50 Leavenworth Street
Post Office Box 1110
Waterbury, Connecticut
06721-1110

Telephone: 203 573-1200
Facsimile: 203 575-2600
www.carmodylaw.com

CARMODY & TORRANCE LLP
Attorneys at Law

Robert S. Golden Jr.
Of-Counsel

Direct: 203-575-2630
rgolden@carmodylaw.com

May 24, 2007

Daniel F. Caruso, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: **DOCKET NO. 326** - 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 at Stepstone Hill Road, Guilford, Connecticut.

Dear Chairman Caruso:

Enclosed please find 20 copies and an electronic version of CL&P's Brief and Draft Finds of Fact in the above referenced matter.

Very truly yours,

Robert S. Golden Jr.

Service List

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

NORTHEAST UTILITIES SERVICE COMPANY, ON BEHALF OF THE CONNECTICUT LIGHT AND POWER COMPANY (CL&P) CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF THE PROPOSED STEPSTONE 35L SUBSTATION LOCATED NORTH OF STEPSTONE HILL ROAD AND EAST OF ROUTE 77, GUILFORD, CONNECTICUT	:	DOCKET NO. 326
	:	MAY 24, 2007

THE CONNECTICUT LIGHT & POWER COMPANY'S
MEMORANDUM IN SUPPORT OF APPLICATION

I. INTRODUCTION

An application by The Connecticut Light & Power Company ("CL&P") for a Certificate of Environmental Compatibility and Public Need for the Stepstone Substation was filed on December 15, 2006 with the Connecticut Siting Council ("Council") subsequent to a Municipal Consultation process as required in Conn. Gen. Stat. §16-50*l* (e) and §16-50x. (CL&P 1, Vol. 2, App. G) Pursuant to Conn. Gen. Stat. §16-50*l*, CL&P also mailed notice to abutting and nearby property owners, by certified mail, return receipt requested, in addition to providing notice in newspapers of general circulation in the Town of Guilford. (CL&P 1, Vol. 1, Sec. Q) All of the public officials and state agencies listed in Conn. Gen. Stat. §16-50*l*(b) were also served with

copies of the Application. (CL&P 1, Vol. 1, Sec. Q) A duly noticed Council hearing was held in the Guilford High School Auditorium, 605 New England Road, Guilford, Connecticut, on the afternoon and evening of April 24, 2007.

In its application, CL&P proposes to construct a new substation in Guilford, Connecticut to be called the Stepstone Substation (the "Substation"). The proposed substation will improve the reliability of the electric power distribution system which serves the Town of Guilford. Moreover, the proposed substation will relieve the Branford and Green Hill Substations, which currently supply the small Guilford Substation. (CL&P 1, Vol. 1, Sec. G) These improvements will be accomplished by connecting a new 47-Megavolt-Ampere bulk-power transformer to an existing 115-kV transmission line and to the local 23-kV and 13.8-kV distribution line system in Guilford. (CL&P 1, Vol. 1, Sec. A) All this will be achieved with a minimal effect on the environment. (CL&P 1, Vol. 1, Sec. A)

CL&P has proposed to construct the Stepstone Substation on its property located north of Stepstone Hill Road and east of Route 77 in Guilford, Connecticut. This location was selected after extensive consultations with the Town of Guilford. (CL&P 1, Vol. 1, Sec. A; Transcript 1-3:40p.m. [Tr. 1], pp. 7-8) Although the construction of the proposed substation would require the clearing of vegetation and grading of the land, the effects on the environment would be minimal. Wetland encroachment will be carefully mitigated and, because of careful mitigation

and substantial remaining habitat, rare or threatened species would not be adversely affected. There are no nearby recreational areas, scenic roads, archaeological areas or historic areas in relation to the site. (CL&P 1, Vol. 1, Sec. H & K; CL&P 1, Vol. 2, App. H) Route 77, a designated scenic road, abuts the property but is not affected by the substation due to its location well within the property.

B. Statutory Criteria

The criteria for issuing a certificate for an electric substation or switchyard, as described in Conn. Gen. Stat. §16-50i(a)(4); i.e. one designed to change or regulate the voltage of electricity at 69 kV or higher, or to connect two or more circuits at such voltage, which may have substantial environmental effect, is found chiefly in Conn. Gen. Stat. §16-50p(a)(3)(A) – (C). Such criteria includes public need for the facility and the basis for that need, the nature of the environmental impact alone and cumulatively with other existing facilities and why the adverse effects are not sufficient reasons to deny the application.

CL&P Met All Filing Prerequisites

Pursuant to Conn. Gen. Stat. §16-50*l*(e), beginning on October 5, 2006, which was at least 60 days before filing the Application, CL&P undertook a detailed Municipal Consultation Filing with the Town of Guilford. (CL&P 1, Vol. 1, Sec. O) During the period prior to filing the application with the Council, CL&P also consulted with the Town of Guilford Inland Wetlands

Commission and the Guilford Planning and Zoning Commission, and CL&P filed substation Location Approval applications with each commission. (CL&P 1, Vol. 1, Sec. O) Both land-use agencies approved the project.

Notices were provided to abutting property owners and Notice of the Application was published in the *New Haven Register* in accordance with Conn. Gen. Stat. §16-50*l*(b). Service of the Application was made on all state and local officials and agencies described in Conn. Gen. Stat. §16-50*l*(b).

II. PROJECT DESCRIPTION

The proposed substation will be constructed within the south-central portion of a secluded thirty-eight (38)-acre parcel owned by CL&P, which is located north of Stepstone Hill Road and east of Route 77. (CL&P 1, Vol. 1, Sec. A) Access to and from the substation would be from Stepstone Hill Road, just east of its intersection with Route 77. (CL&P 1, Vol. 1, Sec. F) The project will include construction of a gravel driveway along the route of the existing unimproved, dirt access. (CL&P 1, Vol. 1, Sec. F)

The Substation would connect into an existing 115-kV overhead transmission line crossing the parcel that interconnects to the Branford Substation on Route 1 in Branford and the Green Hill Substation in Madison. (CL&P 1, Vol. 1, Sec. F)

The proposed substation will be approximately 240 feet by 270 feet and be will be covered with a trap-rock surface and secured by a seven-foot high chain link fence with one foot of barbed wire. (CL&P 1, Vol. 1, Sec. F) The transmission line will be "looped through" the Substation, and a new 115-kV circuit breaker will be installed to separate the existing line into two circuits. Two (2) line-terminal structures will be installed within the Substation in order to support the 115-kV interconnections between the Substation and the transmission line. (CL&P 1, Vol. 1, Sec. F) Two 23- to 13.8-kV, 20.8-MVA autotransformers will be built to supply two 13.8-kV distribution feeder circuits (one from each autotransformer) which can take over portions of circuits from Guilford Substation. Cables for these two circuits and for one 23-kV feeder circuit (three phases each) will exit the substation underground in conduits southward to Stepstone Hill Road, following the general route of the new access drive. (CL&P 7, K. Bowes, p. 5)

Two (2) 85-foot, steel monopoles will be installed to make the connections between the transmission line and the Substation. (CL&P 1, Vol. 1, Sec. F) Two transformer-disconnect switches and two circuit switchers will be installed along with a metal-clad switchgear enclosure, approximately 24 feet long, 14 feet wide and 14 feet high. (CL&P 1, Vol. 1, Sec. F) In addition a 48-foot long by 14-foot wide by 14-foot high protective relay and control equipment

enclosure and a 24-foot long by 14-foot wide by 14-foot high battery enclosure will be installed at the east end of the Substation. (CL&P 1, Vol. 1, Sec. F)

III. NEED

(a) Existing Service Area Conditions

Over the past two decades, Guilford and four surrounding towns (Branford, Madison, Clinton, and Killingworth) have experienced significant growth. The migration of residents who commute to southwestern Connecticut has accelerated as those communities along route I-95 have become increasingly developed. This has meant a change in the demographics of the communities surrounding Guilford. Not only are more people moving to the area, they are building larger homes that require more electricity. The kilowatt-hour use in these five towns increased by more than 67% from 1981 to 2004. (CL&P 1, Vol. 1, Sec. G) The peak-power demand at two bulk-power substations and smaller downstream distribution substations serving these towns also increased significantly with this increased energy usage. (CL&P 1, Vol. 1, Sec. G-1) Peak demand is expected to grow further at an annual compound rate of between 2% and 3%. In addition, commercial development in Guilford and its surrounding towns is also experiencing resurgence. (CL&P 1, Vol. 1, Sec. G)

(b) Guilford's Need

The proposed substation is needed to meet increasing peak-load demands and to improve distribution system reliability in Guilford. (CL&P 1, Vol. 1, Sec. G) Existing substations serving Guilford are heavily loaded and lack the capacity to meet projected future peak-load demands. (CL&P 1, Vol. 1, Sec. G) The two bulk-power Substations now serving all of Guilford are located in Branford and in Madison.

