STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

April 25, 2008

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 352** - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.

By its Decision and Order dated April 24, 2008, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a proposed substation located at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

SDP/cm

Enclosures (3)

c: State Documents Librarian

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Daniel F. Caruso
Chairman

April 25, 2008

TO: Classified/Legal Supervisor
352080122
The Hartford Courant
285 Broad St.
Hartford, CT 06115

FROM: Carriann Mulcahy, Secretary II

RE: **DOCKET NO. 352** - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.

Please publish the attached notice as soon as possible, but not on Saturday, Sunday, or a holiday.

Please send an affidavit of publication and invoice to my attention.

Thank you.

CM

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Chairman

NOTICE

Pursuant to General Statutes § 16-50p (d), the Connecticut Siting Council (Council) announces that, on April 24, 2008, the Council issued Findings of Fact, an Opinion, and a Decision and Order approving an application from The Connecticut Light and Power Company for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a proposed substation located at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut. This application record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut.

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Daniel F. Caruso
Chairman

April 25, 2008

Marianne Barbino Dubuque, Esq.
Carmody & Torrance LLP
50 Leavenworth Street
P.O. Box 1110
Waterbury, CT 06721-1110

RE: **DOCKET NO. 352** - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.

Dear Attorney Dubuque:

By its Decision and Order dated April 24, 2008, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a proposed substation located at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosures (4)

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Daniel F. Caruso
Chairman

CERTIFICATE

OF

ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

DOCKET NO. 352

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to The Connecticut Light and Power Company for the construction, maintenance, and operation of a proposed substation located at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on April 24, 2008

By order of the Council,

Daniel F. Caruso, Chairman

April 24, 2008

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 352** - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut, and voted as follows to approve the proposed substation:

Council Members	Vote Cast
Daniel F. Caruso, Chairman	Yes
Colin C. Tait, Vice Chairman	Yes
Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
Commissioner Gina McCarthy Designee: Frederick Riese	Yes
Philip T. Ashton	Yes
Daniel P. Lynch, Jr.	Yes
James J. Murphy, Jr.	Yes
Dr. Barbara Currier Bell	Yes
Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, April 24, 2008.

DOCKET NO. 352 - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	April 24, 2008

Findings of Fact

Introduction

1. The Connecticut Light and Power Company (CL&P), in accordance with provisions of Connecticut General Statutes 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 November 7, 2007 for the construction, operation, and maintenance of a bulk power substation at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut. (CL&P 1, Vol. I, p. A-1)

2. The purpose of the proposed facility is to increase the capacity and reliability of the electric power distribution system in Windsor while alleviating load on surrounding substations. (CL&P 1, Vol. I, p. A-1)

3. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing on February 21, 2008, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Windsor Town Hall, 275 Broad Street, Windsor, Connecticut. (Council's Hearing Notice dated January 22, 2008; Transcript 1 – February 21, 2008 at 3:00 p.m. [Tr. 1], p. 2; Transcript 2 – February 21, 2008 at 7:00 p.m. [Tr. 2], p. 2)

4. The Council and its staff made an inspection of the proposed site on February 21, 2008, beginning at 2:00 p.m. (Council's Hearing Notice dated January 22, 2008)

5. The party in this proceeding is the applicant. (Tr. 1, p. 3)

6. Pursuant to CGS § 16-50*l* (b), public notice of the application was published in the Hartford Courant on November 2, 2007 and November 5, 2007. (CL&P 1, Vol. I, p. Q 3 & Vol. II, Tab 9)

7. CL&P erected two signs on the property that described the proposed project; one on Rood Avenue and one on Shelley Avenue. Both signs included the Applicant's name, type of facility proposed, the date and location of the public hearing, and contact information of the Applicant and the Council. (Tr. 1, pp. 64-65)

8. 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. II, Tab 10; CL&P 2)

9. 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. II, Tab 8)

10. Pursuant to CGS § 16-50*l* (a) (2), the project is exempt from the Connecticut Energy Advisory Board (CEAB) request for proposal process. As a courtesy, CL&P notified the CEAB of the project on September 5, 2007. (CL&P 1, Vol. 1, p. R-2)

State Agency Comment

11. Pursuant to CGS § 16-50*l*, on January 22, 2008, 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). (Record)

12. The Council received a no comment letter from the DPH on February 8, 2008. (DPH letters dated February 8, 2008)

13. The following agencies did not respond with comment on the application: CEQ, DPUC, OPM, DEP. DOT and DECD. (Record)

Municipal Consultation

14. CL&P representatives began discussing local electric reliability issues with Town officials in 2006. After deciding a new substation was the only viable option, CL&P filed location review submissions with the Windsor Inland Wetlands and Watercourses Commission (IWWC) on May 30, 2007, and the Planning and Zoning Commission (P&Z) on June 6, 2007. (CL&P 1, Vol. I, p. O-1)

15. The IWWC and P&Z approved the site plan on June 5, 2007 and June 12, 2007, respectively. (CL&P 1, Vol. I, p. O-1)

16. The Windsor Economic Development Commission voted to support the project at a regularly scheduled meeting on July 18, 2007. (CL&P 1, Vol. I, p. O-2)

17. CL&P conducted public outreach efforts by mailing informational packages to area residents in May 2007 and by conducting a door-to-door outreach to project abutters on June 1, 2007. Eleven of the 28 abutters were home during the door-to door outreach. For the abutters who were not home, CL&P representatives left an informational package that described the proposed project and notified residents of upcoming municipal meetings concerning the project. (CL&P 1, Vol. I, p. R-1; Tr. 1, pp. 58-63)

