



Engineers
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September 6, 2007

Hon. Jaclyn Brilling
Secretary
State of New York Public Service Commission
Three Empire State Plaza, 14th Floor
Albany, New York 12223-1350

Mr. David Macks
Office of Electricity and Environment
NYS Department of Public Service
Three Empire Plaza
Albany, New York 12223-1350

**Re: Case 01-T-1679 – Application of Long Island Power Authority for a
Certificate of Environmental Compatibility and Public Need Regarding
Replacement of the 138kV Submarine Electric Transmission Line between
Northport, New York and Norwalk, Connecticut**

Copies of Permits and Approvals per Article VII Condition 10(d)

Dear Secretary Brilling and Mr. Macks:

On behalf of LIPA, ESS Group is providing you with copies of permits and approvals received from issuing agencies in accordance with Certificate Condition 10(d). The following permits and approvals are included:

- Connecticut Siting Council Certificate issued on September 5, 2002
- CT DEP Permit issued on July 19, 2007
- US Army Corps of Engineers Permit issued on August 27, 2007
- NYS Office of General Services - email correspondence – July 31, 2007
- NYSDEC SPDES permit issued on August 16, 2007
- NYS DOS CMP Consistency Certification issued on January 19, 2007
- NYS Section 401 Water Quality Certification issued on July 18, 2007

If you have any questions, please contact me at 781-489-1132.

Sincerely,

ESS GROUP, INC.

Susan M. Herz
Senior Scientist

Attachments OR Enclosures

- C: C Strub, NYSDPS
S. Dalton, Keyspan (without attachments)
M. Brechter and E. Petrocelli, LIPA (without attachments)
L. Singer, Couch White (without attachments)
M. Driscoll, ESS Inc. (without attachments)

6-12
OGC
OITADR
Corresp.

888 Worcester Street
Suite 240
Wellesley
Massachusetts
02482
p 781.431.0500
f 781.431.7434

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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@po.state.ct.us

Web Site: www.state.ct.us/csc/index.htm

September 9, 2002

Anthony M. Fitzgerald
Carmody & Torrance LLP
195 Church Street, 18th Floor
P.O. Box 1950
New Haven, CT 06509-1950

RE: DOCKET NO. 224 - Northeast Utilities Service Company application for a Certificate of Environmental Compatibility and Public Need for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York.

Dear Attorney Fitzgerald:

By its Decision and Order dated September 5, 2002, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York.

Enclosed is the Certificate of Environmental Compatibility and Public Need, and the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours

A handwritten signature in black ink, appearing to read "S. Derek Phelps".

S. Derek Phelps
Executive Director

SDP/laf

Enclosures (4)

c: Roger C. Zaklukiewicz, Northeast Utilities System



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**CERTIFICATE
OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED
DOCKET NO. 224**

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Northeast Utilities Service Company, as an agent for the Connecticut Light and Power Company, for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York. 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 September 5, 2002.

By order of the Council,


Mortimer A. Gelston, Chairman

September 5, 2002



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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September 9, 2002

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director 

RE: **DOCKET NO. 224** - Northeast Utilities Service Company application for a Certificate of Environmental Compatibility and Public Need for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York.

By its Decision and Order dated September 5, 2002, the Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York.

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

SDP/laf

Enclosures

c: Albert Palko, State Documents Librarian
Council Members

DOCKET NO. 224 - Northeast Utilities Service	Connecticut
Company application for a Certificate of	
Environmental Compatibility and Public Need for the	Siting
replacement of a submarine electric transmission cable	
system from Norwalk, Connecticut to Northport, New	Council
York.	
}	September 5, 2002

FINDINGS OF FACT **INTRODUCTION**

1. On February 15, 2002, Northeast Utilities Service Company (NU), as the agent for 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 Connecticut portion of the replacement of an existing submarine electric transmission cable system extending from Norwalk Harbor Substation in Norwalk, Connecticut to Northport Substation in Northport, New York. (NU 1, 1.1)
2. Pursuant to Connecticut General Statutes (CGS) §16-50l(b), public notice of the application was published in the Hartford Courant and the Norwalk Hour on February 7, and February 9, 2002. (NU 1, Certification of Publication, submitted March 13, 2002)
3. Pursuant to CGS §16-50l(b), notice of the proposed construction of a high voltage transmission line was distributed in the utility bills of CL&P's customers in Norwalk at least once during the months of January and February 2002, and on various dates in the August through November 2001 bills. (NU 1, Affidavit of Notice, submitted March 13, 2002)
4. Pursuant to CGS §§16-50k and 16-50m, the Council, after giving due notice thereof, held a public hearing for these proceedings on June 12, 2002, beginning at 3:00 p.m. and continued at 7:00 p.m. in the auditorium of Brien McMahon High School, 300 Highland Avenue, Norwalk, Connecticut. The hearing was continued to June 13 at the Council's office, Ten Franklin Square, New Britain, Connecticut. (Tr. 1, 3:00 p.m., p. 3; Tr. 1.1, 7:00 p.m., p. 3; Tr. 2, 10 a.m., p. 3)
5. The Council and its staff made an inspection of the proposed site on June 12, 2002. (Council Hearing Notice dated March 21, 2002)
6. Parties and intervenors to these proceedings include the applicant, State Attorney General Richard Blumenthal, the City of Norwalk, Save the Sound, and State Representative Bob Duff. (Tr. 1, p. 5; Tr. 1.1, p. 5; Tr. 2, p. 5 & 6)
7. In July of 2001, NU informed the Mayor of Norwalk of the proposed replacement cable project in writing. In October of 2001, NU received a letter from the Chairman of the Norwalk Harbor Management Commission. Comments and recommendations of the Norwalk Harbor Management Commission included support for the removal of all existing fluid-filled cables; that all work be in accordance with best available technology to avoid or mitigate significant adverse impacts on environmental resources; that all work be in accordance with best available technology to avoid or mitigate impacts to navigation of the Federal navigation channel and Village Creek Channel; and that the proposed work should take place within the existing cable corridor. The Village Creek Homeowners Association, Inc. has concerns regarding the potential of the proposed project to prevent the maintenance dredging of the Village Creek harbor channel. NU proposes to allow the

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dredging of the Village Creek Channel between the time that the existing cables would be removed and the new cables installed. (NU 1, p. 10-1; NU 8, Q. 7; NU 9, Q. 1)

8. The project would be required to obtain permits from the Army Corps of Engineers, the New York Public Service Commission, New York Department of Environmental Conservation, and the Connecticut Department of Environmental Protection (DEP). The U.S. Coast Guard, the Connecticut Bureau of Aquaculture, the Norwalk Shellfish Commission, and the Harbormaster may monitor the proposed project only in the context of their specific jurisdictions. (NU 8, Q. 10, 44)
9. NU applied to the Connecticut DEP, Office of Long Island Sound Programs, on April 17, 2002, for a structures and dredging permit, a Water Quality Certificate, and a determination of consistency with coastal zone management policies. (NU 11, Q. 43; NU 16, DEP permit application)

THE EXISTING CABLE SYSTEM

10. The existing 138-kV cable system was installed in 1969. The cables are owned by CL&P in Connecticut and Long Island Power Authority (LIPA) in New York. The system consists of seven separate cables each with a single-conductor. Six of the cables operate as one 300 MW circuit comprised of two sets of three cables, each set having a 150 MW capacity. The seventh cable serves as a spare. The cables typically operate in a floating mode, meaning that there is no real power flowing from Connecticut to Long Island or vice versa. (NU 1, pp. 1-0, 2-1; Tr. 1, p. 49 & 50)
11. NU currently has a permit from the Army Corps of Engineers and the Water Resources Commission for the existing cables. (Tr. 1, p. 81)
12. The existing cables are each three inches in diameter made of a hollow-core copper conductor surrounded by paper insulation and dielectric fluid (alkylbenzene), with a lead cover and an exterior shell. The fluid remains within the cable in the fluid filled hollow core, which is pressurized by pumps at each end. (NU 1, p. 2-1)
13. The cables run between Northport, New York and Norwalk, Connecticut. The cable lies on the bottom of Long Island Sound for most of its length, but is buried from Norwalk Harbor Substation, which is located on the Manresa Island portion of Norwalk, to the south side of Sheffield Island and near the Northport landfall. Portions of the cables are covered with about one to two feet of sediment in areas that were surface laid because over time the cables have sunk under their own weight and sedimentation. (NU 1, p. 2-1; NU 14, p. 15-16; Tr. 1, p. 23)

PROPOSED PROJECT

14. The proposed cable system consists of three underground three-conductor submarine transmission cables over a distance of approximately 11 miles from Norwalk to Northport. The proposed replacement cables would have capacity of 150 MW each but would be limited to a combined capacity of 300 MW through the capabilities of the terminal equipment. One of the three cables would serve as a spare if one of the other two cables were out of service. The projected life of the proposed cable system is at least 40 years. (NU 1, p. 2-2; NU 8, Q. 6; NU 14, p. 16)
15. The capacity of the proposed cable system could not exceed 300 MW without upgrades to the infrastructure at both the Connecticut and Long Island ends of the system. NU does not have plans

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to increase the capacity at this time. An increase in capacity would have to be approved by ISO New England. (Tr. 1, p. 93; Tr. 2, p. 25)