The Branford Substation currently has a permissible load rating of 95 MVA based on a contingent forced load transfer of 14 MVA in the event of a transformer failure at Branford. During the summer of 2006, peak loads at this substation reached 87.8 MVA. Based on the higher end growth estimate of 3% for peak-load growth, the Branford Substation will exceed its permissible load rating by 2009. (CL&P 1, Vol. 1, Sec. G) The two 12.5-MVA power transformers at the small Guilford Substation are approaching their permissible load ratings, and based on current projections will exceed their ratings as early as 2008. (CL&P 1, Vol. 1, Sec. G) Shifting Guilford's 13.8-kV load to a Branford 23-kV feeder to relive Guilford Substation will only exacerbate the Branford Substation capacity problem. (CL&P 1, Vol. 1, Sec. G)

The Green Hill Substation in Madison feeds a large area of Guilford. A 23-kV feeder line to Guilford Substation from Green Hill, which was initially built in the 1930s, is lengthy, stretches east and west along the coast of Long Island Sound, and follows a "swamp" route, so it

is vulnerable to damage from strong storms. (CL&P 1, Vol. 1, Sec. G) Damage to this line like that which occurred to it during hurricane Gloria in 1985 will cause significant power outages that will last for extended periods of time. (CL&P 1, Vol. 1, Sec. G)

System alternatives have been explored but have been found inadequate or uneconomical to address the need to be served by the proposed substation. (CL&P 1, Vol. 1, p. G-8)

IV. Environmental Effects

(a) Electric and Magnetic Fields

All alternating current devices produce electric and magnetic fields at the power frequency of 60 Hz which some suspect might cause adverse health effects given long-term exposures to above-background levels, despite the fact that no credible evidence supports this claim. For many years now, the focus of this concern has been on magnetic fields ("MF") and not electric fields. With the proposed Stepstone Substation, the dominant sources of MF on and beyond the property boundaries would not be the proposed substation but would continue to be the existing transmission and distribution power lines (the 115-kV line and the 13.8-kV circuits) near those bondaries. MF exposure from the proposed substation equipment beyond the fence line around the Substation would quickly fall to very low background levels. Likewise, any MF levels from the transmission line and distribution lines would also fall to background levels over short distances since MF decreases as the distance increases from the source. The MF levels at

the nearest home to the proposed substation would remain at today's existing levels. (CL&P 1, Vol. 1, Sec. M) However, the average MF level during the projected peak-load day in the year 2013 will increase from 1.1 mG to 1.6 mG at the nearest abutting residence on the west side of Route 77 because the average current over the adjacent transmission line will increase. (CL&P 4, Response 2)

(b) The Natural Environment and Wildlife

The natural environment will remain substantially unaffected by the development of the Stepstone Substation. The project benefits from a full review by relevant local agencies in the Town of Guilford (CL&P 1, Vol. 1, Sec. O and Vol. 2, App. H)

The proposed site location would not directly affect any wetlands. The Town of Guilford Inland Wetlands Commission, however, regulates a 100-foot upland review area for wetlands and watercourses. Driveway improvements would occur within this 100-foot upland review area. Nonetheless, any areas disturbed by the construction activities would be restored. (CL&P 1, Vol. 1, Sec. K and Sec. L)

The standing water on the property does not have enough access to other watercourses and does not support the existence of any fin-fish. (CL&P 1, Vol. 1, Sec. K)

Construction activities will conform to the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, and to requests from the Town of Guilford as described in CL&P's

summary to the Council and pre-filed testimony. Other mitigation techniques will control temporary sedimentation runoff. After construction, the site would be graded to provide adequate drainage of storm water. (CL&P 1, Vol. 1, Sec. K and Sec. L; CL&P 1, Vol. 2, App. H)

(c) Stepstone Substation Would Not Adversely Affect Wildlife in the Area

The Stepstone Substation will not have an adverse effect on wildlife due to nearby development and the site's immediate proximity to similar habitats that would allow for natural relocation of potential wildlife from the construction zone. (CL&P 1, Vol. 1, Sec. K.7; CL&P 1, Vol. 2, App. E)

A small population of the Connecticut Species of Special Concern, Virginia Snakeroot (*Aristolochia serpentaria*), had been previously documented on the subject property, however, a recent field survey did not locate any individuals of this species. If any plants remain, none appear to be located within the proposed construction areas and, therefore, no adverse effects are anticipated. (CL&P 1, Vol. 1, Sec. K; CL&P 1, Vol. 2, App. E) Similarly, Featherfoil (*Hottonia inflate*), another Connecticut Species of Special Concern that was observed on the property during the field survey would not be adversely affected due to its location within a wetland located approximately 500 feet from the proposed development. (CL&P 1, Vol. 1, Sec. K; CL&P 1, Vol. 2, App. E.) A deceased Eastern Box Turtle specimen was identified on the property near Route 77 during the field study. The proposed construction of the Substation is

not anticipated to adversely affect any potential Eastern Box Turtle population. The Connecticut Department of Environmental Protection ("DEP") Wildlife Division indicated that the proposed activities will not affect the locations *Aristolochia serpentaria* and *Hottonia infalata*. The DEP recommended that, prior to construction, these two areas be flagged to prevent inadvertent negative impacts. (CL&P 1, Vol. 1, Sec. K; CL&P 1, Vol. 2, App. E.)

(d) No Affect On Nearby Resources

The Stepstone Substation would not be located near any areas of recreational, scenic or historic value. (CL&P 1, Vol. 1, Sec. K)

(e) No Adverse Effect On Public Health And Safety

Noise from the operation of the proposed substation is projected to be below DEP-regulated day- and night-time allowable noise levels at the property lines. (CL&P 1, Vol. 1, Sec. K; CL&P 1, Vol. 2, App. F)

The Stepstone Substation would have low-level lighting for safety and security purposes. However, 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. (CL&P 1, Vol. 1, Sec. K)

The transformers contain mineral insulating oil, and the units would have a lined below-grade sump designed to contain oil spills and capable of holding 110% of the transformer's oil. (CL&P 1, Vol. 1, Sec. K; CL&P 1, Vol. 2, App. F) As an additional benefit, becuase the oil sumps are designed to contain spilled oil, if the oil is burnnig the sump system will deprive the fire of oxygen so that the fire goes out.

