine's supervision, VHB also supported CL&P during its contractor selection process and developed a site-wide soil and water management plan for implementation during construction activities.

Regulatory Permitting, Transition Station Modifications, Storrs, Connecticut

Assisted CL&P in the preparation of a Petition to the Connecticut Siting Council for a determination that Certificate of Environmental Compatibility and Public Need was not required for the proposed installation of a transition station. The facility was require to facilitate connect of a new generation plant at the University of Connecticut to an existing CL&P substation. Services included evaluation of natural resources, wetlands, soils and groundwater and the proposed construction's potential effects to these resources; and, the preparation of site/civil design drawings and landscaping design. Under Mr. Libertine's supervision, VHB also supported CL&P during its interface with contractors responsible for the interconnection of the two facilities, secured permits from state agencies, and developed a best-management practices guidance for managing dewatering activities during construction activities.

NEPA-CEPA Permitting Services, Connecticut Department of Public Works (2003 – 2005)

Program Manager for environmental support services to the CTDPW at various Connecticut locations. Representative projects included preparation of an Environmental Impact Evaluation for the Great Path Academy magnet school proposed for development on the Manchester Community College campus and Phase I Environmental Site Assessment in association with the Three Rivers Community College campus consolidation project in Norwich.

EA/FONSI for State Routes 7 & 15 in Norwalk and Wilton, CT

Project Manager of Final Environmental Assessment/Section 4(f) Evaluation (EA) for Finding of No Significant Impact (FONSI) on two state projects along Routes 7 and 15 in Norwalk and Wilton, Connecticut (1998-1999). These projects, completed for ConnDOT, involved the evaluation of seven different build/no build alternatives involving two interchanges and a proposed freeway extension. The evaluation included assessments of current conditions, potential impacts of alternatives, analysis of impacts associated with proposed actions, and development of mitigation techniques to be employed during design and construction. The Final EA document was submitted to the Federal Highway Administration, which provided a determination of FONSI in March 2000.

Environmental Review and Redevelopment Planning, Stratford, CT

Project Manager assisting the town in taking the. The town of Stratford sought a plan to redevelop the Stratford Army Engine Plant, which was closed under the Military Base Closure Act of 1997. The facility included over 2 million sq. ft. of space in approximately 40 buildings on a 50-acre site along the Housatonic River waterfront. This project required close coordination with the Client, VHB Planners and a socioeconomic sub-consultant to assist the town with the required steps to redevelop this industrial/military site The planning process included the assessment of existing buildings, environmental and regulatory constraints associated with industrial site redevelopment, and an analysis of alternative reuse options for community benefits and impacts. A preferred redevelopment approach was created which included significant building demolition, site cleanup, and infrastructure upgrades. VHB completed preliminary plans and remediation cost scenarios for the decontamination/demolition of site structures, schematic waterfront park layout in consideration of environmental compliance issues, roadway and drainage design, and utility modification. A green space and waterfront park, providing recreational opportunities and access to Long Island Sound for town residents, was completed in 2001.

Publications

The Newly Adopted Connecticut Remediation Standard Regulations Coincide with Brownfields Legislation, February 1996, Brogie, Martin and Libertine, Michael.

Education

University of Connecticut, B.S. Natural Resources Management, December 1990

Stonehill College, B.A. Marketing, May 1981

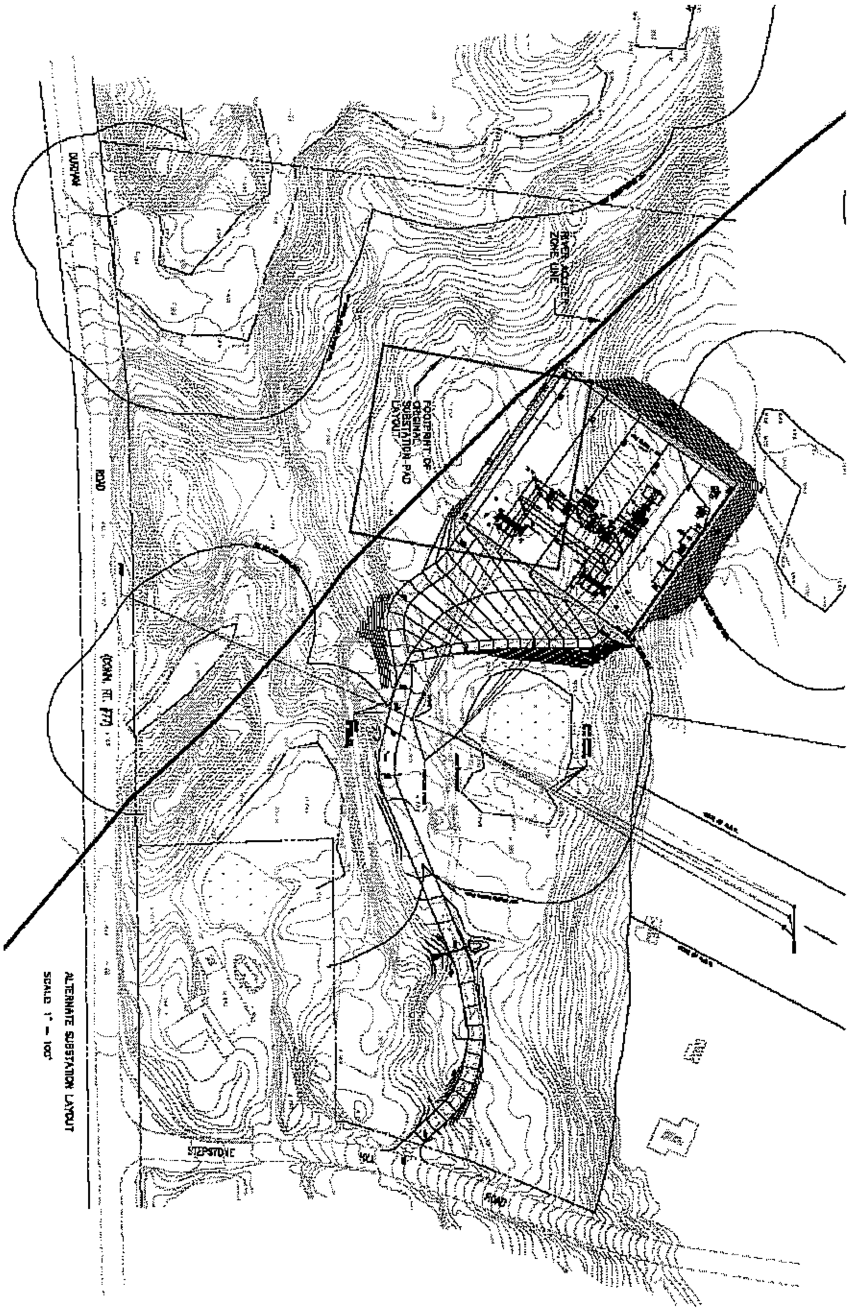
Certifications / Licenses

Licensed Environmental Professional, State of Connecticut, LEP No. 345

OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Training (29 CFR 1910.120)

Exhibit B

Alternate Substation Layout



ALTERNATE SUBSTATION LAYOUT
SCALE 1" = 100'