18. CL&P filed a technical report explaining the proposal to Mr. Donald Trinks, Mayor of the Town of Windsor on September 5, 2007. (CL&P 1, Vol. I, p. O-1)

19. The Windsor Town Manager, Peter Souza, submitted a letter in support of the project to CL&P on November 1, 2007. (CL&P 1, Vol. I, p. O-1)

20. Ms. Emily Moon, Assistant Town Manager and Mr. Eric Barz, Town Planner for the Town of Windsor both made limited appearance statements into the record at the February 21, 2008 hearing expressing support for the project. (Tr. 1, pp. 16-17; Tr. 2, pp. 5-6)

Project Need

21. The proposed substation would address the need for additional distribution system capacity and reliability in Windsor by increasing the capacity to deliver electric power from the existing 115-kV transmission system to the local 23-kV distribution system. The existing distribution system cannot meet peak-load demands efficiently. (CL&P 1, Vol. I, p. A-1)

22. Demand in Windsor has increased approximately 53% from 1981 to 2005. A significant potential for large scale industrial/commercial development exists in the Day Hill Road and Pigeon Hill Road area of Windsor that would further increase demand. In addition, demands on the substations currently serving Windsor are increasing as a result of localized load growth. (CL&P 1, Vol. I, pp. G-4; Tr. 1, pp.)

23. The Town of Windsor's electric load is currently served by four bulk power substations: Bloomfield and North Bloomfield Substations in Bloomfield, Windsor Locks Substation in Windsor Locks, and the Northwest Hartford Substation in Hartford. (CL&P 1, Vol. I, p. G-1)

24. The Bloomfield Substation nearly reached its permissible load rating of 120 MVA in 2006 and was expected to exceed this rating in 2007. To meet the expected need, CL&P instituted a Forced Load Transfer (FLT) scheme where 14 MVA of load was transferred from the substation to the neighboring North Bloomfield and Northwest Hartford Substations, thus increasing available load by 14 MVA. (CL&P 1 Vol. I, pp. G-5, G-6)

25. The North Bloomfield Substation is projected to exceed its load rating of 79 MVA in 2008. CL&P will install an FLT scheme to increase the load rating by 9 MVA to 88 MVA. (CL&P 1, Vol. I, p. G-6)

26. The two FLT schemes would allow enough capacity to complete construction of the Rood Avenue Substation. Once the substation is complete, peak loads at the Bloomfield Substation would be reduced by 30.8 MVA and would add approximately 56 MVA of new capacity to the distribution system. Further transmission design changes would be implemented to meet future load growth at the North Bloomfield Substation, creating a more reliable, localized distribution system. (CL&P. 1, Vol. I, pp. G-5, G-6; CL&P 5, p. 10)

27. On September 27, 2007, ISO-New England approved a proposed plan that included a 46.7 MVA transformer for the Windsor substation. CL&P is awaiting subsequent approval for a 60 MVA transformer at the proposed site. (CL&P 1, Vol. I, p. A-4)

28. A substation for the Windsor area has been listed in the Council's Forecast of Loads and Resources since 2005. (CL&P 1, Vol. I, p. A-4)

System Alternatives

29. CL&P examined alternatives to constructing a new substation at the proposed site to meet growing demand, but determined these alternatives would not produce a reliable or flexible long-term solution to meet demand needs. (CL&P 1, Vol. I, pp. G-6 - G-9, I-6)

30. Replacement of the three existing transformers at the Bloomfield Substation as a solution was rejected due to the low net capacity increase associated with the project. A single transformer at the proposed substation would provide more net capacity than the three new transformers. (CL&P 1, Vol. I, p. G-7)

31. CL&P examined the feasibility of expanding the Windsor Locks Substation by adding a third transformer to add 45 MVA of new capacity to the distribution system. This proposal is not cost effective and is estimated at $20,000,000. The substation would have to be relocated to accommodate the expansion, and the installation of new circuits would be difficult due to the already constrained circuit arrangement in the area. (CL&P 1, Vol. 1, p. G-8)

32. CL&P considered expanding the existing 27.6-kV system supplied by the Windsor Locks Substation. This included improvements to the North Bloomfield Substation, construction of a new substation (Tobacco Substation - *location unknown*) and installation of two new circuits to the new substation. The new distribution network would add 45 MVA to the system at a cost of $15,000,000. CL&P rejected this option since the company intends to phase out the non-standard 27.6-kV system. (CL&P 1, Vol. I, p. G-8)

33. Installing a new 23-kV substation at the Tobacco site would be cost prohibitive due to the lack of a 115-kV transmission line in the immediate area. (CL&P 1, Vol. I, p. G-9)

34. The Northwest Hartford and proposed Northeast Hartford Substations are too far south of the Windsor area to provide long-term load relief for both the Bloomfield and North Bloomfield Substations. In addition to extensive modifications to the substations, costly upgrades to the existing distribution network would be required. (CL&P 1, Vol. I, pp. G-9, G-10)

35. CL&P contacted several customers in the Windsor area to encourage their participation in the Connecticut Department of Public Utility Control's (DPUC) grant program to install on-site generation. Two distributed generation projects in the Windsor area, representing 3.9 MW, were recently approved by the DPUC. CL&P believes these projects represent the best opportunities for distributed generation in the Windsor area. No additional projects of significance are expected. (CL&P 1, Vol. I, p. I-7; CL&P 4, p. 16)