The closest public–water-supply wells are part of the Pinewood Wellfield and located approximately 900 feet southwest of the proposed substation. The northern and western portions of the property are located within the Pinewood Wellfield Aquifer Protection Zone. Land-use activities within the Pinewood Wellfield Aquifer Protection Zone are regulated by both the DEP and the Town of Guilford's Department of Environmental Protection. (CL&P 1, Vol. 1, Sec. K) DEP had no comments. Substations and other utility electrical equipment, however, are not included in the definition of regulated facilities under the DEP regulations. Moreover, under 273-92 Groundwater Protection District of the Town of Guilford's Zoning Regulations, substations and other utility electrical equipment are not identified as a prohibited land use or a special permit land use within a Groundwater Protection District. (CL&P 1, Vol. 1, Sec. K)

As currently designed, a portion of the footprint of the proposed Substation is situated within the Aquifer Protection Zone. The Department of Public Health ("DPH") has suggested that CL&P relocate the Substation 200 feet to the east. According to DPH, this eastwardly shift

will place the Substation outside the Aquifer Protection Zone. Moving the Substation east, however, will create a greater impact on the surrounding residences and wetlands. That is, moving the Substation to the east will require the removal of more trees, thus increasing the visibility of the Substation to the neighboring residences. Second, by positioning the Substation in a more eastern position, the Substation will be encroaching further on the wetlands. The Substation's current location was reviewed and approved by the Inland Wetlands Commission. Moving the Substation east and thus reducing the buffer between the Substation and the wetlands may prove inconsistent with the approval. As to the DPH's concern regarding contamination by spills or motor vehicles, it should be noted that there is adequate distance between the Substation and the wells themselves and it would be very difficult for any surface spill or flow from activities at the Substation to reach the wells before some sort of remediation is put in place. (Tr. 2, pp. 38-39) Finally, construction of the Substation will conform with CL&P's standard construction and operating practices and written procedures that provide for protection of the environment.

(f) Response to Town's Request for Property Restrictions

At the Council's hearing on April 24, 2007, Mr. Carl Balestracci, the First Selectman of the Town of Guilford (the "Town"), requested a condition that, after project completion, CL&P

> "not sell off any parts of the property, that they maintain the property as an entity, and - - and to maintain the buffer for - - for the citizens that live in the neighborhood (Tr. 1, p. 8)."

In response to this request, CL&P was asked whether it would agree to a conservation easement. (Tr. 1, p. 31) For the reasons outlined below, CL&P is not in a position to agree to such a request.

Background

It is noteworthy that the local agency entrusted with protection of environmental resources, the Guilford Inland Wetlands Commission, did not mention the subject of a conservation easement in its approval of August 2, 2006. CL&P 1, Vol. 1, App. G. Rather, the issue was raised initially by the public. As part of the location approval process, the Guilford Planning and Zoning Commission ("PZC") held a public hearing at which time several residents expressed concerns about the remaining land outside of the new Substation compound. In response to those concerns, the PZC approved the location as proposed, subject to certain conditions:

> 1. CL&P, or its successors and assigns, will continue to own the entire 38 acre parcel as long as the substation is location on the parcel ....
>
> 3. CL&P will not further develop the site for other uses.
>
> CL&P 1, Vol. 1, App. G (Approval Letter dated 9/29/06).

However, subsequent to the issuance of that decision, CL&P's counsel, Marianne Barbino Dubuque of Carmody & Torrance LLP, appeared before the PZC and raised certain objections to any permanent property restrictions (more fully discussed below). Thereafter, the PZC modified its approval and deleted the above-referenced conditions 1 & 3. CL&P 1, Vol. 2, App. G (Approval letter dated 10/26/06). That letter specifically states: "This letter of approval supersedes the letter dated 9-29-2006." Thus, the PZC did not condition its location approval on preservation of the site as a whole or dedication of conservation easements.

Nonetheless, Mr. Balestracci requested that the Council impose such restrictions on CL&P. CL&P respectfully asks that the Council decline to do so.

It is clear that the concerns expressed by the public were intended to protect their perceived property values. The restriction of a utility company's property to address such concerns is misplaced since it would impermissibly impinge on CL&P's property rights and/or future activities. Moreover, there are already significant protections in place.

Nature of Conservation Easements & Possible Future Effect on CL&P

Initially, it should be noted that the primary purpose of conservation easements is to protect a sensitive environmental resource. In this case, the impact has been determined to be minimal. The Substation is outside of wetlands. Only limited activities will occur in the 100-foot upland review area. CL&P will have careful measures in place to protect the site wetlands

(ex. Construction Best Management Practices, Soil Erosion and Sediment Control Plan, Development and Management Plan). Therefore, a conservation easement would add little value in protecting the wetlands.

A conservation easement is a permanent restriction on property. Since CL&P is subject to State utility regulatory oversight, among them the Department of Public Utility Control ("DPUC"), CL&P may be asked or required to implement energy initiatives and/or safety enhancements that would necessitate the installation of additional facilities on the property. The existence of a conservation easement could hamper such efforts and override a greater benefit that could be achieved.

Furthermore, as need continues to grow, CL&P may wish to seek approval for additional facilities and/or new technologies and would like to be able to plan such facilities without a permanent bar in place.

Significantly, under Connecticut General Statutes § 47-42c, the public's interest in a conservation easement would be enforceable by the Connecticut Attorney General. Section 47-42c provides:

> **Sec. 47-42c. Acquisition of restrictions. Enforcement by Attorney General.** Such conservation and preservation restrictions are interests in land and may be acquired by any governmental body or any charitable corporation or trust which has the power to acquire interests in land in the same manner as it may acquire other interests in land. Such restrictions may be enforced by injunction or

> proceedings in equity. The Attorney General may bring an action in the Superior Court to enforce the public interest in such restrictions.

Thus, a conservation easement would provide a mechanism for third parties to thwart an otherwise legitimate exercise of CL&P's property rights or an effort to maximize the effectiveness of its facilities. Such a result would render the State utility regulators' ability to determine public convenience and necessity meaningless.

Finally, Connecticut law does not authorize the reservation of rights to rescind the conservation easement if the area subject to it is later determined to be necessary for site improvements.

Protections in Place

CL&P carefully designs its projects and feels very strongly that a conservation easement is not warranted where the impact is minimal. In this case, the Stepstone Substation would not directly affect any wetlands. Only limited site work associated with the proposed gravel driveway would occur within the 100-foot upland review area established by the Town's Inland Wetlands Commission. Furthermore, there are more creative and less restrictive ways to better address visibility and neighborhood concerns, such as landscaping features.

Additionally, site development for new facilities in the future (other than distribution lines) would likely require approval of the Council. That process is a public one, allowing for comment from all interested parties including residents, wetlands agencies, Town consultants, as

well as State agencies, including the DEP. Thus, protection of any sensitive resources could be achieved at that time, without the need for a conservation easement now.

Other Considerations

CL&P respectively asks that the Council also consider the following arguments that would support CL&P's position that the Town's request be denied:

- CL&P has clearly stated its intention not to develop the site in the foreseeable future.
- Under the Town's Zoning Regulations, a substation is a permitted use in residential zones.
- It would be an undesirable precedent to allow each town an opportunity to restrict CL&P's use of its property.
- CL&P cannot voluntarily diminish the value of its property by agreeing to restrict its use when the property is an asset held on behalf of all ratepayers.
- Generally, Connecticut courts do not favor prohibitions on lawful uses of property in the future. In Moscowitz v. PZC, 16 Conn. App. 303, 311-312 (1988), the Appellate Court invalidated a prohibition on future subdivisions as exceeding the authority of a planning commission, finding that, "the commission empowered itself to deny any future applications even if the future applications fully complied with the regulations. This it cannot do."

It should be noted that CL&P acquired the property in 1973. As demonstrated by Attachment A, almost all of the abutters acquired their properties subsequent to CL&P's property acquisition. It is a matter of public record as to the ownership of property and it would have been fairly easy to determine possible uses of CL&P's property by an individual considering a

purchase of property in the neighborhood. Thus, the development of the property for a substation or other electric utility purposes should not have been an unexpected event. Furthermore, a residential development could have resulted in a back yard within 50 feet (residential setback). CL&P's planned use is well beyond 50 feet from any abutting residential property line.