16. Each of the proposed 138-kV alternating current (AC) replacement cables would be solid dielectric with cross-linked polyethylene (XLPE) insulation. Each proposed cable would consist of three copper conductors, surrounded by XLPE insulation, a lead sheath, and galvanized armoring which is intended to protect the cable from damage during installation. The three 8.66-inch diameter proposed cables would be buried at about six feet below the Long Island Sound bed and about four feet below-grade on land. A maximum of six fiber optic cables would be installed, two with each power cable. Fiber optic cables would be installed either as an internal part of the cable or attached to the exterior of the cable. One of the fiber optics would be used for electric operations and the other would be used for lease or sale to commercial telecommunication enterprises, if there were demand for such a cable. (NU 1, p. 2-2 to 2-4; NU 9, Q. 4; NU 14, p. 16 & 17)
17. Faults in the proposed cable system would be detected by electrical protective relays. If a fault were to occur, the electrical protective system would de-energize and isolate the faulted cable. A signal would be sent along the cable to find the location of the fault. The power flowing on the damaged cable would be redirected to the spare cable. A repair vessel would replace the faulted section of cable with a new section of cable that would be spliced at each end. (NU 8, Q. 3; NU 14, pp. 16, 30)
18. There is currently a substation at each end of the cable system. Minor additions and changes are necessary to accommodate the replacement cables. Terminals would be installed at the substations to allow the transition of the underground cables to an overhead connection. New 138-kV circuit breakers would be installed for each of the proposed new cables, protective relaying equipment and lightning arresters would be replaced, the existing pump house and associated equipment would be removed. The substation bus work would be modified to allow the capability of the operation of the cables in any combination and to de-energize any of the cables in case one of them needs to be taken out of service. The proposed modifications to the Norwalk Harbor Substation would require the expansion of the existing fence line to the west. (NU 1, p. 2-3; NU 14; p. 18)
19. The spacing between the two outermost cables would be 180 feet within Sheffield Harbor, 50 feet across Sheffield Island, 800 feet south of Sheffield Island, and 1800 feet in the deeper waters of Long Island Sound. The separation between the proposed cables is directly proportionate to the depth of the water at the point of burial. In the event that a cable needs to be repaired, it would be lifted from the bottom and spliced aboard a repair vessel. The extra cable length is laid back in a "loop" on the seabed at the completion of repairs. (NU 8, Q. 15; NU 15, Q. 14; NU 17, Q. 15)
20. The spacing of the proposed cables is approximately 3 times water depth. For repair of the cable, barges would have to anchor above the cable to bring the cables up and connect the splices. The space between the proposed cables would protect the cables from being damaged from anchors during repair as well as allowing for the extra length of the cable that would be laid back down to the seafloor so it would not overlap adjacent cables. The standard burial depth of six feet below the seabed provides protection of the cables from external sources. Burial deeper than the six-foot depth could cause problems with installation such as encountering hard soil. If the cable cannot be buried to the proposed six-foot depth, concrete mattresses or rock may be placed over the area if warranted for cable protection. Low risk areas north of Sheffield Island may not warrant additional protection, if the new cables can be buried at a depth similar to the existing cables. The concrete mattress would be about 1/2 foot thick and 10 feet wide, with a varying length. (NU 1, p. 2-8; Tr. 2, p. 40-42, 44, 47, 49-50, 53)

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21. The proposed cable corridor would be identified on navigational charts, as is the existing cable system. (NU 12, Q. 47; Tr. 2, p. 45)
22. All work proposed to take place within Long Island Sound would be performed beginning in the late fall and ending in the early spring. The proposed schedule has construction activity during the cold-weather months when most of the species in Long Island Sound are either not present or less biologically active, which would minimize potential impacts to finfish, shellfish, and other aquatic species. The projected in-service date for the project is the spring of 2003. An anticipated project schedule submitted by NU predicts that in-water activity would begin on November 15, 2002 and end on May 23, 2003 for the initial phase of the cable installation. Removal of the remaining cables would begin on October 7, 2003 and end on December 15, 2003. (NU 1, pp. 2-8, 6-1; Figure 9-1; NU 18, Anticipated Project Schedule, received June 12, 2002)
23. The estimated costs for materials and installation of the proposed replacement cable would be as follows:

	<u>Estimated Cost</u>
Engineering and Support	\$8,800,000.
Material	\$45,100,000.
Installation	\$18,900,000.
Removal	\$7,200,000.
Total:	\$80,000,000.

(NU 8, Q. 38)

24. The proposed project would cost approximately eighty million dollars. The cost would be divided between LIPA and CL&P based on the length of cable in each state. CL&P expects that their share of the cost of the proposed project would be recovered by the Regional Network Service (RNS) rate, for which CL&P ratepayers pay approximately 30 percent. (NU 1, p. 9-1; NU 8, Q. 2, 38; Tr. 2, p. 30)

ALTERNATIVE CABLE ROUTES

25. The proposed replacement cable corridor is within the eastern portion of the existing cable corridor. This area was chosen because it is previously disturbed, shellfish bed impacts would be minimized, and the existing cable area would not have to be expanded. A geological assessment determined that the Eastern Route has the least amount of surface and shallow sub-surface bedrock. This portion of the existing corridor is relatively clear of shipwrecks. (NU 1, p. 4-6)
26. NU considered the West Route Corridor as an alternative to the proposed cable replacement corridor. This alternative follows the western edge of the existing cable corridor, and is approximately 11 miles in length. An assessment of the western portion of the existing corridor determined the prevalence of surface and shallow sub-surface bedrock expressions, which would be a significant obstruction to the burial of the proposed replacement cables. This section of the existing corridor also has a number of shipwrecks that would have to be avoided. (NU 1, p. 4-6 & 4-7)
27. Alternative Route 1 is located to the west of the existing cable corridor. This route would be about 12.5 miles long and would run west of the Federal Channel in Sheffield Island Harbor until it passes the entrance to the harbor, which would allow the cables to avoid crossing Sheffield Island. This

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route was rejected because it is outside of the existing cable corridor and would cross previously undisturbed seabed for the entire in-water portion of the route; it would cross previously undisturbed shellfish beds that are not owned by CL&P; geological surveys found that the seabed along the entire route appears to have a significant amount of surface and subsurface bedrock; it would cross an area that is frequently used by lobster fishers; and it is 1.5 miles longer, for each cable, than the proposed route which would require an additional 4.5 miles of trenching. (NU 1, p. 4-7)

28. Alternative Route 1A is a variation of Alternative Route 1 and is approximately 13.5 miles long. This alternative route would be located farther west than Alternative Route 1, and appears to be slightly less rocky but may still cause a burial obstruction due to surface and shallow subsurface bedrock. This alternative would cross previously undisturbed seabed and shellfish beds that are not owned by CL&P. (NU 1, p. 47 & 4-8)
29. Alternative Route 2 would be located between Alternative Route 1 and the existing cable corridor. This alternative was rejected because geological surveys found significant amounts of surface and shallow subsurface bedrock prevalent along this route. (NU 1, p. 4-8)
30. Alternative Route 3 is a variation of the proposed (East) route. This alternative would begin at Norwalk and head southeast around Sheffield and Shea Islands, then head south rejoining with the proposed route. A geological survey found that the sub-surface area along this route may be conducive for burial of the cable and would avoid crossing Sheffield Island. Alternative Route 3 was rejected because it would be located outside the existing cable corridor for the Norwalk near-shore area causing impact to previously undisturbed areas; it would cross the federal channel in Sheffield Harbor; and it would cross previously undisturbed shellfish beds within Sheffield Harbor that are not owned by CL&P. (NU 1, p. 4-8)
31. Alternative landfalls to the east and west of Norwalk Harbor Substation were rejected due to proximity to a large tidal wetland to the northwest, residential areas, and beaches, which would result in significantly more environmental impacts than the proposed/existing cable corridor. The proposed landfall, which is in the same location as the existing landfall, was chosen because they are in close proximity to the coastline, allowing available access to the submarine portion of the proposed project; infrastructure is already in place which enables easy interconnection of the New England and New York power grids with minimal modifications to existing substations; landfall locations are currently in industrial use; crossing of intertidal zones takes place at locations previously modified for the existing cables; landfalls are well buffered from non-industrial land uses; and existing roadways provide access to the landfalls. (NU 1, p. 4-5)
32. The Connecticut Department of Environmental Protection (DEP) and the U.S. Army Corps of Engineers have not yet formally imposed time restrictions for in-water construction for this project. NU proposes to minimize potential impacts to aquatic biota by conducting decommissioning and installation activities during the fall through spring seasons, which is outside of the spawning season for shellfish and most finfish and there is less biological activity of these populations. (NU 8, Q. 10)

PUBLIC BENEFIT

33. The proposed replacement project is not intended to increase capacity or serve additional load. Costs of maintenance and repair of the existing cables has increased. The seven existing cables are susceptible to damage from anchors or other objects hitting the cable, which results in the release of alkylbenzene, the dielectric insulating fluid within each cable. There have been 19 incidents of

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damage from external sources over the past ten years with repair costs of approximately \$19 million not including the money received from the insurance companies. The main purpose of the cable is to provide service in the event of a power contingency. (NU 1, p. 3-1 & 3-2; NU 12, Q. 45; NU 17, Q. 45; Tr. 1.1, p. 19)

34. The Council's Review of the Connecticut Electric Utilities' 2001 Twenty-Year Forecasts of Loads and Resources identified the proposed replacement of the 138-kV submarine line as a benefit to the entire state due to the interconnection with other regional systems. (Council Administrative Notice 6, p. 16)
35. The proposed project would improve the reliability of the grid because the new buried cables would be less susceptible to damage caused by anchors or other objects hitting the lines than the existing cables; it would result in a reduction of costs from maintenance and repair; and eliminate environmental concerns associated with the escape of the insulating fluid from the cable. The existing cables have been prone to damage throughout their life because most of the length of the cable system is laid on the seabed, with the exception of Connecticut and Long Island near-shore areas where the cables are buried. Repair and maintenance costs for the existing cable system are high, due to susceptibility to external damage. Most of the incidents that have caused external damage over the past thirty years have resulted in the accidental release of alkylbenzene into the environment. (NU 1, p. 3-1; NU 14, pp. 5 & 6)
36. The existing system is one of eight high-voltage transmission facilities that interconnect Connecticut's transmission facilities with transmission facilities in neighboring states. These interconnections allow the import and export of electrical energy. The existing cable system delivers both reactive power and energy to southwestern Connecticut, which has experienced greater load growth than other parts of the state. The primary purpose of the cable system is to provide power in the case of a contingency. Currently the cables have a continuous rating of 300 MW and an emergency rating of up to 450 MW. (NU 1, p. 3-2 & 3-3; NU 14, pp. 6 & 7)
37. The cable system acts as a giant capacitor that delivers VARs (volt ampere reactive) to the local transmission grid. VARs help maintain local area voltage during a contingency. (NU 14, p. 8-9)

DECOMMISSIONING ALTERNATIVES

38. Decommissioning of the existing cables would be accomplished via the following process. Three or four of the easternmost cables would be de-energized, the alkylbenzene would be flushed out with water, collected at Norwalk Harbor Substation or Northport Substation, recycled in accordance with relevant regulations and permits, and removed while leaving the remaining cables on-line. Following the flushing of the cables, they would be cut at one end, lifted onto a barge and cut into sections. A 150 MW capability would be maintained during the transition, and 300 MW capability would be available following the installation and commencement of operation of the replacement cables and the removal of the existing cables. (NU 1, p. 2-4; p. 4-1 to 4-4; NU 14, p. 22)
39. Alkylbenzenes have a very low solubility in water and therefore would not easily be ingested by organisms. According to bioassay tests, high concentrations of alkylbenzene show mortality in oysters and shrimp. Studies show that it would take about one week for oysters that were exposed to high concentrations of alkylbenzene to depurate once removed from those high concentrations. (NU 14, pp. 41 & 42; Tr. 2, p. 85)