36. Energy efficiency programs offered to residential and commercial customers in this area by CL&P through the Connecticut Energy Efficiency Fund have not been sufficient to offset the projected load increase. CL&P estimates customers in the Bloomfield, Hartford, Windsor, and Windsor Locks area have achieved peak-demand savings of approximately 16 MW since 2005. (CL&P 5, pp. 13-15)

Site Alternatives

37. CL&P investigated eight potential locations along the existing transmission line right-of-way in southern Windsor and selected the proposed site as most preferable. The seven rejected locations and the reasons for their rejection are as follows:

    a. Park Avenue – site would require longer distribution feeders, additional right-of-way purchases, and significant land clearing. Additionally, interconnecting line access is blocked by residences.
    b. Washington Road – wetland constraints and insufficient buffer to residential area.
    c. Matianuck Avenue – no suitable land identified.
    d. South of Rood Avenue – wetland constraints and insufficient buffer to residential area.
    e. Windsor Avenue – insufficient buffer to residential area. Development would require acquisition of church parking lot.
    f. Deerfield Road – no vacant land available. Area surrounded by residences and wetlands.
    g. Midian Avenue – potential site constrained by active railroad and wetlands/floodplain. Long distribution feeders and expansion of the right-of-way would be required. Minimal buffer to residential area to north.

    (CL&P 1, Vol. I, pp. I-2 – I-5)

Description of Proposed Project

38. The proposed substation would be located on two contiguous properties owned by CL&P: 264 Rood Avenue and 25 Shelley Avenue. The properties are 11.09 and 8.97 acres in size, respectively, and total 21.03 acres (refer to Figure 1). The properties are zoned for agriculture (CL&P 1, Vol. I, p. H-1)

39. CL&P also owns two adjacent residentially zoned parcels at 15 Shelley Avenue (0.29 acres) and 258 Rood Avenue (0.68 acres). 15 Shelley Avenue is improved with a single family residence that CL&P intends to put on the market once construction is complete. (CL&P 1, Vol. I, p. H-1; Tr. 1, p. 28)

40. The site is bounded by twenty-five abutting parcels, most of which are developed with single-family residences. (CL&P 1, Vol. I, pp. H-3, H-4)

41. The nearest residence is 250 feet north of the proposed substation, located at 190 Sunnyfield Drive. (CL&P 1, Vol. I, p. H-4)

42. The property has been used as an overhead transmission and distribution line corridor since the 1950's. An electrical substation operated on the site from 1965 to 1991. The transformer was removed in 1991 as the need for different voltages to area customers changed. Presently, the site contains 115-kV and 345-kV transmission lines, 23-kV distribution lines and a 23-kV switching station (former substation site). (CL&P 1, Vol. I, pp. A-4, F-1; Tr. 1, p. 44)

43. One 115-kV circuit, #1751, traverses the site on three wood pole structures that are approximately 47 feet above grade. A second 115-kV circuit, #1779, traverses the site on three monopole structures. A 345-kV circuit, #395, is also mounted on the monopole structures. The highest monopole structure on the property is approximately 110 feet above grade. (CL&P 1, Vol. I, pp. F-1, H-3; Tr. 1, p. 19)

44. The existing switchyard is located adjacent to the north property line and is served by a dirt access road originating from Rood Avenue. (CL&P 1, Vol. I, p. H-2)

45. The remaining areas of the property consist of undeveloped woodland. Six wetlands are scattered through the property, one of which abuts the existing switchyard to the north. (CL&P 1, Vol. I, pp. H-2, H-3; Vol. II, Site Plan C-5)

46. The proposed substation would be located in the north-central portion of the parcel, east of and adjacent to the existing right-of-way and switchyard access road. (CL&P 1, Vol. I, pp. K-2, K-3)

47. The substation would be located in a 220-foot by 137-foot area enclosed by a seven-foot high chain link fence with one additional foot of barbed wire. CL&P would establish a trap-rock surface within the compound. A locked gate would be installed across the driveway entrance. (CL&P 1, Vol. I, pp. F-1, K-3, K-4)

48. Substation equipment would include one 60 MVA power transformer, a switchgear enclosure, three 115-kV circuit switchers, one 115-kV circuit breaker, two 115-kV disconnect switches, a 48-foot by 14-foot relay and control enclosure, and a 24-foot by 14-foot battery enclosure. The substation would be sized to accommodate two additional 60-MVA transformers if needed for future load growth. (CL&P 1, Vol. I, p. F-3)

49. Switchgear equipment would be installed within a 27-foot long by 14-foot wide by 14-foot high metal-clad switchgear enclosure. The switchgear would contain four 23-kV feeder positions, three of which would be activated initially. (CL&P 1, Vol. I, p. F-3)

50. The distribution feeders would exit the substation via underground conduits, connecting to existing overhead distribution lines on the property. (CL&P 1, Vol. I, p. F-3)

51. The proposed substation would be supplied from the existing #1751 115-kV transmission circuit. (CL&P 1, Vol. I, p. F-1)

52. The #1751 transmission line would loop through the proposed substation where a 115-kV circuit breaker would be installed to separate the circuit into two circuits. (CL&P 1, Vol. I, p. F-3)

53. Two new transmission structures would be installed adjacent to the substation to facilitate the loop-through design, structures numbered 10142A and 10143A. Each structure would consist of three wood poles approximately 47 feet above grade. A third structure, #10143, would be relocated 70 feet to the west. (CL&P 1, Vol. I, p. F-3; Tr. 1, p. 20)