DPUC Oversight

Property rights in CL&P's land are not alienable without DPUC approval. Conn. Gen. Stat. §16-43 requires that CL&P receive approval from the DPUC before it transfers an interest in property. In its implementing regulations, the DPUC is protective of the importance of the property to the public service mission of the utility and the financial interests of the customers and investors.[1] Since the passage of the Electric Deregulation legislation in 1998 (Public Act 98-28 now Conn. Gen. Stat. §§16-244 through 245y) the value of any property interest belongs to the ratepayers not the stockholders. Connecticut Light & Power v. Dept. of Public Utility

[1] Pursuant to Conn. Gen. Stat. §16-43(a) the DPUC must determine if the property is no longer "...necessary or useful in the performance of its duty to the public."

RCSA §16-43-2(d) reads: In deciding whether or not to grant such approval the commission shall make a finding as to whether or not such interest in land, buildings, real estate fixtures or other interest in real estate is to be sold, leased, assigned or otherwise disposed of for a consideration that is equal in amount to the fair market value thereof. In the event the commission finds that consideration equals an amount less than such fair market value, then the commission shall further consider whether the acceptance of that consideration by the public service company adversely affects the interests of the stockholders and owners or of the customers of the public service company.

Control, *266 Conn. 108* (2003) (see also Application of the United Illuminating Company For Approval Of The Sale Of Land On Oak Valley Road In Shelton, Connecticut, DPUC Docket No. 00-05-25, (October 25, 2000), p. 2). While in many instances, where the land is undeveloped, local municipalities are preferred *purchasers,* a donation of valuable property appears to run afoul of the statutory interest that ratepayers have in the value of CL&P's property and the potential for this property to be used by CL&P to meet its public service obligations. Consequently, offering a conservation easement is not an option.

(g) CL&P's Application Should Not Be Denied

Based on the documents in the Record, the proposed Stepstone Substation would have a minimal effect on the present environment. More importantly, the project would meet the present vital electric reliability need that will only worsen as the Town of Guilford's load continues to grow. The extensive mitigation measures, active participation of the local land-use agencies, the thoughtful design and careful location of the proposed facility meet and exceed all the requirements for a Certificate of Environmental Compatibility and Need.

V. CONCLUSION

The Connecticut legislature has entrusted the Council with balancing the need for adequate and reliable public utility services with protection of the environment and ecology of the state. CL&P's application in this docket is based on a demonstrated need for a new and

larger bulk substation in Guilford where the distribution system is nearing its limit. CL&P's proposal addresses that need in a manner that minimally affects the environment and ecology of the State and minimizes damage to those resources. Accordingly, CL&P respectfully requests that its Application for a Certificate of Environmental Compatibility and Public Need for the Stepstone Substation be approved.

Respectfully submitted,

APPLICANT,
THE CONNECTICUT LIGHT AND POWER COMPANY

BY: _____

Robert S. Golden, Jr.
CARMODY & TORRANCE LLP
50 Leavenworth Street
Waterbury, CT 06702
Its Attorneys

Copies to Service List Attached

Attachment A

MBL	ADDRESS	OWNER	PROPERTY PURCHASED DATE	LAND USE	HOUSE DATE
091-046 & 046A	Stepstone Hill Road	Conn Light & Power (subject property)	9/19/1973	Vacant Land	0
091-045	943 Durham Road	Kimberly A Caldwell	2/15/1984	Residential	1954
091-045-A5	985 Durham Road	Timothy E & Jessica P Hansen	12/30/2004	Residential	1988
091-045-A4	987 Durham Road	Frederick W & Andrea C Herget	11/8/1989	Residential	1987
091-045-A3	989 Durham Road	James P & Christina R Leese	3/1/1999	Residential	1987
091-044	1073 Durham Road	Charles Monte Jr	5/8/1955	Residential	1952
091-037-16	155 Bunker Hill Road	Walter J Sauer Jr & Jill T OCallaghan	4/11/2006	Residential	1971
091-037	Bunker Hill Road	Town of Guilford	1/12/2004	Vacant Land	0
091-036-07	123 Meadow Ridge Lane	Michael I & Janet R Deangelo	6/1/2000	Residential	1990
091-036-06	91 Meadow Ridge Lane	Nicole E Nicoletti	11/20/2000	Residential	1987
091-036-05	77 Meadow Ridge Lane	Marc W & Krysten L Guarino	5/19/2006	Residential	1990
091-036-04	53 Meadow Ridge Lane	Robert M & Deborah A Pantera	2/13/1991	Residential	1989
091-036-03	41 Meadow Ridge Lane	Kyle R & Jane M Kramer	6/2/2000	Residential	1989
091-035-A02	898 Little Meadow Road	Dennis & Annette Amato	5/1/1998	Residential	1998
091-034	888 Little Meadow Road	Molly F Free	7/16/2003	Residential	1971
091-033	866 Little Meadow Road	Lawrence & Dana Torre	1/3/2001	Residential	1954
091-032	838 Little Meadow Road	Evelyn M Palermo	6/22/1979	Residential	1952
091-030-C3	70 Stepstone Hill Road	Donald & Rosemary Jewett	9/8/2006	Residential	1986
085-023-A	68 Stepstone Hill Road	Mark A Millett	6/15/1993	Residential	1963
085-034-01A	33 Steptone Hill Road	James D McCann & Maureen McCann-OReilly	8/30/2000	Residential	1998
085-034-01	51 Stepstone Hill Road	Douglas F & Susan B Danaher	12/31/1997	Residential	1961
085-034-01B	59 Stepstone Hill Road	David W & Mary C Vitola	6/16/1998	Residential	1998
085-033	75 Stepstone Hill Road	Douglas E Tichy & Eileen M McNamara	5/31/2002	Residential	1955
085-034-02	11 Stepstone Hill Road	Harlan G Case	6/8/1988	Residential	1973
085-022	10 Stepstone Hill Road	Russi T & Ava R Suntoke	12/12/1997	Residential	1950
085-021-04	828 Durham Road	Christopher & Judith A Tsou	4/2/2001	Residential	1977
085-021-03	840 Durham Road	Laurel K Griso & Dennis Sandacata	10/22/1985	Residential	1979
091-052-B	Durham Road	Town of Guilford	6/4/1974	Vacant Land	0
091-052-A	Durham Road	Town of Guilford	1/10/1973	Vacant Land	0
091-030-04	130 Stepstone Hill Road	Yongmei Jin & Zhang Xuechun	12/5/2005	Residential	2001
091-030-C4	72 Stepstone Hil Road	Robert A Solari	4/16/2001	Residential	1986
091-030-C5	74 Stepstone Hill Road	Jeffrey & Patricia Brandi	5/5/2000	Residential	2002
091-036-01	920 Little Meadow Road	Sean W & Illana Lazarus	8/27/2004	Residential	1988
091-036-02	25 Meadow Ridge Lane	Keith B & Deborah G Bishop	8/7/1995	Residential	1991
091-036-08	135 Meadow Ridge Lane	Guy A & Lisa A Cattaruzza	1/27/1994	Residential	1993
091-035-A	900 Little Meadow Road	Frederjick P & Mary Lou Bonito	8/28/1968	Residential	1968
085-021-05	806 Durham Road	Kerry E Arsenault & Jeremy Turk	9/14/2005	Residential	1977
085-034-03	765 Durham Road	Alan K & Susan M Frishman	6/10/2003	Residential	1982
091-030-02	Stepstone Hill Road	Conn Light & Power	1/28/1977	Vacant Land	0
091-030-01	Stepstone Hill Road	Conn Light & Power	1/28/1977	Vacant Land	0
085-24-1	88 Stepstone Hill Road	Warren & Helen Gohsler	7/21/1988	Residential	1985
091-30	126 Stepstone Hill Road	Lidio & Alicia Afonso	4/3/1998	Residential	1964
085-24-2	100 Stepstone Hill Road	Ronald & Margaret Berube	5/13/1998	Residential	1999
085-25	112 Stepstone Hill Road	SNET	3/15/1951	Other	1970

Note: 150-foot CL&P rights-of-way acquired on 1/28/77

*shaded cells are not direct abutters to the Site.