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40. Three possibilities were analyzed for the decommissioning of existing cables, which include complete removal, a combination of removal and abandonment, and a combination of removal and selective abandonment. The complete removal alternative may create the possibility of increased sediment disturbance if the cables cannot be easily pulled out of the seabed but would eliminate concerns about possible interference with fishing gear or future degradation of abandoned cables in the Sound. The applicant's preferred alternative, a combination of removal and selective abandonment, consists of the removal of the remaining cables based on the experience gained from removing the first set of cables, leaving sections of buried cables that are difficult to remove or may cause unwarranted sediment disturbance. The combination of removal and abandonment alternative involves the abandonment of all buried submarine cables that do not need to be removed so as to make space for the replacement cables. (NU 1, p. 4-1 to 4-4)
41. NU intends to remove the cable in locations that could be easily lifted from the seabed. NU proposes abandonment of portions of the cable when the impact to the environment is greater from trying to remove the cable than it would be from cutting, capping and leaving it in place. The abandonment of portions of the existing cables would be considered under circumstances in which there are locations with shipwrecks or other unmovable obstacles that have landed on top of the cable since it was originally installed and in locations where the cable cannot be removed by carefully pulling it up to the barge due to deterioration or resistive soils. There may also be difficulty in removing the existing cable in areas that are buried deeply, such as below the Federal Channel where the cable is buried about 8 to 10 feet below the sediment. Based on calculations of the strength of the copper in the cable, about five tons of force could be applied on the cable safely. If the cable cannot be eased out of the seabed some assistance may be required, such as jetting, for removal. (NU 15, Q. 9; Tr. 1, p. 48, 59, 63-65)
42. If portions of the existing cables are left in place, the potential for sediment disturbance would be reduced, navigational related impacts if any of the existing cables were snagged by anchors, cable corrosion and component leaching may occur because the cable contains both copper and lead. Removal of all of the existing cables prevents any future, unknown environmental impact that may result from abandoned cables. (NU 9, Q. 14, 31)

PROPOSED UPLAND CONSTRUCTION

43. In the upland area of the cable corridor four-foot trenches would be dug and kept open for a period of time. The trenches that would not be accommodating a new cable would be backfilled during the removal process. The new cables would be placed alongside the trenches planned to accommodate them. The old cable would be removed and the new one installed in one process. At the Manresa Island Landfall, one trench would be opened to allow the installation of at least the first two new cables because the existing cables are so close together. In this case multiple existing cables would be removed and new cables would be installed at once. The third new cable may not be installed until the last three or four cables can be disconnected and partially removed. (NU 12, Q. 57; NU 14, p. 27-29)
44. The upland portion of the proposed replacement cable system would span approximately 340 feet, within the existing cable corridor, from the water's edge to the existing interconnections at Norwalk Harbor Substation. The existing/proposed cable corridor runs beneath an existing dirt access road. Between the road and the water line, the corridor is characterized by sparsely vegetated sand-gravel upland, and cobble beach. Some upland vegetation would have to be disturbed to remove the existing cables and install the new cables on Manresa and Sheffield Islands. NU will make an effort

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to plant vegetation to provide wildlife habitat value and screening of the facility to the extent possible given operational requirements. The existing/proposed cable corridor spans 200 feet across the upland portion of Sheffield Island. (NU 1, p. 6-2; NU 8, Q. 19)

45. In the upland portions of the cable system the trenches would be to a design depth of four feet below grade. The trench would be approximately eight feet wide at the top and tapering to approximately four feet at the trench bottom. The upland portion of the cable system would be restored to pre-installation conditions following the decommissioning and installation process. (NU 1, p. 2-8)

PROPOSED SUBMARINE CABLE INSTALLATION

46. NU proposes to use hydraulic jet plowing as a method for burial of the cable into the seabed. Using hydraulic jet-plowing, water is injected below the sediment surface, leaving most of the sediment in place. When the water pressure is removed, the sediment would resettle over the cables. The hydraulic jet-plow creates a relatively narrow trench, which would suspend a smaller amount of sediment in the water column than a wide trench. Seabed disturbance is expected to be limited to a trench width of between 4 feet and 11 feet. The benthic profile and contours of the seabed within the trench is expected to restore itself over time. (NU 1, p. 1-0; p. 2-5 to 2-7)
47. The proposed cable-laying vessel, the C/S Havilla Skagerrak, would feed the cable to cable floats and workboats would pull the cable to a landing point. The proposed remote control trenching machine is CAPJET 650-1MW for the submarine portions of the cable deeper than -35 feet below mean low water (MLW). The CAPJET50 is a remote control shallow water trencher that is proposed for the trenching for all nearshore portions of the cable installation and in Sheffield Harbor. The trench would have to be dredged for about 100 feet from the shoreline into the water. The flow from the jet is first down and then back, generally trenching horizontally, pushing the sediment behind the vehicle. (NU 1, p. 2-6, Attachment 2-A; Tr. 1, p. 74; Tr. 2, p. 145)
48. Following the preparation of the on-land trenches, the cable burial vessel would be located south of Sheffield Island. A portion of the cable would be floated and pulled onto shore. The cable would then be winched across the island and floated in the water on the north side of the island. Support equipment would then begin pulling the cable toward Manresa Island burying the cable while moving by either laying the cable on the bottom first and then using the hydraulic jet-plow for burial or by towing the hydraulic jet-plow and burying the cable as it goes along. The cable burial vessel would then begin moving toward Northport, burying the cable on its way. Once the vessel is in the vicinity of a landfall it would be pulled onto land and placed in the trench. Extra cable would then be trimmed and a pothead connection made. NU would then fill in the trenches that are on-land, including placing a protective slab above the cables to warn and protect against digging. (NU 1, p. 2-7)
49. A lay vessel that would not require the use of anchors would be used for installation of the proposed cable system. A working barge that would be stabilized by light fluke anchors with a weight of approximately 1000 pounds would remove the existing cables. This barge would probably cause about six pairs of scars in Sheffield Harbor and thirty pairs of scars in the deeper waters of Long Island Sound. (NU 15, Q. 8)
50. The rate of advance of the hydraulic jet is approximately three to five kilometers per day. Installation of the cable would be completed in approximately five days per cable if the laying and

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jetting processes are done simultaneously and if there were no difficulties or delays. Removal of the existing cables is expected to occur at a speed of 10 meters per minute. (Tr. 1, pp. 77-80)

51. The installer of the cable must take certain precautions in the burial of the submarine portion of the cable. The installer would make a detailed survey of the cables' proposed paths, checking for objects that may cause interference with the equipment. These items would either be removed or the cables' paths would be altered to avoid obstructions. If boulders are encountered while installing the cables and can not be moved, the cable may be installed around the boulders or laid on top and protected with gabion mattresses. In a situation where a cable could not be laid to the required 6-foot depth after a second pass or where there is shoreline wave action, additional protection may be installed to prevent future damage. It is expected that additional protection would be needed at the Manresa Island Landfall and on the south side of Sheffield Island. This protection would either be in the form of a concrete mattress or placed rock. (NU 1, p. 2-7 & 2-8; Tr. 2, p. 127)
52. NU has surveyed current seabed conditions using side-scan sonar and depth sounding equipment to document pre-construction conditions. NU proposes to monitor pre- and post-construction conditions ensure that the seabed is restored to pre-construction conditions, in so far as possible, along the cable corridor. (NU 1, p. 2-9)

ELECTRIC INTERCONNECTION

53. If one of the cables were damaged and it tripped out, the power flow would be re-directed across the remaining in-service transmission lines that interconnect New York and New England. It could take several minutes to switch to the spare cable and place the full transmission interconnection back in service. (NU 8, Q. 3; NU 11, Q. 5)

ELECTRIC AND MAGNETIC FIELDS

54. Studies have been performed to assess the expected magnetic field level. The magnetic field for the proposed 800 mm² cables, when operating at full capacity, was calculated to be 21.4 milligauss (mG) for a level of six feet above the proposed cables in the submarine portion and 17 mG at three feet above ground level in the upland portion. The estimated magnetic field for the existing cables is calculated at 450 mG to 490 mG at six feet above the cables in the submarine portion and 1,390 mG at three feet above the cables for the upland portion. The interim magnetic field limit, as established by the New York Public Service Commission, is 200 mG for the edge of right-of-way roadways. There is no electric field associated with the proposed replacement cables. (NU 1, p. 8-1; NU 14, p. 43; Tr. 1.1, p. 45-46)
55. The magnetic field associated with the proposed cable system is not expected to interfere with navigational compasses or other navigational instruments due to the distance of instruments from the cables. There is no known instances of the existing cables causing problems with navigation. (NU 14, p. 44-45)
56. The proposed cable system would be a source of exposure to magnetic fields for marine organisms in close proximity to the cable. There is currently no evidence that the magnetic field would have a harmful impact on fish or other aquatic species when exposed to power frequencies at or near 50 to 60 Hz. (NU 14, p. 44)

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57. Electric cables generate heat because of resistance of the current from the conductor. The thermal conductivity of the copper conductor directly impacts the heat that is generated, the higher the current in the cable, the more heat is generated. The proposed replacement cables have larger conductors than the existing cables; therefore, they are expected to offer less resistance to the current and will generate less heat per conductor. The thermal discharge expected to be generated from the proposed cables is less than 90 Btu/hr/feet of cable if the cable is running at full capacity. (NU 1, P. 8-1 & 8-2)
58. Electric and magnetic field (EMF) measurements would be taken before and after construction as a requirement of Connecticut's EMF Best Management Practices, as promulgated by the Council. EMF measurements would be taken between Norwalk Harbor Substation and the high water mark on Manresa Island. (NU 8, Q. 9)

ENVIRONMENTAL

General

59. The existing/proposed cables cross Sheffield Island where the island is narrow and bordered by coastal marsh. The Manresa Island Landfall is bordered to the north-northwest by a tidal marsh complex. Between Manresa Island and Sheffield Island the cable route crosses some tidal flats and rocky shoals. The proposed replacement cable system would not cross inland wetlands or freshwater resources. (NU 1, pp. 6-1, 6-3)
60. Several Federal and State regulated wetland resources are located at the Manresa Island Landfall and Sheffield Island crossing. Coastal wetland resources as identified by the DEP Coastal Resource Area Map, located within or adjacent to the cable corridor and at the landfall include regulated tidal wetlands and intertidal flats. Wetland resources in the vicinity of the Sheffield Island crossing include intertidal flats, beaches, and dunes. The Manresa Island Landfall is located landward of an intertidal mudflat. A gently sloping sand and gravel beach leading to upland colonized by grasses and ruderal (growing in poor land) vegetation characterizes the Landfall area. A large salt marsh occurs to the west and northwest of the Landfall with no part of the cable corridor located within the marsh. No rare wetland types or rare plant species have been documented to occur at or adjacent to the Manresa Island Landfall. Some areas of wetland vegetation may be disturbed as a result of construction activities but would be reestablished by seeding and transplanting. Natural re-vegetation would be expected to occur from adjacent areas. (NU 1, p. 6-42 to 6-44)
61. Approximately 80 linear feet of the existing/proposed cable system is located in an area mapped as Zone V6, within the 100-year floodplain and subject to coastal floods with velocity hazard. About 300 linear feet of the existing/proposed cable system is within Zone A6, within the 100-year floodplain. On the Sheffield Island crossing, approximately 125 feet of the cable system is located in Zone A, which is within the 100-year floodplain and has no delineated base flood elevation. (NU 1, p. 6-43)
62. The proposed project is not expected to impact visual and aesthetic resources and there would be no change in appearance from the existing cable system. The only audible noise that is expected as a result of the proposed project would be from the equipment used in the decommissioning and installation process. (NU 1, p. 6-64 & 6-65)