54. The reconfigured #1751 circuit would pass under the existing #395 and #1779 circuits to the line terminal structures located within the substation. The terminal structures would be approximately 55 feet in height. (CL&P 1, Vol. I, p. F-1; Tr. 1, p. 20)

55. The existing site access road would be re-graded where necessary, widened and resurfaced with gravel. A parking area would be created adjacent to the substation entrance. An access gate and bituminous concrete apron would be installed at the access road entrance on Rood Avenue. (CL&P 1, Vol. I, p. K-4)

56. The construction phase of the project is expected to take approximately 10 to 12 months, with a tentative in service date of June 2009. (CL&P 1, Vol. I, p. N-1)

57. The nominal service life of the substation equipment is 40 years. (CL&P 1, Vol. I, p. F-5)

58. The estimated cost for the siting, design, and construction of the proposed substation and supporting infrastructure is $13,800,000. (CL&P 1, Vol. I, p. F-5)

Environmental Considerations

59. The proposed project would have no effect on archaeological resources. (CL&P 1, Vol. II, Tab 6)

60. Approximately 50,000 square feet of woodland would be removed to accommodate construction, including 35,000 square feet for the substation footprint and 15,000 square feet for a minimum 20-foot wide construction zone surrounding the substation footprint. (CL&P 1, Vol. I, p. K-6; CL&P 3, Q. 1)

61. Approximately 46 trees six inches or greater in diameter would be removed for the project. (CL&P 6, p. 11)

62. Site clearing may extend 60 feet north of the substation to accommodate site grading. (CL&P 1, Vol. II, Tab 1; Tr. 1, pp. 21-22)

63. Six wetlands were indentified on-site, three of which would be impacted by construction activities. The impacted wetlands are identified as Wetland 1, Wetland 3 and Wetland 4 (refer to Figure 2). (CL&P 1, Vol. I, p. K-4; Tr. 1, p. 23)

64. Wetland 1 consists of 1.4 acres and is mostly located under and adjacent to the existing transmission line right-of-way. Wetland impacts would include the removal of three existing wood transmission poles, installation of three new wood transmission poles, and the re-routing of existing transmission lines. Construction activities would result in 40 square feet of permanent impacts and 3,708 square feet of temporary impacts. (CL&P 1, Vol. I, p. K-6; Vol. II, Tab 1)

65. Areas temporarily disturbed by construction would be restored with native vegetation, as appropriate. The permanent impacts to Wetland 1 would be minor and would not affect wetland function or value. (CL&P 1, Vol. I, p. K-5)

66. Wetland 3 occurs in the central portion of the property, extending from an area east of the existing access drive towards Shelley Avenue. The wooded wetland is 0.8-acres in size and was historically filled and farmed. The early successional forest within the wetland is dominated by red maple, red oak, apple, arrow wood, and silky dogwood. (CL&P 1, Vol. I, pp. H-2, H-7)

67. The east side of the substation footprint would extend into Wetland 3, resulting in 490 square feet of permanent impacts and 575 square feet of temporary impacts. These impacts would be minor, given that the wetland has been degraded from previous filling and disturbance. (CL&P 1, Vol. I, pp. K-5, K-6; Tr. 1, pp. 32-33)

68. Wetland 4 is a wooded wetland located southeast of the proposed substation. CL&P intends to clear approximately 1,000 square feet of woodland from the wetland to provide clearance for construction activities. Protective measures would be in place to prevent physical impacts to the wetland. (CL&P 1, Vol. I, p. H-8; Tr. 1, pp. 23, 58)

69. CL&P identified a population of pink lady's slipper *(Cypripedium acaule)* adjacent to Wetland 4 and within the construction footprint. At the town's request, CL&P would attempt to relocate the population to a suitable area east of the substation and along the edge of Wetland 4. The pink lady slipper is not a state threatened, endangered, or special concern species. (CL&P 1, Vol. II, Tab 1; CL&P 3, Q. 6; Tr. 1, p. 25)

70. CL&P intends to enhance the wooded buffer to Wetlands 1, 3 and 4 by planting native species that presently occur in the area. (CL&P 1, Vol. II, Tab 1; Tr. 1, p. 24)

71. CL&P plans to restore a previously disturbed wetland adjacent to the existing switchyard. (CL&P 1, Vol. II, Tab 1; Tr. 1, p. 18)

72. CL&P would implement an invasive species control program specific to the construction area and adjacent buffer areas. (Tr. 1, pp. 41-43)

73. Construction of the site would not affect any state endangered, or threatened, or species of special concern. (CL&P 1, Vol. I, p. K-7)

74. The project would not have an adverse affect on wildlife or habitat values. The property serves mainly as a wildlife corridor and construction of the substation would temporarily affect this function. After construction, however, the property would maintain most of its original habitat characteristics. (CL&P 1, Vol. I, pp. K-6, K-7; CL&P 6, p. 12)

75. The site is not located within a 100-year flood zone. (CL&P 1, Vol. I, p. K-11)

76. The transformer would feature a secondary containment system, consisting of an underlying and surrounding polyvinyl-lined sump capable of holding 110 percent of the transformer's oil capacity, to capture any accidental release of transformer oil. (CL&P 1, Vol. 1, p. K-8, CL&P, 6, p. 11)

77. Noise levels from substation operations would increase by 0.2 dBA as a result of substation operations and would not be perceptible above existing background noise. Noise levels would remain below state regulations and the Town's Noise Control Ordinance. (CL&P 1, Vol. I, p. K-10; CL&P 6, p. 9; Tr. 1, p. 52)