Date: April 25, 2007

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	The Connecticut Light and Power Company (CL&P)	Robert E. Carberry, Manager Transmission Siting and Permitting Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 (860) 665-6774 (860) 665-6717 fax carbere@nu.com Kathleen A. Shea, Esq. Northeast Utilities Service Company, Legal Dept. P.O. Box 270 Hartford, CT 06141-0270 (860) 665-2396 sheaka@nu.com Helen Wong, Project Manager Transmission Project Management Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 (860) 665-2464 (860) 665-6550 fax wonghh@nu.com Anthony M. Fitzgerald, Esq. Robert S. Golden, Esq. Marianne Barbino Dubuque, Esq. Carmody & Torrance LLP P.O. Box 1110 Waterbury, CT 06721-1110 (203) 573-1200 afitzgerald@carmodylaw.com rgolden@carmodylaw.com mdubuque@carmodylaw.com
Party (Granted 04/24/07)	Russi T. Suntoke 10 Stepstone Hill Road Guilford, CT 06437 (203) 453-3426 russisuntoke@hotmail.com	

DOCKET NO. 326– Northeast Utilities Service Company, on behalf of The Connecticut Light and Power Company (CL&P) Application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of the proposed Stepstone 35L Substation located north of Stepstone Hill Road and east of Route 77, Guilford, Connecticut	}	Connecticut
	}	Siting
	}	Council
	}	May 24, 2007

Draft Findings of Fact

Introduction

1. Northeast Utilities Service Company, acting on behalf of The Connecticut Light and Power Company ("CL&P"), in accordance with provisions of Connecticut General Statutes ("CGS") Sections 16-50g et seq., and Section 16-50j-1 et seq. of the Regulations of Connecticut State Agencies ("RCSA"), applied to the Connecticut Siting Council ("Council") on December 15, 2006 for the construction, operation, and maintenance of a new substation to be located on CL&P's 38-acre property located north of Stepstone Hill Road and east of Route 77, Guilford, Connecticut. (CL&P 1)

2. The purpose of the proposed facility is to increase distribution system capacity to ensure and improve electric system reliability in response to increasing load growth in the Town of Guilford and surrounding communities. (CL&P 1, Vol. 1, p. G-1)

3. The parties in this proceeding are the Applicant, and Russi T. Suntoke. (Transcript 1 - 3:40 p.m. [Tr. 1], p. 4; Transcript 2 -7:30 p.m. [Tr. 2], pp. 27-28)

4. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on April 24, 2007, beginning at 3:40 p.m. and continuing at 7:30 p.m. The hearing was noticed for the Guilford High School Auditorium, 605 New England Road, Guilford, Connecticut. (Council's Hearing Notice dated April 11, 2007; Tr. 1, p. 3; Tr. 2, p. 3)

5. A sign containing the Council's requested information was placed at the entrance of the site. The Council and its staff made an inspection of the proposed substation site on April 24, 2007, beginning at 2:30 p.m. (Tr. 1, p. 21; Council's Hearing Notice dated April 11, 2007)

6. Pursuant to CGS § 16-50*l* (b), public notice of the application was published in *The New Haven Register* on November 29, 2006 and December 01, 2006. (CL&P 1, Vol. 1, p. Q-3 & Exh. 1)

7. Pursuant to CGS § 16-50*l* (b), notice of the application was provided to all abutting property owners by certified mail. (CL&P 1, Vol. 1, p. Q-3 & Exh. 1)

8. Pursuant to CGS § 16-50*l* (b), CL&P provided notice to all federal, state and local officials and agencies listed therein. (CL&P 1, Vol. 1, p. Q-3 & Exh. 1)

9. On October 5, 2006, CL&P sent copies of its Municipal Consultation Filing to the Connecticut Energy Advisory Board ("CEAB") and responded to their interrogatories on November 29, 2006. (CL&P 1, Vol. 2, App. H)

State Agency Comments

10. Pursuant to CGS § 16-50*l*, on April 11, 2007, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: Department of Environmental Protection ("DEP"), Department of Public Health ("DPH"), Council on Environmental Quality ("CEQ"), Department of Public Utility Control ("DPUC"), Office of Policy and Management ("OPM"), Department of Economic and Community Development ("DECD"), and the Department of Transportation ("DOT"). (Council's Hearing Notice dated April 11, 2007)

11. The Council received responses from the DPH's Drinking Water Section on January 17, 2007. (DPH Comments dated January 17, 2007)

12. In its comments, DPH notes that the proposed construction of the substation is on the Aquifer Protection Area, Level A delineation of the Pinewood Wellfield of the Connecticut Water Company. (DPH Comments dated January 17, 2007)

13. DPH also notes that moving the proposed substation 200 feet to the east would remove the Substation from the Aquifer Protection Area. (DPH Comments dated January 17, 2007)

14. DPH also notes that best management practices should be reviewed with the Connecticut Water Company to ensure the safety of the drinking water supply during and after construction. (DPH Comments dated January 17, 2007)

15. The CEAB rendered its report on April 5, 2007, indicating that CL&P made a compelling case of conformance with the CEAB's most relevant Preferential Criteria of enchanced reliability and concluded that it viewed favorably the proposed project. (CSC Admin. Notice, Item 32)

16. The proposed substation received implementation approval from ISO-New England pursuant to Section 1.3.9 of the ISO New England Inc. Transmission, Markets and Service Tariff on November 8, 2005 and approval pursuant to Section 2 of Schedule C of Part II of the ISO New England Inc. Tariff and ISO Planning Procedure 4. (CL&P 1, Vol. 2, App. H)

Municipal Consultation

17. CL&P filed with the Town of Guilford a Municipal Consultation Filing "MCF" pursuant to CGS § 16-50l(e) on October 5, 2006. CL&P filed a location approval application with the Guilford Inland Wetlands Commission ("IWC") on July 6, 2006. CL&P filed a location approval application with the Town of Guilford Planning and Zoning ("P&Z") Commission on July 6, 2006. (CL&P 1, Vol. 1, p. Q-2)

18. The IWC held its walk meeting on August 2, 2006. CL&P received location approval from the IWC without conditions on September 6, 2006. (CL&P 1, Vol. 2, App. G)

19. The Guilford P&Z Commission held a public meeting on September 12, 2006. The Guilford P&Z Commission unanimously approved CL&P's location approval application on September 20, 2006, later modified on October 18, 2006 to remove land-use restrictions.
(CL&P 1, Vol. 1, p. I-4; CL&P 1, Vol. 2, App. G)

20. First Selectman of Guilford, Carl A. Balestracci, Jr. indicated his support for the proposed project. (Tr. 1, pp. 7-8)

Need

21. The proposed substation is required to address the need for additional distribution-system capacity and reliability in Guilford. (CL&P 1, Vol. 1, p. G-1; CL&P 7, K. Bowes p. 11)

22. The proposed substation would meet the electric energy needs by being centrally located between two existing bulk-power substation sources and by being connected with a 115-kV looped transmission supply. (CL&P 1, Vol. 1, p. G-1; CL&P 7, K. Bowes pp. 11-12)

23. The Guilford load is served from the Branford and Green Hill Substations. Two 23-kV feeders from the Branford Substation and one 23-kV feeder from the Green Hill Substation supply power to a downstream distribution substation in Guilford, where voltage is reduced to 13.8 kV by two 12.5-MVA power transformers and from where four 13.8-kV feeders emanate and serve the town center and portions of the town east and west of Route 77 as far north as Route 80.
(CL&P 1, Vol. 1. p. G-3; CL&P 7, K. Bowes p. 13)