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Sediment

63. During the cable replacement process for the entire route, assuming four existing cables are removed and 3 new cables are installed, including the Connecticut and New York sections, approximately 52,200 cubic yards of sediment are predicted to be displaced in Year 1 of the project. During Year 2, approximately 13,500 cubic yards of sediment would be displaced, assuming the three remaining existing cables are removed. The amount of sediment dispersion and deposition associated with the installation and decommissioning process for the cable system was predicted through modeling. The analysis assumed that the first phase of the process would involve the removal of four cables and the installation of the three new cables. The second phase of the project would begin the following fall and include the removal of the remaining three cables. (NU 14, pp. 33 & 34; NU 15, Q. 4)
64. The sediment analysis concluded most of the suspended sediment would be deposited within the cable corridor, with a maximum of approximately 80 to 140 millimeters of deposition near Sheffield Island and Manresa Island landfall. Shellfish beds that would be impacted by sediment deposition are leased by CL&P. Adjacent non-CL&P leased shellfish beds that may be impacted are expected to receive less than three millimeters of sediment deposition as a result of this project, which is equivalent to that expected from natural tidal action. The sedimentation associated with the proposed project is expected to be less than it was when the existing cable was installed more than 30 years ago. (NU 14, p. 34-35; Tr. 1, p. 80)
65. During installation, approximately one-third of the sediment in the trench is introduced into the water column. Gravitational settling would cause a portion of the disturbed sediment to settle rapidly within the trench-way. The remaining two-thirds of the sediment would remain in the trench. Depressions that would remain over the cables are expected to be less than one foot. (Tr. 1, p. 40-46)
66. Following the installation of the proposed cable into the upland trench, NU expects to use the excavated soils for backfill. In event excavated soils are unsuitable for backfill or if there were an excess of material, the material would be reused on site or properly disposed of at an off-site location. The applicant would minimize the potential for soil erosion by placing hay bales and silt fencing around the area to be temporarily disturbed and around stockpiled soils. (NU 1, p. 6-10)

Water Quality and Habitat

67. The groundwater that runs beneath the proposed cable route is currently classified as "GB" according to the Water Quality Classification Map of Connecticut. The "GB" designation includes industrial process water, cooling waters, and base flow for hydraulically-connected surface water bodies. This classification of groundwater is not considered suitable for human consumption. The Department of Environmental Protection (DEP) presumes that "GB" groundwater is degraded due to a number of pollution sources. (NU 1, p. 6-6)
68. Surface water bodies which are in the vicinity of the Manresa Island Landfall include the Long Island Sound (which is the dominant surface water body), Village Creek, Norwalk Harbor, Norwalk River, and Sheffield Island Harbor. Norwalk Harbor and Fivemile River are classified as "SC", which are coastal and marine fisheries that are suitable for fishing, shellfish, and wildlife habitat, certain aquaculture and recreational uses, and other legitimate uses such as waterborne navigation. Sheffield Island Harbor, Village Creek, Farm Creek and Wilson cove are designated as "SB", which are coastal and marine surface waters that are designated for marine fish, shellfish, and wildlife

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habitat, as well as shellfish harvest for human consumption only after off-site purification, and recreation, industrial, and other legitimate uses such as navigation. (NU 1, p. 6-6 & 6-7)

69. Vibratory core (vibracore) samples were taken from select locations with different acoustic/geologic characteristics. Each vibracore was taken to a depth of 10 feet below the seabed surface. Chemical analysis, methods, and detection limits were derived from the United States Environmental Protection Agency (EPA) documentation for these dredged sediments. The parameters chosen for chemical analysis includes eight metals, total petroleum hydrocarbons (TPH), select pesticides, polychlorinated biphenyl (PCB), total organic carbon (TOC), and polynuclear aromatic hydrocarbons (PAH). The New York State Department of Environmental Conservation (NYSDEC) suggested that benzene, total BTEX, and 2-chloronaphthalene also should be analyzed. Evaluation of risk of sediment contamination was based on the National Oceanographic and Atmospheric Administration (NOAA) effects range-low (ER-L), used to evaluate potential long-term or chronic effects of marine organism exposure to potentially contaminated sediment, and effects range-median (ER-M), used to evaluate the short-term or acute effects. Nickel exceeded the ER-M at one sampling location in the mid-Sound within the Connecticut boundaries. Some samples had metal concentrations that exceeded the ER-L guidelines. NU asserts that ER-L guidelines are not applicable to the proposed project because effects of the project would be short-term. (NU 1, p. 6-15 to 6-19)
70. Damage to the existing cables has caused several leaks since installation. NU and LIPA have performed studies of sediment chemistry; persistence of released alkylbenzene in the environment; and alkylbenzene toxicity to shellfish and have filed these reports with the DEP and NYSDEC. Alkylbenzene levels were consistent with background levels for the Long Island Sound for sediment and shellfish, except on the intertidal beach at Norwalk Harbor Station where ambient levels are generally higher. (NU 1, p. 6-19)
71. Bathymetric surveys of Long Island Sound along the existing/proposed cable corridor indicate that the seabed gently slopes along the shoreline to a relatively flat bottom with a deep channel running in the east-west direction through the middle of Long Island Sound, parallel to the northern Long Island shore. Water depth measurements for most of the central section of Long Island Sound range between 90 and 100 feet mean lower low water level (MLLW) with measurements in the east-west direction in the central portion of the Long Island Sound ranging between 190 and 196 feet MLLW. The Sheffield Island Harbor is gently sloping with rock piles and exposed bedrock along the Federal Channel. The northern and southern portion of the harbor has average depths of about 6 to 8 feet. The published depths for the entrance of the Norwalk Harbor channel is 12 feet but the bathymetric survey indicated depths of up to 20 feet within the existing/proposed cable corridor. (NU 1, p. 6-13)
72. NU expects a temporary impact to finfish species due to sediment disturbance. The proposed construction activities are scheduled to take place in the fall and winter to avoid sensitive life stages for the majority of fish that are prevalent within this area. The fish expected to be present during the decommissioning process would be primarily juveniles and adults, which due to their mobility are able to avoid equipment and areas that have increased suspended sediments and turbidity. (NU 1, p. 6-24 & 6-25)
73. Eight essential fish habitat (EFH) species have been designated EFH for egg or larval stages within Long Island Sound. These species include Atlantic mackerel, cobia, king mackerel, red hake, scup, Spanish mackerel, windowpane, and winter flounder. NU proposes to conduct decommissioning/installation of the cable system outside of the timeframe when sensitive life stages for most of the EFH species are present. (NU 1, p. 6-26)

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74. The DEP and National Marine Fisheries Service (NMFS) fisheries scientists would correspond with the applicant to ensure that the proposed activities are conducted in a manner that would minimize impacts to finfish resources to the greatest extent possible. Commercial fishers would be notified in advance of cable construction activities to minimize potential conflicts with fishing activity and gear in Long Island Sound. The proposed cable system is not expected to release toxic or hazardous materials into the seabed that could lead to the degradation of water quality or sediments because the proposed cable would not contain fluids. (NU 1, p. 6-28)
75. Benthic organisms are defined as those organisms that live on or beneath the seabed floor. There were no perceptible differences in sediment type or biological communities between the habitats over the existing cables and those not over the cables. In one case, just north of Sheffield Island, there were fewer species found in depressions over the buried cables. This reduction may be because of differences in bottom topography or the accumulation of macroalgae found in the depressions. The taxonomic richness, which is the number of classifications of species that exist within an area, is an average of 15 taxa per sample and 110 taxa for the proposed cable corridor. Taxonomic richness is an indicator of the quality of the site; generally water or habitat quality results in a decreased taxonomic richness. The average faunal density, which is number of individuals per unit area, was 3,823 individuals per m². (NU 1, p. 6-30; NU 12, Q. 52, Benthic Habitat Mapping)
76. Some mortality of benthic organisms would be expected along the paths of the proposed cables' decommissioning/installation but would be limited to trenched areas. The applicant expects that most of the benthic organisms in the vicinity of the cable corridor can tolerate sediment disturbances and depositional events. Benthic organisms that are displaced by decommissioning/installation of the cable system would be replaced through rapid recolonization in the area by the benthic community located directly adjacent to the affected area. Following similar disturbances, the equilibrium of benthic communities is generally achieved within one year. The buried cables would not create a physical barrier that would interfere with benthic organism migration or use of existing habitats as nursery areas. (NU 1, p. 6-32 & 6-33)
77. NU expects that any impacts to water quality that would result from the suspension of sediments during the decommissioning/installation process would be short-term and localized. The proposed use of the hydraulic jet-plow would limit the sediment disturbance along the cable corridor. In addition, analysis of the sediment chemistry shows that the sediments in this area are relatively contamination free and should pose little or no risk to water quality. Erosion and sedimentation controls would be used to stabilize the sediments of the upland construction area. (NU 1, p. 6-11)

Shellfish

78. CL&P's shellfish corridor is approximately 1,000 feet wide north of Sheffield Island and 4,000 feet wide south of Sheffield Island. The hardshell clam and the eastern oyster have the most significant concentrations in this area. The eastern oyster is Connecticut's most valuable shellfish resource. The oyster beds located south of Sheffield Island are under the jurisdiction of the Connecticut Department of Agriculture, Bureau of Aquaculture (DA/BA). The oyster beds north of Sheffield Island are under the jurisdiction of the Norwalk Shellfish Commission. CL&P owns or holds the leases for the state and municipally managed areas crossed by the cable corridor. The distance between the easternmost cable and the nearest leased shellfish bed that is not leased by CL&P is 130 feet; from the westernmost cable it is approximately 230 feet. (NU 1, p. 6-34 & 6-35; NU 8, Q. 23)