Visibility

78. The site is located in the center of the parcel, set back from Rood Avenue and neighboring residences. A natural wooded buffer exists on the north, south and east sides of the parcel. (CL&P 1, Vol. I, pp. K-2, L-2)

79. Approximately three abutting residences to the north would have seasonal views of the substation. CL&P proposes to plant vegetative screening in the area of the existing switchyard and in the lightly wooded area north of the substation. (CL&P 1, Vol. II, Tab 1; Tr. 1, pp. 18-19, 21-23, 28)

80. Abutting residences to the west would have views of the substation due to the lack of mature trees in this area. Vegetation in the right-of-way is maintained in a shrub-like state to provide clearance to the existing transmission lines that traverse the property. CL&P may be able to plant vegetative screening along the right-of-way where the #1751 line is interrupted and looped through the substation. (CL&P 1, Vol. I, p. K-2; Tr. 1, pp. 27-28)

Magnetic Field Levels

81. The project has been designed to minimize magnetic fields near statutory facilities, consistent with the Council's Electric and Magnetic Fields Best Management Practice for the Construction of Electric Transmission Lines in Connecticut. (Council Administrative Notice Item No. 3; CL&P 1 Vol. 1, p. M-13)

82. To determine how the magnetic fields from the existing transmission and distribution lines on the property would be altered by the proposed substation, CL&P performed pre- and post-construction magnetic field calculations based on ISO New England's 2014 peak-load day line currents. Both the transmission lines and distribution lines cross Rood Avenue and Matianuck Avenue. (CL&P 1, Vol. I, pp. M-2, M-8; CL&P 3, Q. 11)

83. The interconnection of the substation would primarily affect current flows on the #1751 transmission line. Using the 2014 peak-hour line currents, magnetic fields at the nearest abutting residence to the line, 288 Rood Avenue, are projected to increase from 17.3 mG to 19.6 mG as a result of current changes associated with the operation of the substation. The residence is approximately 75 feet from the line. (CL&P 3, Q. 11)

84. Magnetic fields from the transmission lines at all other abutting residences on Rood Avenue, Shelley Avenue, Hope Circle, Matianuck Avenue and Sunnyfield Drive would not change significantly from operation of the substation. (CL&P 3, Q. 11)

85. Based on the projected peak line currents in 2014, the projected ground level magnetic fields where the transmission lines cross Rood Avenue would increase from 57.7 mG to 65 mG. (CL&P 1, Vol. I, p. M-8)

86. Based on the projected peak line currents in 2014, the projected ground level magnetic fields where the transmission lines cross Mantianuck Avenue would decrease from 53.2 mG to 41.7 mG. (CL&P 1, Vol. I, pp. M-8 - M-10)

87. Magnetic fields from the distribution lines would also be affected by substation operations. Due to associated changes in peak currents on both the transmission lines and distribution lines, magnetic fields at ground level where the distribution lines cross Matianuck Avenue would decrease from 40 mG to less than 10 mG and magnetic fields at ground level where the distribution lines cross Rood Avenue would increase from 26 mG to 41 mG. (CL&P 1, Vol. I, p. M-10)

88. Based on the projected peak line currents in 2014, the projected ground level magnetic fields along the west property line would range from 17 mG to 8 mG due to the reconfigured #1751 transmission line. (CL&P 1, Vol. I, pp. M-9, M-10)

89. Based on the projected peak line currents in 2014, the highest level of magnetic field where a distribution line crosses the north property line would decrease from 18 mG to 15 mG due to reduced current on the distribution line. (CL&P 1, Vol. I, pp. M-9 - M-10)

90. Magnetic field levels east and west of the transmission and distribution lines would be lower than levels beneath the lines. Magnetic field levels would reach background levels (3-4 mG) approximately 200 feet from the center of the outermost circuit. (Council Admin Notice 1; CL&P 1, Vol. I, p. M-10)

91. Magnetic fields produced from substation equipment would be negligible since the equipment is over 140 feet from the nearest property line. (CL&P 1, Vol. I, p. M-7)

Safety and Reliability

92. Construction of the proposed substation would be performed in full compliance with the standards of the National Electrical Safety Code. (CL&P 1, Vol. I, p. J-1)