24. The Branford Substation currently has a permissible load rating of 95 MVA based on a forced load transfer of 14 MVA. During the summer of 2006, peak loads at the substation reached 87.8 MVA. Based on higher end growth estimate of 3% for peak-load growth, the Branford Substation will exceed its permissible load rating by 2009.
(CL&P 1, Vol. 1, P. G-4)

25. A continuing peak-load growth rate of 2% to 3% per year is forecasted for the Guilford area. The small Guilford Substation is expected to exceed its load ratings as early as 2008. (CL&P 1, Vol. 1, p. G-4; CL&P 7, K. Bowes p. 13)

26. A portion of the 23-kV supply line from Green Hill Substation feeds Guilford Substation following the "swamp" route through tidal flow marsh land areas bordering Long Island Sound. This lengthy and older supply line was initially built in the 1930s and is susceptible to interruption from significant storm events and could be severely damaged by a strong hurricane. (CL&P 1, Vol. 1, p. G-5; CL&P 7, K. Bowes pp. 13-14)

27. Because direct circuit routes from Green Hill Substation to Guilford are all but exhausted, installing an inland bulk substation in north-central Guilford where load is growing, and which can provide a 23-kV feeder supply to the Guilford Substation, will provide not only much needed capacity and a means to reduce the loading on both the Branford Substation and the small Guilford Substation, but also increased reliability.
(CL&P 7, K. Bowes p. 14)

28. By adding a new bulk-power-supply substation source to the area, CL&P can improve reliability by the deployment of more recloser-loop schemes on the distribution feeders. Recloser-loop schemes minimize the number of customers that lose power during an outage when power is available from more than one direction or source. (CL&P 7, K. Bowes p. 15)

Site Alternatives

29. To ensure that the proposed substation location was the most viable site, CL&P reviewed and evaluated a total of four (4) sites. (CL&P 1, Vol. 1, p. I-1)

30. In its site evaluations, CL&P used the following criteria to judge a particular location's viability: sufficient space for needed facilities; proximity to an existing 115-kV transmission circuit; central location with respect to local distribution (customer) load area; proximity to neighbors and other surrounding features; natural resource and cultural resource constraints; zoning and present land use; access from a public road; and earthwork requirements based on existing topography. (CL&P 1, Vol. 1, p. I-1)

31. The four sites evaluated were: the proposed substation site; farm property located east of Little Meadow Road in Guilford (Site 2); CL&P-owned property located west of Warpas Road in Madison (Site 3); and Orchard property north of New England Road in Guilford (Site 4). (CL&P 1, Vol. 1, pp. I-1-I-6)

32. CL&P determined that the proposed site would allow the proposed substation to be centrally located with respect to the Guilford customer load, and to easily connect into the existing 115-kV transmission line located in southern portion of the Property. (CL&P 1, Vol. 1, p. I-3)

33. The proposed site has existing access from Stepstone Hill Road, which abuts the Property. It has a large size (38 acres), allowing the Substation to be built nearly 800 feet off Stepstone Hill Road and over 600 feet from the nearest residence. (CL&P 1, Vol. 1, p. I-3)

34. Interior property views of the proposed substation are well screened by existing woodlands. (CL&P 1, Vol. 1, p. I-3)

35. The development would be consistent with local zoning regulations (Substations are an allowed use in a Residential Zone by special permit). This site would require minimal earthwork to construct the substation. (CL&P 1, Vol. 1, pp. I-3-I-4)

36. CL&P determined that Site 2 was unsuitable because the substation would require moderate to heavy earthwork, given that a new road would be required to reach the interior of the property, and that there is potential for substantial adverse environmental impact at this site. (CL&P 1, Vol. 1, p. I-4)

37. CL&P determined that Site 3 was unsuitable because it was not ideally situated proximate to the Guilford load center, extensive cutting of the mature forest would be necessary, and access to the site would be gained though a residential area with several homes close to the site. (CL&P 1, Vol. 1, pp. I-5- I-6)

38. CL&P determined that Site 4 would be unsuitable given that the 174-acre property's agricultural history would suggest that site soils may have elevated levels of pesticides and related constituents, potentially jeopardizing the re-use of the material and creating significant off-site treatment/disposal costs. In addition, CL&P determined that the site was unsuitable because the section of the property that is feasible for development consideration is topographically higher than the surrounding area and lacks sufficient vegetative buffer for screening. Finally a significant land purchase would be required for CL&P to construct at this property. (CL&P 1, Vol. 1, p. I-4)

Description of Proposed Project

39. The proposed project would be located on a 38-acre parcel of land off of Stepstone Hill Road in Guilford. This project would include the construction of a new electric power 115-kV to 13.8-kV substation, reconstruction of the existing unimproved dirt access drive, and construction of two new transmission poles on the substation property to connect to the existing 115-kV Circuit #1508. A metal-clad switchgear enclosure, approximately 24 feet long, 14 feet wide and 14 feet high would be constructed to provide the switching equipment for three distribution feeders. In addition a 48-foot long by 14-foot wide by 14-foot high protective relay and control equipment enclosure and a 24-foot long by 14-foot wide by 14-foot high battery enclosure would be installed at the east end of the substation.
(CL&P 1, Vol. 1, pp. F-1-F-3, CL&P 7, K. Bowes p. 20)

40. The proposed substation will be built in accordance with IEEE/ANSI and NFPA standards. CL&P incorporates IEEE/ANSI and NFPA standards for fire protection in its substation designs and operates these facilities to minimize the impact of fire, in the unlikely event it occurs. (CL&P 1, Vol. 1, J-1-J-2)

41. The tallest structure within the proposed substation would be sixty-five (65) feet tall. (Tr. 1, p. 23)

42. The proposed substation would be supplied from the existing 115-kV, #1508 transmission circuit that interconnects the Branford Substation on Route 1 in Branford with the Green Hill Substation in Madison. (CL&P 7, K. Bowes p. 20)

43. The transmission line would be "looped through" the proposed substation and a new 115-kV circuit breaker would be installed in the 115-kV substation bus to separate the existing transmission circuit #1508 into two circuits. The connections between the substation and the 115-kV transmission line would be made by installing new spans of conductors from two new 85-foot-tall steel poles in the line to two line-terminal structures within the substation, where each structure would support a line-disconnect switch and conductor drops to a 115-kV substation bus. (CL&P 7, K. Bowes p. 20)

44. Existing horizontal structures #5901 and #5902 would be removed and replaced by two vertical single-circuit steel poles on concrete foundations. From these two steel poles, the existing east and west segments of the line would be brought into the substation.
(CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 20)

45. New pole #5902 would be located 150 feet west of the existing #5902 structure.
(CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 20)

46. New pole #4988 (to replace #5901) would be located approximately 40 feet east of existing structure #5901. (CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 20)

47. The existing conductor would dead-end on the line side of the new structures and new 1590-kcmil ACSR conductors would be installed into the substation. (CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 20)

48. The substation would be outfitted with two transformer disconnect switches and two circuit switchers. One disconnect switch and one circuit switcher will be in the supply path to the 47-MVA power transformer, used to step down the voltage from 115 kV to 23 kV. (CL&P 1, Vol. 1, p. F-2)

49. The second disconnect switch and circuit switcher can connect a future power transformer, but would initially be used for a mobile transformer connection, when necessary, to perform maintenance or to temporarily replace a failed piece of equipment. (CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 5)

50. At present CL&P has no requirement, nor liability criteria that would require an emergency generator at the proposed substation site. CL&P operates 500 plus substations on the Northeast Utility system and only a select few are required, based upon the regional or national reliability criteria, to have a backup generator. Currently the proposed substation is not a substation that requires a backup generator. The liability criteria, however, could change and that is why CL&P reserved the right to add one. (Tr. 1, p. 76)