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79. Some mortality of shellfish would be expected due to decommissioning/installation activities. In-water construction activities are scheduled to take place in the fall/winter when cold waters cause the shellfish to be effectively dormant. Oysters have the ability to filter their food from the sediment, and to close their shell and stop filtering when high sediment concentrations occur. Clams also have the ability to close their shells as well as the ability to burrow to retreat from harsh conditions. The growth of an oyster is essential to elevate its filtering mechanisms above the sediment layer. In the larval form oysters attach to a hard substrate, usually other oyster shells, forming a three-dimensional structure that stands above the sediment water interface. Survival of an oyster is dependant on upward growth or it may be smothered and die. Oysters that exist within a horizontal monolayer risk burial. (NU 1, p. 6-37 to 6-40)
80. Some adjacent shellfish beds that are not leased by CL&P may be impacted by the proposed project. Studies have predicted sediment deposition to a depth of less than 3 millimeters on these beds, which is equivalent to that expected from natural tidal action. Three millimeters of sedimentation is less than the critical burial depth for juvenile oysters and clams, which is 5 millimeters. All project-related sediment deposition greater than 3 millimeters is expected to remain within the existing cable corridor and areas leased by CL&P. The clams and oysters in the study area are relatively large, and the oysters are in an upright position, in small clumps surrounded by muddy sediments. The mortality of shellfish and other benthic organisms in the direct path of the hydraulic jet, and the possibility of a reduction in species diversity in the shallow depressions that may form over the new cables is expected. (NU 12, Q. 52; NU 14, p. 36 & 37)
81. The American lobster is abundant in Long Island Sound throughout the year, with peak occurrences during the month of July. Data indicates that the greatest density of lobsters is in the western portion of the Long Island Sound. Lobster-fishing gear has been found in high concentrations in localized deep-water pockets in Connecticut waters along sections of the western cable route alternative. (NU 1, p. 6-37)
82. The mortality of lobsters as a result of in-water construction activities would be expected to be limited to only those lobsters that are less mobile and in the direct paths of the cables' route. Adult lobsters are able to avoid temporary disturbances of sediments because of their mobility and complex sensory capabilities. Lobsters are able to traverse complex terrain and travel over substantial topographic features, which would enable lobsters to cross over any minor depressions in the seabed that would remain after installation. If lobsters, crabs, and fish are buried by large clumps of material, mortality may occur depending on the amount of material that is placed on them, their condition, and the time of the year (Note: slower response time in winter). Benthic phase lobsters are usually more sensitive to turbidity but not attracted to fine-grained sediments. Sediment within the cable corridor in New York was found to be more coarsely grained. (NU 1, p. 6-40; NU 15, Q. 13; Tr. 1, p. 71 & 72)
83. The DEP expects that the proposed project would cause significant mortality of whatever lobsters are located in the paths of the cable installations and, depending on time of year, possibly smother or bury lobsters in burrows for some distance from the trench. The proposed project may have a significant enough effect to have an adverse impact on the overall lobster population. The DEP recommends that the applicant meet with commercial fishermen in the area regarding fishing activities and lobster migratory behavior within the cable corridor, in order to work together to minimize lobster mortality and disruption of fishing due to cable installation activities. (DEP comments, dated June 11, 2002, p. 5)

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Wildlife

84. Coastal land resources on Manresa Island that are of potential importance to wildlife occur within the project vicinity. Sheffield Island is a National Wildlife Refuge, operated by the U.S. Fish and Wildlife Service. State-listed threatened species including the great egret, and the least tern and state-listed special concern species, including the American oystercatcher, the yellow-crowned night heron, and the common tern are known to occur in the vicinity of the project area according to the DEP Natural Diversity Database. The Kemp's Ridley, the Loggerhead, and the Leatherback are sea turtles that are listed as endangered under the Endangered Species Act of 1973 and have been observed in Sheffield Island Harbor and the open waters of Long Island Sound. These turtles may be found in near shore waters of Long Island Sound from mid-May to December. The prey of these turtles are expected to avoid or tolerate the disturbance that would come from the proposed project; therefore, the turtles would not be expected to be impacted by this project. Federally listed endangered species that have been observed in the Long Island Sound include finback and humpback whales. (NU 1, p. 6-48; NU 8, Q. 27)
85. Bird nesting habitats within the project area are mostly located in the marshes to the north of the project area and limited patches of scrub-shrub vegetation and beach along the shoreline. The Norwalk Harbor and Norwalk Islands serve as feeding and nesting sites for herons, egrets, and other waterbird species, which begin to return to the area in mid- to late April. Disruption of nesting habits that may occur as a result of the proposed project would be temporary and localized, potentially resulting in one nesting season of disturbance. There are five osprey platforms in the general project area, some of which are occupied. NU may replace the osprey platform immediately north of the cable landfall with another platform in a more protected location. (NU 12, Q. 50; NU 15, Q. 50; DEP comments, dated June 11, 2002, p. 6)
86. Impacts to wildlife that are expected to occur as a result of the proposed project would include the temporary impairment of water quality and foraging habitat, and disturbance of individual organisms. NU proposes to stabilize and restore all disturbed upland areas to their previous conditions. (NU 1, p. 6-49)

TRANSPORTATION

87. The Norwalk Harbor Substation serves as the accessway to the cable corridor. From Interstate 95, city roadways lead to the Norwalk Harbor Substation. Roadway traffic would be expected to increase during the construction of the proposed project, due to travel by work crews and construction vehicles. The increase in traffic would not be expected to be out of scale with current traffic patterns and capacities. (NU 1, p. 6-51 & 6-52)
88. Long Island Sound is currently used for shipping, recreational boating, tourism, and industry. A few ferry services run across the Sound, one of which runs from New London, CT to Glen Cove, NY and generally crosses the proposed cable route north of Cable and Anchor Reef. Commercial fishing vessels and recreational vessels use the Long Island Sound in the vicinity of the project area. The applicant plans to minimize navigational impacts in the siting and design of the proposed project. (NU 1, 6-53 & 6-54)
89. The existing/proposed cable route would cross beneath the Federal Channel at a section known as the Entrance Channel. This section of the channel has an authorized depth of -12 feet MLLW and is 200 feet wide. Marine traffic in the Federal Channel may need to be interrupted for short periods of time

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during construction activities. During construction, a no-entry safety zone would be established around the construction vessel and associated equipment. The exclusion zone would be outside of the Federal Channel and would be well marked, easily avoided by other vessels, and would have adequate water to navigate around the work area. (NU 1, p. 6-54 & 6-55)

LAND USE

90. The proposed cable system would be located within an existing easement held by CL&P and LIPA. The upland portion of the existing/proposed cable corridor at the Norwalk Harbor Substation is within an area zoned as "B residence." Use of the property as a substation is consistent with the uses permitted for this designation. The Sheffield Island crossing is zoned IC (Island Conservation), which indicates a need for protection of the environment while allowing development for limited residential uses. NU has determined that this project would be consistent and compatible with the City of Norwalk Plan of Development. (NU 1, p. 6-57)

ARCHAEOLOGICAL, HISTORIC, AND CULTURAL RESOURCES

91. The proposed project is not expected to impact any archaeological, historic, or cultural resources. The Connecticut State Archaeologist has listed nine shipwreck sites within or in close proximity to the project area. NU has submitted information regarding the shipwrecks and the project to the Connecticut State Historical Preservation Office (SHPO) for review and comment and intends to avoid any significant resources identified by the Connecticut SHPO. (NU 1, p. 6-58)

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Company application for a Certificate of	
Environmental Compatibility and Public Need for the	Siting
replacement of a submarine electric transmission cable	
system from Norwalk, Connecticut to Northport, New	Council
York.	
	September 5, 2002

Opinion

On February 15, 2002, Northeast Utilities Service company (NU), as the agent for 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 Connecticut portion of the replacement of an existing submarine electric transmission cable system extending from Norwalk Harbor Substation in Norwalk, Connecticut to Northport Substation in Northport, New York.

Parties and Intervenors to these proceedings include the applicant, State Attorney General Richard Blumenthal, the City of Norwalk, Save the Sound, Inc., and State Representative Bob Duff.

The existing 138-kV cable system extends from Norwalk Harbor Substation to Northport Substation for a distance of approximately 11 miles. The cables, which were installed in 1969, are owned by CL&P in Connecticut and Long Island Power Authority (LIPA) in New York and consist of seven single-conductor cables. Six of the existing cables operate as one 300 MW circuit comprised of two sets of three cables, each having a 150 MW capacity. The seventh cable serves as a spare. NU proposes to replace the seven existing cables with three three-conductor submarine transmission cables, which would be limited to an operating capacity of 300 MW. One of the three proposed cables would serve as a spare if one of the other two cables were out of service.

The proposed replacement project is not intended to increase capacity or serve additional load. The seven existing cables are susceptible to damage from anchors or other objects hitting the cable, resulting in the release of alkylbenzene, the dielectric insulating fluid within each cable. The proposed replacement cables would be less susceptible to damage than the existing cables because they would be buried, would result in a reduction of costs from maintenance and repair, and eliminate environmental concerns associated with the escape of the insulating fluid from the cable. Most of the incidents that have caused external damage over the past thirty years have resulted in the accidental release of alkylbenzene into the environment.

The proposed cables would be solid dielectric cables with cross-linked polyethylene insulation and would be buried to a depth of six feet below the Long Island Sound bed and about four feet below grade on land. If a cable could not be buried to the proposed six-foot depth, concrete mattresses or rock would be placed over the area. A maximum of six fiber optic cables would be installed, two with each power cable, if there is demand for such a cable.

The existing cable system is necessary because it is one of eight high voltage transmission facilities that interconnect Connecticut's transmission facilities with transmission facilities in neighboring states allowing the import and export of electrical energy. The existing cable system delivers both reactive power and energy to southwestern Connecticut, which has greater load growth than other parts of the state.

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The proposed replacement cable corridor is within the eastern portion of the existing cable corridor and would take up only a section of the existing corridor. This area was chosen because it was previously disturbed, shellfish bed impacts would be minimized, and the existing cable area would not have to be expanded. An alternative location along the western edge of the existing cable corridor contains surface and shallow subsurface bedrock expressions, and shipwrecks, which would be a significant obstruction to the burial of the proposed replacement cables. Alternative Route 1, which is located to the west of the existing corridor, would cross previously undisturbed seabed and shellfish beds that are not owned by CL&P; appears to have a significant amount of surface and subsurface bedrock; it would cross an area frequently used by lobster fishers; and is 1.5 miles longer for each cable, than the proposed replacement corridor. Alternative Route 1A, which is farther west than Alternative Route 1, contains surface and shallow subsurface bedrock, and would cross previously undisturbed seabed and shellfish beds that are not owned by CL&P. Alternative Route 2, located between Alternative Route 1 and the existing cable corridor, has significant amounts of surface and shallow subsurface bedrock. Alternative Route 2, which begins at Norwalk and heads southeast around Sheffield and Shea Islands then south rejoining the eastern route, would cross previously undisturbed seabeds and shellfish beds not owned by CL&P, and the federal channel in Sheffield Harbor. Alternative landfalls to the east and west of Norwalk Harbor Substation would result in more environmental disturbance than the proposed/existing landfall due to the proximity of a large tidal wetland to the northwest, residential areas, and beaches.