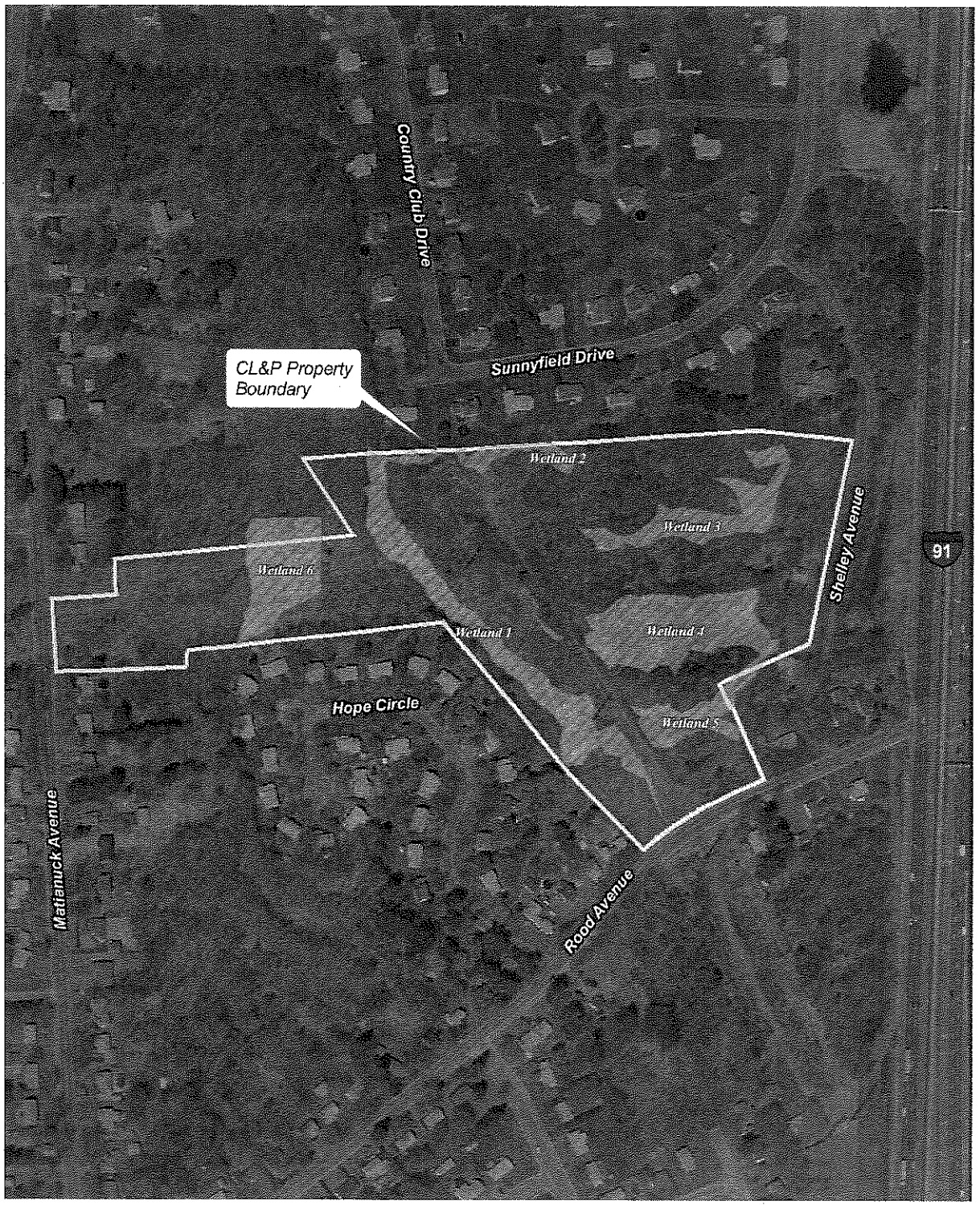
93. In the event of equipment failure, protective relaying equipment would remove the equipment from service, thereby protecting the public and other equipment within the substation. (CL&P 1, Vol. I, p. J-1)

94. Reliability would be improved by utilizing a loop-through design, transformer protection devices, and redundant automatic protective relaying equipment. Protective relaying equipment would provide automatic detection of abnormal conditions. If an abnormal condition occurred, a protective trip signal would be sent to the respective circuit breaker(s) to isolate faulted equipment. CL&P plans to install redundant protective relaying schemes with continuous monitoring. (CL&P 1, Vol. I, p. J-1)

95. The substation would be remotely controlled and monitored using digital metering systems and a Supervisory Control and Data Acquisition system. (CL&P 1, Vol. I, p. J-1)

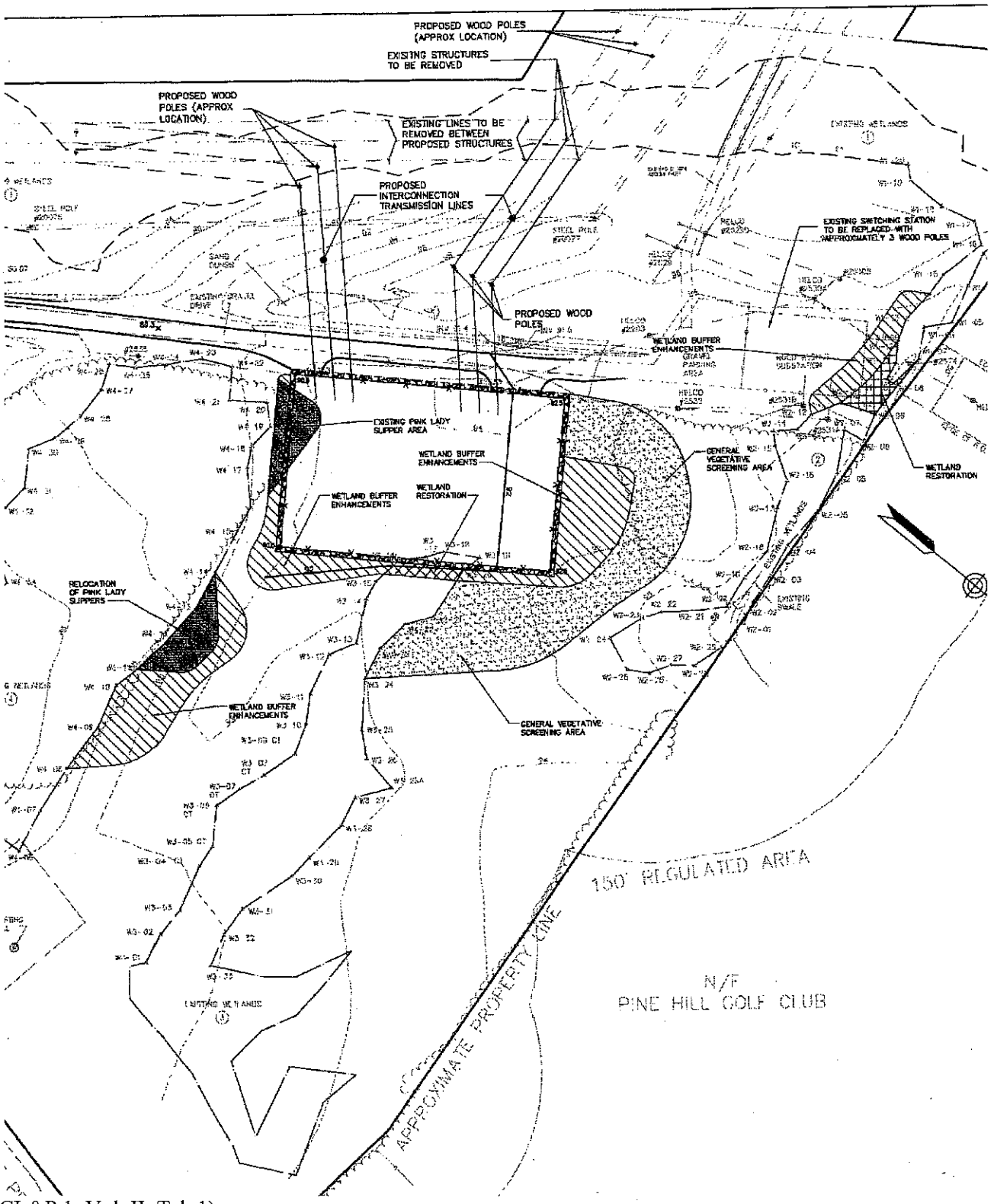
96. Appropriate signage would be posted at the substation to alert the public of a high voltage facility. (CL&P 1, Vol. I, p. M-14)