51. The site is large enough to convert the mobile connection at a later date to accommodate a second 47-MVA transformer, if needed. (CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 5)

52. Two 23-kV to 13.8-kV autotransformers will be installed to provide two 13.8-kV distribution feeder circuits which can take over portions of circuits from the Guilford Substation. (CL&P 1, Vol. 1, p. F-2; CL&P 7, K. Bowes p. 5)

53. Feeder cables will exit the substation underground in conduits southward to Stepstone Hill Road, following the general route of the new access drive. (CL&P 1, Vol. 1, p. F-2)

54. The substation would have a service life of approximately 40 years and would be capable of capacity increases during this time. (CL&P 1, Vol. 1, p. F-3; CL&P 7, K. Bowes p. 7)

55. Development of the site would require a net import of 4,000 cubic yards of fill, more or less, depending on how much of the existing topsoil and/or gravel can be reused at the site. (Tr. 1, p. 48-49)

56. Within its fence line, the proposed substation would have dimensions of approximately 240 feet by 270 feet. (CL&P 1, Vol. 1, p. F-1; CL&P 7, K. Bowes p. 4)

57. The construction phase of the project is expected to take approximately 12 to 18 months. (CL&P 7, K. Bowes p. 7)

58. The tentative in-service date is June, 2009. (CL&P 7, K. Bowes p. 7)

59. The proposed substation is located in a Residential R-5 Zone of Guilford. (CL&P 1, Vol. 1, p. H-1)

60. The nearest residence is located 630 feet north of the proposed substation location. (Tr. 1, p. 16)

61. The estimated cost for the siting, design, and construction of the substation and supporting infrastructure totals $8,466,000 ($4,466,000 of transmission system costs and $4,000,000 of distribution system costs). (CL&P 1, Vol. 1, Sec. F; CL&P 7, K. Bowes p. 7)

Environmental Considerations

62. The proposed site lacks historic and architectural importance and is not eligible for the National Register of Historic Places. (CL&P 1, Vol. 1, p. H-12)

63. According to the State Historic Preservation Office, the construction of the proposed substation will not have an effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (CL&P 1, Vol. 2, App. E)

64. No adverse effects are anticipated even though the property is located within a listed area as shown on the DEP Natural Diversity Data Base ("NDDB") map. Information obtained from the DEP indicates that the Connecticut Species of Special Concern *Aristolochia serpentaria* has been identified and documented on the property. A field investigation for *Aristolochia serpentaria* was conducted by a qualified botanist on June 21, 2005 in historically documented locations. The survey did not locate any *Aristolochia serpentaria* individuals. (CL&P 1, Vol. 1, pp. H-9, K-5)

65. Although not identified by the DEP, *Hottonia inflate* another Connecticut Species of Special Concern was observed on the property. The DEP indicated, however, that the proposed activities will not affect the locations of the *Hottonia inflate*. (CL&P 1, Vol. 1, pp. H-9, K-5)

66. The closest water supply wells are part of the Pinewood Wellfield, located west of the property across Route 77 and the West River. A portion of the property is situated within a state-designated Final Aquifer Protection Zone. (CL&P 1, Vol. 1, pp. H-10, K-6)

67. Land activities within the Pinewood Wellfield Aquifer Protection Zone are regulated by both the DEP and the Town of Guilford to protect the quality of the groundwater. Substations and other utility electrical equipment are not included in the definition of regulated facilities under the DEP regulations. (CL&P 1, Vol. 1, pp. H-10, K-6)

68. Under § 273-92 Groundwater Protection District of the Town of Guilford's Zoning Regulations, substations and other utility electrical equipment are not identified as a prohibited land use or special permit land use within a Groundwater Protection Zone. (CL&P 1, Vol. 1, pp. H-10, K-6)

69. The DPH suggested moving the proposed Substation to the east in order to completely remove the proposed substation's footprint from the Aquifer Protection Zone. (DPH Comments dated January 17, 2007)

70. The implications of moving the proposed substation to the east result in greater environmental impacts because it would require: (1) additional substantial earth work including the possibility of blasting bedrock; (2) placing nearly 10 feet of fill within 11 feet of the wetlands, (3) positioning the proposed substation 100 feet closer to the nearest property line; and (4) the removal of additional trees (increasing visibility from surrounding residences). (CL&P 6, M. Libertine pp. 11-12)

71. There are no direct or indirect impacts on wetlands from the construction of the proposed substation facilities or the proposed reconstructed driveway. (CL&P 6, M. Libertine p. 4)

72. Limited site work associated with the proposed gravel driveway would occur within the 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. 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. (CL&P 6, M. Libertine p. 4)

73. There are no direct or indirect impacts to wetlands from the installation of the proposed two (2) new poles connecting the existing 115-kV transmission line to the substation or the removal of existing poles. (CL&P 6, M. Libertine p. 4)

74. There will be no wetland, wildlife or visual direct or indirect impacts on the environment after construction of the proposed substation. (CL&P 6, M. Libertine p. 5)

75. Approximately 256 trees with a diameter at breast height of six inches or greater would be removed for the proposed project. 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. (CL&P 6, M. Libertine p. 13; CL&P 4, Response 7)

76. The layout of the substation and driveway were selected to balance the overall potential environmental impacts, and only those trees directly within construction areas will be removed. (CL&P 6, M. Libertine pp. 13-14)

77. The access drive is designed to make maximum use of an existing woods road on the property to minimize the need to clear vegetated land. (CL&P 6, M. Libertine pp. 13-14)

78. The proposed substation will meet or exceed the State building code, which includes seismic loading, wind loading, and snow and ice loadings. (CL&P 1, Vol. 1, p. K-8)

79. There are no flood-hazard areas on the proposed substation property. (CL&P 1, Vol. 1, p. K-7)

80. Route 77, a locally designated scenic roadway is located approximately 0.32 miles east of the property. (CL&P 1, Vol. 1, pp. H-11, K-3)

81. Due to the proposed substation's central location on the large property, the scenic roadways would not be visually affected. (CL&P 1, Vol. 1, pp. H-11, K-3)

82. CL&P agrees to maintaining vegetative screening around the substation. (Tr. 1, p. 26)

83. There are no recreational areas directly abutting or within 0.5 miles of the property. (CL&P 1, Vol. 1, p. H-13)

84. The levels of noise that would be generated by the proposed substation at any portion of the property line are projected to be below the DEP regulations and the Guilford Noise Control Ordinance (45 dBA night-time level and 55 dBA day-time level). (CL&P 1, Vol. 1, p. K-7)

85. The proposed 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 proposed substation to allow for work at night under abnormal or emergency conditions. (CL&P 1, Vol. 1, p. K-8)

86. The transformer would be served by oil-spill containment systems, consisting of oil sump capable of holding 110% of a transformer's oil capacity. The transformer's oil would be non-PCB mineral oil. (CL&P 1, Vol. 1, p. J-2; CL&P 6, M. Libertine pp. 5, 12)

87. CL&P would install erosion controls at the limits of work in accordance with the approved Project Plans, the D&M Plan and the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control.* (CL&P 1, Vol. 1, p. L-1)

Visibility

88. Presently, only one residence, 70 Stepstone Hill Road, would have a seasonal view of the substation. No residences are expected to have a year-round view of the substation. (Tr. 1, p. 36)

Electric and Magnetic Field Levels

89. The dominant source of electric and magnetic fields along sections of the east and west property lines, before and after the activation of the substation, would be the existing 115-kV (#1508) transmission line.
(CL&P 1, Vol. 1, pp. M-1-M-2).