- ... The applicant proposed three possibilities for the decommissioning of the existing cables, which include complete removal, a combination of removal and abandonment, and a combination of removal and selective abandonment. The Council feels that complete removal of the existing cables is preferred, in order to eliminate the possibility of causing navigational impacts of anchors getting snagged on the abandoned cables, or corrosion and component leaching from the copper and lead contained in the cable. The Council will require that the Development and Management (D&M) Plan include provisions for removal of the existing cables, and a pre-construction survey with obstructions and methods to provide cable protection noted.

The existing/proposed cable corridor crosses Sheffield Island where the island is narrow and bordered by coastal marsh. Between Norwalk Harbor Substation and Sheffield Island the proposed cable route crosses a few tidal flats and rocky shoals but would not cross inland wetlands or freshwater resources. Some areas of wetland vegetation may be disturbed as a result of construction activities but would be reestablished by seeding and transplanting. NU will be required to undertake pre-construction and post-construction survey of the benthic community in the D&M Plan.

In-water construction for the proposed project is proposed to begin in the late fall and end in the early spring. Construction activity would take place during the cold-weather months when most of the species in Long Island Sound are either not present or less biologically active, which would minimize potential impacts to finfish, shellfish, and other aquatic species.

The project may have some impact to shellfish resources. NU holds the leases for the state and municipally managed areas crossed by the cable corridor. Outside of the beds leased by NU, adjacent shellfish beds may receive less than three millimeters of sediment deposition as a result of this project, which is less than the critical burial depth of juvenile oysters and clams. The Connecticut Department of Environmental Protection (DEP) expects that the proposed project would result in significant mortality of whatever lobsters are located in the path of the cable installation and, depending on time of year, possibly smother or bury lobsters in burrows for some distance from the cable trench. The Council will require that NU meet with commercial fishermen in the area regarding fishing activities and lobster migratory behavior within the cable corridor, in order to work together to minimize lobster mortality and

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disruption of fishing due to cable installation activities. The Council will also require that a plan to minimize impacts to shellfish, developed in consultation with the Connecticut Bureau of Aquaculture, be included in the D&M Plan.

Sheffield Island is a National Wildlife Refuge operated by the U.S. Fish and Wildlife Service. State-listed threatened species including the great egret, and the least tern and state-listed special concern species, including the American oystercatcher, the yellow-crowned night heron, and the common tern are known to occur in the vicinity of the project area. The Kemp's Ridley, Loggerhead, and Leatherback are sea turtles listed as endangered under the Endangered Species Act of 1973 and have been observed in Sheffield Island Harbor and the open waters of Long Island Sound. Federally listed endangered species that have been observed in Long Island Sound include finback and humpback whales. The Council does not anticipate adverse impacts to these species and will require this issue to be addressed as appropriate through the D&M Plan.

Many bird-nesting habitats are located within the project area. Any disruption of nesting birds that may occur as a result of the proposed project would be temporary and localized, potentially resulting in one nesting season of disturbance. Five osprey platforms are located in the general project area, the nearest of which would be relocated to a more protected location. The Council will require that a plan to minimize impacts to nesting birds be developed in consultation with the DEP as part of the D&M Plan.

The thermal discharge that would be generated from the proposed replacement cable system would be less than 90 Btu/hr/foot of cable assuming the cable is running at full capacity. The proposed cables would generate less heat per conductor than the existing cable system. The magnetic field for the proposed cables was calculated to be 21.4 milligauss (mG) for a level of six feet above the proposed cables in the submarine and 17 mG at three feet above ground level in the upland portion. The magnetic field from the proposed cables would be a significant reduction from the magnetic field associated with the existing cables. The magnetic field associated with the proposed cable system is not expected to interfere with navigational compasses or other navigational instruments due to the distance of instruments from the cables. The proposed cable system would be a source of exposure to magnetic fields for marine organisms in close proximity to the cable. Currently, there is no evidence in the record that the magnetic field would have a harmful impact on fish or other aquatic species when exposed to power frequencies at or near 50 to 60 Hz. To confirm the predicted change in EMF levels, the Council will order NU to incorporate a post-construction monitoring plan for EMF levels in the D&M Plan.

Although there would be an increase of roadway traffic during construction, the proposed project would not be expected to be out of scale with current traffic patterns and capacities. During construction, within Long Island Sound, marine traffic may be interrupted for short periods of time due to a no-entry safety zone that would be established around the construction vessel and associated equipment. The exclusion zone would be outside of the Federal Channel and would be well marked, easily avoided by other vessels, and would have adequate water to navigate around the work area.

The upland portion of the existing/proposed cable corridor at Norwalk Harbor Substation is within an area zoned as "B residence;" use of the property as a substation is consistent with the uses permitted for this designation. The location of the cable corridor on Sheffield Island is zoned Island Conservation (IC), which indicates a need for protection of the environment while allowing development for limited residential uses. The proposed project would be consistent with the City of Norwalk Plan of Development.

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Opinion
September 5, 2002
Page 4

Based on its record in this proceeding, the Council finds that the effects associated with the Connecticut portion of the replacement of an existing submarine electric transmission cable system extending from Norwalk Harbor Substation in Norwalk, Connecticut to Northport Substation in Northport, New York, 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 when compared to benefit, 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 will issue a Certificate of Environmental Compatibility and Public Need for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York.

To ensure that the proposed project is properly developed, NU will be required to submit Development and Management (D&M) Plan which will include provisions for a detailed site plan; an erosion and sediment control plan, consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control as amended; provisions for cable protection within Sheffield Island Harbor; provisions for indemnification for damage to the cable system; a plan for a pre-construction and post-construction survey of the benthic community; a post-construction EMF monitoring plan; a pre-construction survey with obstructions noted and methods to provide cable protection noted; independent monitoring of the cable system installation; a plan to minimize impacts to shellfish, developed in consultation with the Connecticut Bureau of Aquaculture; a plan to minimize impacts to nesting birds and rare, threatened, and endangered species and species of special concern, developed in consultation with the Connecticut Department of Environmental Protection; provisions for removal of the existing cables, subject to approval from the Council and other appropriate agencies; cooperation and notification requirements with the Army Corps of Engineers, the Coast Guard, and the commercial fishing community; and post-construction mapping and reporting requirements.

DOCKET NO. 224 - Northeast Utilities Service Company	}	Connecticut
application for a Certificate of Environmental Compatibility	}	Siting
and Public Need for the replacement of a submarine electric	}	Council
transmission cable system from Norwalk, Connecticut to	}	September 5, 2002
Northport, New York.	}	
	}	
Decision and Order		

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the Connecticut portion of the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York, 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 Northeast Utilities Service Company for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York in the preferred route.

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 Certificate Holder shall provide to the Council a copy of all decisions by the Army Corps of Engineers, and State or federal regulatory agencies concerning the proposed project prior to construction or installation. If there are provisions in any regulatory decision that are inconsistent with the Council's record in this matter, the Certificate Holder shall notify the Council immediately.
2. 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 complete all in-water construction activities between November 1 and April 30.
4. The Certificate Holder shall not commence construction of this submarine electric transmission cable system until it has secured Council approval of a Development and Management (D&M) Plan, which includes the following elements:
 - a) A final site plan showing the placement of the equipment, method of installation, method of decommissioning the existing cables, depth of cable burial, submarine cable route, and upland cable route;
 - b) An erosion and sediment control plan, consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control as amended;
 - c) Provisions for cable protection within Sheffield Island Harbor;
 - d) Provisions for crossing the existing telecommunications cables in Long Island Sound;
 - e) A plan for a pre-construction and post-construction survey of the benthic community;
 - f) A post-construction electric and magnetic field monitoring plan for the area between Norwalk Harbor Substation and the high-water mark on Manresa Island;

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Decision and Order
September 5, 2002
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- g) A pre-construction survey with obstructions noted and methods to provide cable protection noted;
 - h) A plan to minimize impacts to shellfish, developed in consultation with the Connecticut Bureau of Aquaculture;
 - i) A plan to minimize impacts to nesting birds and rare, threatened, and endangered species and species of special concern, developed in consultation with the Connecticut Department of Environmental Protection; and
 - j) A plan including provisions for the removal of the existing cables subject to approval from the Council and all other appropriate agencies.
5. The Certificate Holder shall hire an independent consultant, subject to Council approval, to monitor and report weekly to the Council on the environmental effects of the installation of the cable system, including impacts to rare, threatened or endangered species or species of special concern in the project area.
6. The Certificate Holder shall indemnify and hold harmless any person that causes unintentional damage to the cable system.
7. The Certificate Holder shall cooperate with the Army Corps of Engineers regarding any schedule developed for future development of the Federal Navigation Channel.
8. The Certificate Holder shall notify the Council and provide a plan for the relocation or deepening of the cable system at its own expense, if the Army Corps of Engineers proposes to deepen the Federal Navigation Channel.
9. The Certificate Holder shall schedule and coordinate the proposed installation within Norwalk Harbor with the United States Coast Guard, and the City of Norwalk. Installation shall be undertaken during off-peak periods to minimize conflicts with waterborne ship traffic, and permit conditions of the Army Corps of Engineers and the Connecticut Department of Environmental Protection Office of Long Island Sound Programs, the Connecticut Bureau of Aquaculture, Norwalk Shellfish Commission, and the Norwalk Harbor Master.
10. The Certificate Holder shall meet with commercial fishermen in the area regarding fishing activities and lobster migratory behavior within the cable corridor, in order to work together to minimize lobster mortality and disruption of fishing due to cable installation activities.
11. The Certificate Holder shall provide to the Council an Installation Notification Plan identifying all parties with interests in navigation, State and federal regulatory agencies that have jurisdiction for the proposed cable system, and the commercial fishing, shellfishing, and lobster communities that would receive the following information:
- a) Notice of the cable system installation within one week prior to the commencement of construction;
 - b) The proposed cable system route in Loran-C, Geographic Positioning System (GPS), and Connecticut State Plane Coordinates (NAD 83) coordinates;
 - c) Notice of completion of cable installation; and
 - d) Post-construction mapping of the cable system location and depth in Loran-C, Geographic Positioning System (GPS), and Connecticut State Plane Coordinates (NAD 83) coordinates, within two months of the completion of installation of the cable system, or as approved by the Council.

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12. The Certificate Holder shall provide to the Council an operating report within three months after the conclusion of the first year of operation, and annually thereafter, with information relevant to the overall condition, safety, reliability, and operation of the cable system.
13. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of the Decision and Order, or within three years after all appeals to this Decision and Order have been resolved.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of the Decision published in the Norwalk Hour and The Hartford Courant.