Figure 1
Site Location



(CL&P 1, Vol. II, Tab 5)

Figure 2
Site Layout



(CL&P 1, Vol. II, Tab 1)

DOCKET NO. 352 - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	April 24, 2008

Opinion

On November 7, 2007, The Connecticut Light and Power Company (CL&P) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation and maintenance of a new substation on CL&P property at 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut. The purpose of the proposed facility is to increase capacity and improve reliability of the electric power distribution system in the Town of Windsor.

The proposed substation would meet electric needs by connecting the existing 115-kV transmission system to the local 23-kV distribution system. Four bulk power substations, Bloomfield and North Bloomfield Substations in Bloomfield, Windsor Locks Substation in Windsor Locks, and the Northwest Hartford Substation in Hartford, currently serve the Windsor electric load. These substations also serve the towns in which they are located.

The Bloomfield and North Bloomfield Substations currently exceed their capacities. Further commercial and industrial growth is expected to continue in the Day Hill Road and Pigeon Hill Road area of Windsor. To meet current demand needs, CL&P has instituted a Forced Load Transfer scheme that distributes load to other nearby substations. This scheme can only temporarily alleviate capacity issues, allowing enough time to construct the proposed substation.

The proposed substation would provide 60 MVA of new capacity to the distribution system, meeting Windsor's demand needs as well as improving reliability in Windsor by eliminating the reliance on neighboring substations. Based on existing and projected loads and the lack of suitable, reliable alternatives, including expansion of neighboring substations, and conservation and distributed generation projects that could not significantly reduce load in the Windsor area, the Council finds a need for a new substation to serve the Town of Windsor.

The substation site is located on two contiguous properties zoned for agriculture. Although the parcel is essentially surrounded by residential uses, the substation would be constructed in the center of the 21-acre parcel, leaving a wide buffer between the substation and adjacent parcels. The parcel presently contains a switching station along the north property boundary and an access road that extends north from Rood Avenue. The site has been used as an overhead transmission and distribution line corridor since the 1950's and presently contains 23-kV distribution lines, two 115-kV transmission lines and one 345-kV transmission line within a single right-of -way. The tallest support structure on the parcel is a 110-foot steel monopole that supports the 345-KV circuit and one 115-kV circuit. The other 115-kV circuit is supported on 47-foot wood poles.

The proposed substation would be 220 feet by 137 feet and would contain one 60 MVA power transformer, one metal-clad switchgear enclosure, one 115-kV circuit breaker, two 115-kV disconnect switches, a 48-foot by 14-foot relay and control enclosure, and a 24-foot by 14-foot battery enclosure. Two 55-foot high terminal structures would also be located within the fenced compound. The compound is sized to accommodate two additional transformers if needed for future growth. Access to the site would be from the existing access drive on the property. The existing switching station would be removed as part of the project. The interconnection would require the installation of two 47-foot wood poles within the existing right-of-way, and the relocation of a third pole.

The substation is located in a wooded, upland area with wetlands directly to the south and east. Construction of the substation would require the clearing of 50,000 square feet of woodland, including 35,000 square feet for the substation footprint and 15,000 square feet for a surrounding construction zone. Approximately 490 square feet of the eastern wetland would be filled to accommodate the substation. Construction would also result in temporary impacts of 575 square feet to the eastern wetland and 1,000 square feet to the southern wetland. Although there is a permanent impact to one of the wetlands, the affected wetland was previously filled and disturbed from former agricultural operations. To compensate for wetland impacts, CL&P proposes to enhance several buffer areas between the proposed substation and wetlands and restore a wetland adjacent to the existing switching station. The Council agrees with CL&P's mitigation plan and thus orders CL&P to provide such details within the Development and Management Plan for this project.