90. The highest levels of proposed electric and magnetic fields that are likely to occur around the perimeter fence of the substation would come from the transmission and distribution lines entering and leaving the substation.
(CL&P 1, Vol. 1, p. M-1; CL&P 7, K. Bowes p. 26)

91. Magnetic fields produced by the substation equipment inside the fence would decrease in level rapidly with distance, reaching very low levels at short distances beyond substation fences. (CL&P 1, Vol. 1, p. M-1; CL&P 7, K. Bowes p. 26)

92. The proposed substation's equipment will not produce measurable increases in EMF at the property lines, but its operation will lead to a general increase in currents on the 115-kV line segment crossing over the westerly property line and a small decrease in currents on the 115-kV line segment crossing over the easterly property line.
(CL&P 1, Vol. 1, p. M-1; CL&P 7, K. Bowes p. 27)

93. The configuration and spacing of the 115-kV line conductors where these cross over the easterly and westerly property lines will be altered. As a result, small changes will occur in the electric and magnetic field levels along the easterly and westerly property lines for a short distance on either side of the transmission line. Changes to magnetic field levels along these same property lines will also occur due to the changes in currents on the east and west sections of the transmission circuit.
(CL&P 1, Vol. 1, p. M-5; CL&P 7, K. Bowes p. 26)

94. Underground 13.8-kV and 23-kV distribution getaway cables are planned to exit the proposed substation under the proposed substation's access road to the south towards Stepstone Hill Road. Current flows over these cables will produce magnetic fields with measurable levels perhaps extending to a distance of 50 feet to either side.
(CL&P 1, Vol. 1, p. M-11; CL&P 7, K. Bowes p. 29)

95. CL&P incorporated the Council's (1993) Electric and Magnetic Field Best Management Practices in the design of the substation. (CL&P 7, K. Bowes p. 30)

Safety and Reliability

96. Protective relaying equipment would provide automatic detection of abnormal system conditions (e.g. a faulted overhead transmission circuit) and would send a protective trip signal to the circuit breaker to isolate the faulted section of the transmission system. The protective relaying schemes would include fully redundant primary and backup equipment so that a failure of one scheme does not require the portion of the system being monitored by the protective relaying equipment to be removed from service. The SCADA system would allow for remote monitoring and control of the equipment by the Connecticut Valley Electric Exchange ("CONVEX").
(CL&P 1, Vol. 1, p. J-1; CL&P 7, K. Bowes pp. 22-23)

97. 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. A locked gate would be installed across the driveway entrance.
(CL&P 1, Vol. 1, p. J-2; CL&P 7, K. Bowes pp. 22-23)

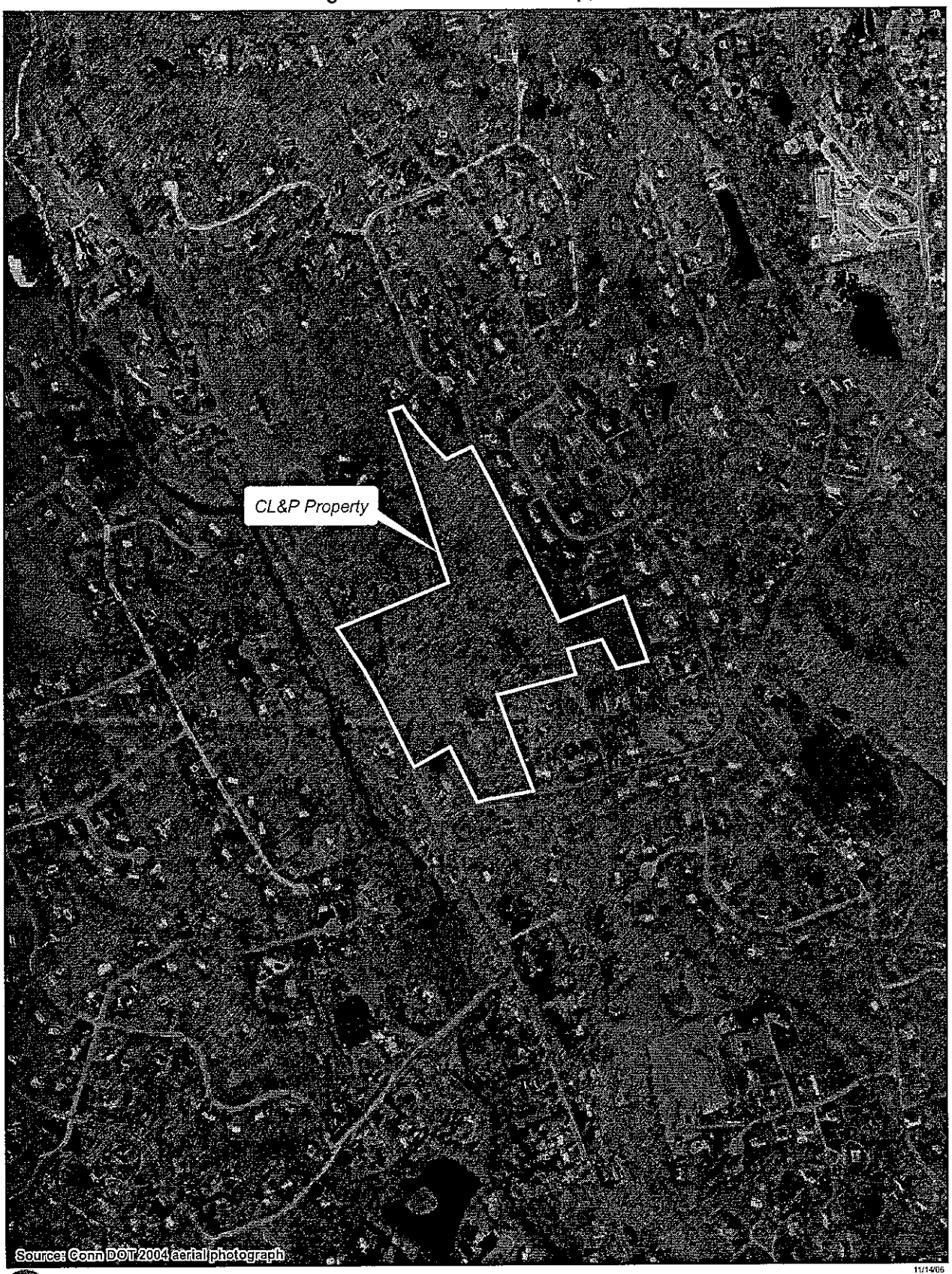
98. The proposed substation would be designed to applicable CL&P, industry, state and local codes and standards and would not pose a safety concern or create undue hazard to the general public. (Council Admin. Notice, Item 7)

99. At the proposed substation, the relay and control enclosure would have fire extinguishers installed along with smoke and heat detectors. CL&P trains its employees and the local fire department on the safe methods to deal with a substation fire. Fire and smoke detection would activate an alarm at the CONVEX so appropriate action can be taken. (CL&P 7, K. Bowes, p. 23)

100. CL&P operates more than 200 substations in Connecticut. There has not been a catastrophic transformer fire in 23 years. It is a rare event when a transformer fails. It is an even rarer event when a transformer fails and catches fire. (Tr. 2, p. 18)

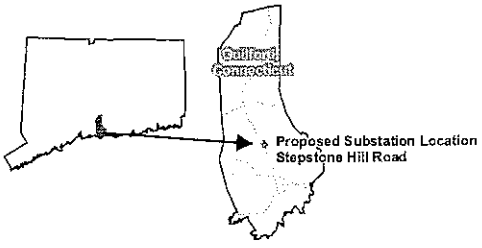
Map 1
Location Map

Figure A2: Site Location Map, Aerial



11/14/06

VHB Vanasse Hangen Brustlin, Inc.
Transportation Land Development Environmental Services



N
W E
S

500 250 0 500
Feet

Connecticut Light & Power
The Northeast Utilities System