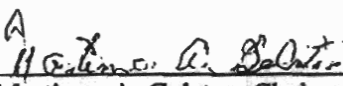
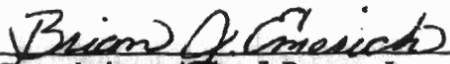
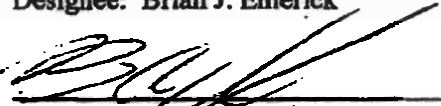
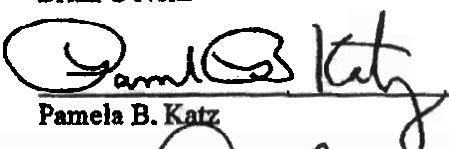
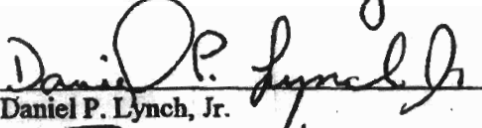
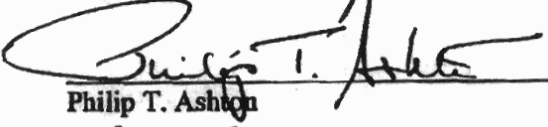


By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The Parties and Intervenors to the proceeding are as follows:

Applicant	Northeast Utilities Service Company	Anthony M. Fitzgerald Carmody & Torrance LLP 195 Church Street, 18 th Floor P.O. Box 1950 New Haven, CT 06509-1950
Party	Attorney General Richard Blumenthal	Robert Snook Assistant Attorney General 55 Elm Street P.O. Box 120 Hartford, CT 06141-0120
Intervenor	City of Norwalk	Louis S. Ciccarello Corporation Counsel City of Norwalk Law Department City Hall; P.O. Box 798 Norwalk, CT 06856-0798
Intervenor	Save the Sound, Inc.	Leah Lopez Staff Attorney Save the Sound, Inc. 20 Marshall Street South Norwalk, CT 06854
Party	Bob Duff State Representative, 137 th District	State of Connecticut House of Representatives 50 Toilsome Avenue Norwalk, CT 06851

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. 224 - Northeast Utilities Service Company application for a Certificate of Environmental Compatibility and Public Need for the replacement of a submarine electric transmission cable system from Norwalk, Connecticut to Northport, New York, and voted as follows to approve the proposed submarine cable system project, subject to the foregoing Findings of Fact, Opinion, and Decision and Order.

<u>Council Members</u>	<u>Vote Cast</u>
 Mortimer A. Gelston, Chairman	Yes
Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Absent
 Commissioner Arthur J. Rocque, Jr. Designee: Brian J. Emerick	Yes
 Brian O'Neill	Yes
 Pamela B. Katz	Yes
 Daniel P. Lynch, Jr.	Yes
 Philip T. Ashton	Yes
 Colin C. Tait	Yes
 Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, September 5, 2002.

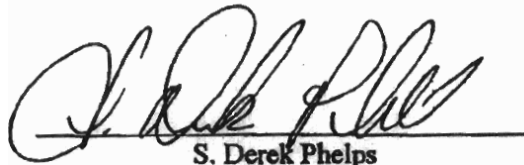
STATE OF CONNECTICUT)

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.

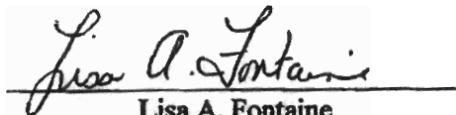
ATTEST:



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. 224 has been forwarded by Certified First Class Return Receipt Requested mail on September 9, 2002, to all parties and intervenors of record as listed on the attached service list, dated May 21, 2002.

ATTEST:



Lisa A. Fontaine
Administrative Assistant
Connecticut Siting Council

Date: May 21, 2002

Docket No. 224

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**LIST OF PARTIES AND INTERVENORS
SERVICE LIST**

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Northeast Utilities Service Company	Roger C. Zaklukiewicz Vice President Transmission Engineering and Operations Northeast Utilities System P.O. Box 270 Hartford, CT 06141-0270 (860) 665-6885 (860) 665-6717 - fax Anthony M. Fitzgerald Attorney at Law Carmody & Torrance LLP 195 Church Street, 18 th Floor P.O. Box 1950 New Haven, CT 06509-1950 (203) 777-5501 (203) 784-3199 - fax
Party	Attorney General Richard Blumenthal	Robert Snook Assistant Attorney General 55 Elm Street P.O. Box 120 Hartford, CT 06141-0120 (860) 808-5090 (860) 808-5384 - fax
Intervenor	City of Norwalk	Louis S. Ciccarello Corporation Counsel City of Norwalk Law Department City Hall, P.O. Box 798 Norwalk, CT 06856-0798 (203) 854-7750 (203) 854-7901 - fax

Date: May 21, 2002

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**LIST OF PARTIES AND INTERVENORS
SERVICE LIST**

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Intervenor	Save the Sound	Leah Lopez Staff Attorney Save the Sound, Inc. 20 Marshall Street South Norwalk, CT 06854 (203) 354-0036 (203) 354-0041 - fax
Party	The Honorable Bob Duff	The Honorable Bob Duff 137th District State of Connecticut House of Representatives 50 Toilsome Avenue Norwalk, CT 06851 (203) 840-1333



**STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION**



July 20, 2007

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Jeff Martin
Connecticut Light and Power Company
P.O. Box 270
Hartford, CT 06141-0270

SUBJECT: PERMIT NO. 200201976-MG, Norwalk

Dear Mr. Martin:

Enclosed is the signed permit which constitutes the approval of your application to conduct regulated activities. Your attention is directed to the conditions of the enclosed permit. Construction or work must conform to that which is authorized.

If you have not already done so, you should contact your local Planning and Zoning Office to determine local permit requirements on your project, if any. Also, your activity may be eligible for General Permit authorization from the U.S. Army Corps of Engineers. The State of Connecticut forwarded a copy of its tentative determination for this activity to the Corps for its determination of General Permit eligibility. You do not need to apply directly to the Corps unless they notify you. If General Permit eligibility has already been determined, an authorization letter will be attached to this permit. Otherwise, authorization will be mailed separately. For more information regarding this new federal process, you may write to the Corps New England Division, Regulatory Branch, 696 Virginia Road, Concord, Massachusetts 01742-2751; or, call (978) 318-8335.

If you have any questions concerning your permit, please contact staff of the Permit section at (860) 424-3034.

Sincerely,

Micheal P. Grzywinski
Senior Environmental Analyst
Office of Long Island Sound Programs
Bureau of Water Protection and Land Reuse

MPG/
encl.

Sent Certified Mail, Return Receipt Requested to: Commissioner of Transportation; Adjacent Property Owners; All Parties: the Mayor, First Selectman or Town Manager; Shellfish Commission; the Planning and Zoning Commissions; and the Harbor Management Commission.

Copies Furnished to:

Conservation Commission
DEP/Wildlife Division
DEP/Fisheries Division
Dept. of Agriculture/Aquaculture Division

DEP/Water Mgt. Bureau
DOT/Bureau of Aeronautics and Ports
File No. 200201976-MG, Norwalk



**STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION**



PERMIT

Permit No.: 200201976-MG

City: City of Norwalk

Work Area: Norwalk Harbor off property located at the Norwalk Harbor Substation on Long Shore Drive

Permittee: Connecticut Light & Power Company
c/o Jeff Martin
P.O. Box 270
Hartford, CT 06141-0270

Pursuant to sections 22a-359 through 22a-363f and sections 22a-28 through 22a-35 of the Connecticut General Statutes ("CGS"), and in accordance with section 22a-98 of the General Statutes, section 401 of the Federal Clean Water Act, as amended and the Connecticut Water Quality Standards dated December 2002, a permit is hereby granted by the Commissioner of Environmental Protection ("Commissioner") to remove seven existing fluid-filled electric transmission cables and install three new solid-core electric transmission cables by means of jetting and other methods as is more specifically described below in the SCOPE OF AUTHORIZATION, in the "work area" in Norwalk Harbor and Long Island Sound described above.

*******NOTICE TO PERMITTEES AND CONTRACTORS*******

FAILURE TO CONFORM TO THE TERMS AND CONDITIONS OF THIS PERMIT MAY SUBJECT THE PERMITTEES AND ANY CONTRACTOR TO ENFORCEMENT ACTIONS, INCLUDING PENALTIES AND INJUNCTIONS, AS PROVIDED BY LAW.

SCOPE OF AUTHORIZATION

The Permittee is hereby authorized to conduct the following work as described in application #200201976-MG, including eighteen (18) sheets of plans, Figures C-1c, C-2a, C-2b, C-3, C-4a and C-4b dated February 21, 2002, C-5, three (3) plans entitled "ADDED PROTECTION AND ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)" received February 26, 2007, two (2) sheets of plans entitled "ARTICULATED CABLE PROTECTION" received February 26, 2007, a plan entitled "ANCHOR BUOY DETAIL" received February 26, 2007, Figures S1-1, S1-2 and S1-4 received December 13, 2002, submitted by the Permittee to the Commissioner and attached hereto:

1. disconnect, flush and remove seven (7) existing fluid-filled electric transmission cables using either direct-lift, water-jet or air-jet methodologies and mechanical means for the Sheffield Island crossing;

2. using a remote operated vehicle (ROV) jetting tool, or other jetting methodologies and mechanical means for the Sheffield Island crossing and the Manresa Island landing, install three (3) solid-core electric transmission lines from Manresa Island to Sheffield Island to a depth of no less than two feet below the substrate, and to a minimum of six (6) feet below the existing authorized dredge depth, including allowable overdredge, of the Norwalk Harbor Federal Navigation Channel and the navigation channel for Village Creek Association, except in those areas where cable protection is authorized pursuant to SPECIAL TERMS AND CONDITIONS - Installation Requirements #2. The cables authorized herein shall be installed a minimum of four (4) feet below the seabed south of Sheffield Island across Long Island Sound to the Connecticut New York state line as shown on the plans; and
3. install scientific measuring and monitoring devices and conduct restoration activities as required pursuant to the SPECIAL TERMS AND CONDITIONS, below.