The project would have little effect on wildlife or habitat values. The site mainly functions as a wildlife corridor, a characteristic that would be maintained, since most of the site would remain undeveloped. No federal or state endangered, threatened, or state special concern species would be affected by the project. At the request of the Town, CL&P would attempt to relocate a population of pink lady's slipper within the construction area to suitable habitat elsewhere on the parcel.

Despite the fact that the parcel is surrounded by residential uses, visual impacts and noise from substation operations would be minimal. Abutting parcels to the north, south and east are sufficiently screened by existing woodland, although seasonal views may be attained from a few parcels to the north. CL&P proposes to plant additional vegetation on the north side of the substation to provide further screening. Abutting parcels to the west would have open views of the substation since the existing right-of-way in this area does not allow much screening. Shrubs and a sand dune feature within the right-of-way would screen the lower portions of the substation, however. In addition, CL&P may be able to plant evergreen trees in the right-of-way where the transmission line is reconfigured into the substation. The Council notes residences in this area currently have views of transmission lines mounted on 47-foot wood poles and 110-foot steel monopoles, while the tallest structures to be installed as part of the project are the 55-foot terminal structures. Noise from substation operations would be minimal and not perceptible from existing background noise.

The project would have a negligible effect on magnetic fields at the property lines. Magnetic fields would increase slightly, from 17.3 mG to 19.6 mG, at one residence adjacent to the transmission line right-of-way. The Council finds this change in magnetic fields to be minimal. However, the Council shall order CL&P to comply, to the extent possible, with applicable guidelines set forth in the Council's Best Management Practices for Electric and Magnetic Fields for the Construction of Electric Transmission Lines in Connecticut.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, operation, and maintenance of a substation at 264 Rood Avenue and 25 Shelley Avenue in Windsor , including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the state concerning such effects, and not sufficient reason to deny this application. Therefore, the Council will issue a Certificate for the construction, operation, and maintenance of a substation 264 Rood Avenue and 25 Shelley Avenue in Windsor, Connecticut.

DOCKET NO. 352 - 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 264 Rood Avenue and 25 Shelley Avenue, Windsor, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	April 24, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a new substation located at 264 Rood Avenue and 25 Shelley Avenue, Windsor, including effects on the natural environment; ecological integrity and balance; forests and parks; scenic, historic, and recreational values; air and water purity; fish and wildlife; and public health and safety are not disproportionate either alone or cumulatively with other effects compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application. Therefore, the Council directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to The Connecticut Light and Power Company (CL&P) for the construction, operation, and maintenance of a new substation.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and is subject to the following conditions:

1. The Development and Management Plan shall include the following elements:

    a) A final site plan showing the placement of all substation equipment, structures, and buildings within the substation perimeter, potential access, and the location of all temporary and permanent tap structures;
    b) Erosion and sediment controls consistent with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Controls*; and
    c) Provisions for storm water management and oil containment.
    d) Wetland enhancement and restoration plan.
    e) Vegetative and earthwork screening plan.

2. The Certificate Holder shall comply, to the extent possible, with applicable guidelines set forth in the Council's Best Management Practices for Electric and Magnetic Fields for the Construction of Electric Transmission Lines in Connecticut. The Certificate Holder shall comply with all future electric and magnetic field standards promulgated by State or federal regulatory agencies. Upon the establishment of any new standards, the facilities granted in this Decision and Order shall be brought into compliance with such standards as soon as practical.

3. The Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of substation operation.

4. The Certificate Holder shall notify the Council if and when substation operations terminate.

5. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within five years of the effective date of the Decision and Order, or within five years after all appeals to this Decision and Order have been resolved.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
The Connecticut Light and Power Company	John R. Morissette Manager, Transmission Siting and Permitting Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 Duncan MacKay Assistant General Counsel Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 Marcella Ferrara, Project Manager Transmission Projects Northeast Utilities Service Company 107 Selden Street Berlin, CT 06037 Anthony M. Fitzgerald, Esq. Robert S. Golden Jr., Esq. Marianne Barbino Dubuque, Esq. Carmody & Torrance LLP 50 Leavenworth Street P.O. Box 1110 Waterbury, CT 06721-1110

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 352 has been forwarded by Certified First Class Return Receipt Requested mail on April 25, 2008, to all parties and intervenors of record as listed on the attached service list, dated November 8, 2007.

ATTEST:

Administrative Assistant
Connecticut Siting Council

Date: November 8, 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 & Power Company	Anthony M. Fitzgerald, Esq. Robert S. Golden Jr., Esq. Marianne Barbino Dubuque, Esq. Carmody & Torrance LLP 50 Leavenworth Street P.O. Box 1110 Waterbury, CT 06721-1110 P: 203-573-1200 afitzgerald@carmodylaw.com rgolden@carmodylaw.com mdubuque@carmodylaw.com Duncan MacKay Assistant General Counsel Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 (860) 665-3495 (860) 665-5504 - fax mackadr@nu.com Robert Carberry, P.E. Manager, Transmission Siting and Permitting Northeast Utilities Service Company P.O. Box 270 Hartford, CT 06141-0270 P: 860-665-6774 carbere@nu.com Marcella Ferrara, Project Manager Transmission Projects Northeast Utilities Service Company 107 Selden Street Berlin, CT 06037 P: 860-665-2409 ferramc@nu.com