UPON INITIATION OF ANY WORK AUTHORIZED HEREIN, THE PERMITTEE ACCEPTS AND AGREES TO COMPLY WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

SPECIAL TERMS AND CONDITIONS

Notice Requirements

1. The Permittee shall post a Notice to Mariners in accordance with United States Coast Guard regulations and shall notify commercial fishermen, shellfishermen and lobstermen of the start and completion dates of the work, the hours in which the work will be performed, the name and description of the work vessels, the VHF radio channel(s) the vessels will be monitoring and the Permittee's point of contact for the installation.
2. Not later than sixty (60) days prior to the commencement of the work authorized herein, the Permittee shall provide notice to the shellfish bed owners and leaseholders potentially impacted by the authorized work and shall provide written demonstration of such notification to the Commissioner and the Department of Agriculture, Bureau of Aquaculture ("DOA").
3. Not later than thirty (30) days prior to commencement of the work authorized herein, the Permittee shall contact the DEP- Marine Fisheries Division and DOA for lists of potentially affected fishermen, lobstermen, and shellfish bed owners and leaseholders ("affected parties"), respectively, and in consultation with DEP and DOA, provide written notification of the cable installation schedule to the affected parties not later than twenty-one (21) days prior to the commencement of the work. This notification shall include the timing, sequence and location of each cable installation, a map of the proposed cable routes, LORAN coordinates and magnetic course description of the cable paths as well as a contact person and phone number so that an affected party may contact the Permittee. The

Permittee shall provide copies of all written notifications to the list of potentially affected parties and to:

Department of Environmental Protection
Marine Fisheries Division
c/o Mark Johnson
333 Ferry Street
P.O. Box 719
Old Lyme, CT 06371

and

Department of Agriculture
Bureau of Aquaculture
c/o David Carey
P.O. Box 97
Milford, CT 06460

4. The Permittee shall notify the following hydrographic mapping agencies regarding nautical chart changes to reflect the new cables in Norwalk Harbor and Long Island Sound, as soon as "as-built" coordinate positions of the cable locations in Norwalk Harbor and Long Island Sound are available and shall confirm such notification in writing to the Commissioner and the Army Corps of Engineers ("ACOE"):

The Director
Defense Mapping Agency
Attn: Code DH
8613 Lee Highway
Fairfax, VA 22031-2137

Mr. Steven Debrecht
DMAHTC/MCC – Mailstop D-44
6000 MacArthur Blvd.
Bethesda, MD 20816-5000

5. The Permittee shall notify the following publications regarding nautical chart changes to reflect the new cables in Norwalk Harbor and Long Island Sound, as soon as as-built coordinate positions of the cable locations in Norwalk Harbor and Long Island Sound are available and shall confirm such notification in writing to the Commissioner and to the ACOE:

NOAA
U.S. Coast Guard
Defense Mapping Agency
Shipping Guides

6. Prior to the commencement of the work authorized herein, the Permittee shall contact the following agencies and shall comply with requirements regarding requirements for cable notification in any other appropriate navigational aid/marine safety publications/media:

Harbor Liaison Officer
Bureau of Aviation and Ports
State Pier
New London, CT 06320

Commander
U.S. Coast Guard Group/COTP
Long Island Sound
120 Woodward Avenue
New Haven, CT 06512

Commander
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02210-2209

Commander
U.S. Coast Guard Group/New York
Governors Island, New York 10004-5098

7. Not later than seven (7) days prior to the commencement of the work authorized herein, the Permittee shall provide notification to and submit a construction schedule indicating anticipated date(s) of cable installation work to the Commissioner, the ACOE and the following agencies:

City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856

Michael Griffin, Norwalk Harbormaster
7 Donohue Drive
Norwalk, CT 06851

Commander
U.S. Coast Guard Group/MSO
Long Island Sound
120 Woodward Avenue
New Haven, CT 06512

Commander
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02210-2209

Pre-Installation Requirements

1.(a) Prior to commencement of the cable installation work authorized pursuant to paragraph A.2 of the SCOPE OF AUTHORIZATION, above, and no later than six (6) months after the installation of the cables authorized herein, the Permittee shall survey the cable corridor as follows:

- (i) within Norwalk Harbor, two (2) representative 750-foot long (i.e. along the cable alignments) by 1,500-foot wide (i.e. across the cable alignments) areas. One survey area shall be located north of the federal navigation channel. The other survey area shall be located south of the federal navigation channel;
- (ii) also within Norwalk Harbor, one continuous survey line along the entire length of one of the proposed cable alignments;
- (iii) south of Sheffield Island, two (2) representative traverse areas across all seven (7) existing cables, one of which will be located near the 36-foot depth contour and cover an area approximately 800-foot long (i.e. along the cable alignments) by 2,200-foot wide (i.e. across the cable alignments), the other will be located near the state boundary and cover an area approximately 3,000-foot long by 6,000-foot wide; and
- (iv) any additional surveys as may be required by the U.S. Army Corps of Engineers.

The Permittee shall, within thirty (30) days upon completion of such surveys, submit to the Commissioner for her review and written approval, a report that shall include a bottom profile survey of the sea floor (topographical survey) including three-dimensional hydro-acoustic and side scan surveys as well as Loran and GPS coordinates of the survey areas described above. Copies of such report shall also be forwarded to the DEP, Army Corps of Engineers ("ACOE"), National Marine Fisheries Service ("NMFS") and DOA.

- (b) Subsequent to completing the surveys required pursuant to paragraph 1.(a), above, the Permittee shall reinspect the entire cable route in Connecticut waters every two (2) years to determine if any portion(s) of the cables have migrated and report the results. The report

shall include the information required pursuant to paragraph 1.(a), above, and shall be submitted to the Commissioner for her review and written approval upon completion of each inspection. Each written report shall also be forwarded to DEP, ACOE, NMFS and DOA. In the event that five consecutive inspection reports demonstrate no change in cable location, the Permittee may request modification of the monitoring intervals by the Commissioner.

- (c) If such report reveals that any portion(s) of the cables has migrated or is not buried to a minimum depth of two (2) feet below the seabed of Norwalk Harbor and to a minimum depth of six (6) feet below the authorized dredge depth of the Norwalk Harbor Federal Navigation Channel and the navigation channel of Village Creek, the Permittee shall immediately notify the Commissioner, ACOE, NMFS and DOA, secure all necessary authorizations from the Commissioner for corrective measures and upon receipt of such approvals undertake immediate corrective action(s). Within thirty (30) days upon completion of the corrective action(s), the Permittee shall provide a written report to the Commissioner, ACOE, NMFS and DOA, describing the action taken, its completion date, and including a resurvey in accordance with paragraph 1.(a), above.
- 2.(a) Prior to the commencement of the cable installation work authorized pursuant to SCOPE OF AUTHORIZATION paragraph #2., above, the Permittee shall, in consultation with DEP-Marine Fisheries Division, DEP-OLISP and DOA, develop and implement a plan and schedule to conduct a baseline survey of the existing shellfish beds located on either side of the existing cable corridor and three (3) additional surveys beginning six (6) months after installation of the cable, with the second and third at six-month intervals thereafter. The purpose of these surveys is to determine the rate of sediment reconsolidation and biological recolonization of the disturbed substrate. Such surveys shall include, but shall not be limited to, a physical assessment of the existing benthic conditions, sediment conditions, temperature, shellfish resource types and health and shellfish resource concentrations. The Permittee shall submit for the Commissioner's review and written approval a plan outlining how the surveys will be conducted and a schedule for conducting such surveys prior to conducting such surveys.
- (b) The Permittee shall carry out the surveys pursuant to paragraph 2.(a), above, in accordance with the plan and schedule approved by the Commissioner. The Permittee shall prepare written reports of each survey and shall submit such reports to the Commissioner for review and written approval on or before thirty (30) days following the completion of each survey. The Permittee shall also provide copies of these reports to DEP-Marine Fisheries Division and DOA.
 - (c) If, based upon review of the reports, the Commissioner determines that shellfish beds have been adversely impacted as a result of the removal of the existing cables, installation of the new cables, cable repair, or as the result of unanticipated events related to the cables, the Commissioner may require remediation of impacted shellfish beds. Within ninety (90) days of notification by the Commissioner of such requirement, the Permittee shall develop a plan

and schedule in consultation with ACOE, DOA and DEP for the remediation of impacted shellfish beds, and shall submit such plan for the review and written approval of the Commissioner.

- (d) The Permittee shall implement the plan and schedule as approved by the Commissioner pursuant to paragraph 2.(c), above.

Installation Requirements

1. The Permittee shall only utilize anchors within the area between Sheffield Island and Manresa Island in the locations identified on three (3) sheets of plans attached hereto entitled "ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)."
2. The Permittee shall only utilize metal cable sheath protection within the area located between Sheffield Island and Manresa Island in the locations identified on three (3) sheets of plans attached hereto entitled "ADDED PROTECTION AND ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)."
3. The Permittee shall establish a 100' wide buffer around Targets #14, 21, 144, 312, 423 and 424, as shown on Figure 1 identified in the Dolan Research, Inc. report dated December 2002, and any activities associated with the installation of the new cables shall not occur within the 100' buffer area unless otherwise authorized in writing by the Commissioner. Cable removal activities may occur within the 100' buffer, however, removal activities within 100' of Targets #868 and 930 identified in the aforementioned Dolan report shall be performed with an environmental inspector on-site.
4. The Permittee shall install the cables authorized herein to a minimum depth of two (2) feet below the seabed between Manresa Island and Sheffield Island and to a minimum of six (6) feet below the existing authorized dredge depth, including allowable over dredge of the Norwalk Harbor Federal Navigation Channel and the navigation channel for Village Creek Association except where identified in the SCOPE OF AUTHORIZATION. The Permittee shall install the cables authorized herein to a minimum of four (4) feet below the seabed south of Sheffield Island across Long Island Sound unless otherwise authorized in writing by the Commissioner.

Post-Installation Requirements

- 1.(a) The Permittee shall develop, in consultation with NMFS, the DEP-Marine Fisheries Division and DOA, a plan and schedule to conduct two (2) years of monitoring of electromagnetic fields, temperature, sediment chemistry, habitat disturbance and species impacts along the cable routes. Such plan shall be submitted for the Commissioner's review and written approval no later than sixty (60) days after issuance of this permit.

- (b) The Permittee shall implement the plan and schedule as approved by the Commissioner pursuant to paragraph 1.(a), above. The monitoring reports shall be submitted for the Commissioner's review and written approval and copies forwarded to NMFS, the DEP-Marine Fisheries Division and DOA no later than thirty (30) days after completion of each survey event.
- (c) If, based upon the results of one or more of such surveys, the Commissioner determines that mitigation and/or restoration is necessary to address adverse impacts caused by the cable installation within ninety (90) days of notification by the Commissioner of such requirement, the Permittee shall develop a plan and schedule in consultation with NMFS, the DEP-Marine Fisheries Division and DOA, and shall submit such plan for the review and written approval of the Commissioner.
- (d) The Permittee shall implement the plan and schedule as approved by the Commissioner pursuant to paragraph 1.(c), above.

Restoration Requirements

1. Not later than forty-five (45) days of issuance of this permit, the Permittee shall develop, in consultation with DEP-OLISP, a tidal wetlands restoration plan to mitigate the impacted tidal wetlands areas on Sheffield Island associated with the removal of the existing cables and the installation of the new cables. The restoration plan shall include a schedule for implementation. Such plan shall be submitted for the Commissioner's review and written approval. The Permittee shall implement the plan and schedule as approved by the Commissioner. The Permittee shall not conduct work at Sheffield Island until the Commissioner approves such plan.
2. Prior to the commencement of the work authorized herein and not later than sixty (60) days of the issuance of this permit, the Permittee shall, in consultation with DOA, develop a plan for the restoration of shellfish beds in the areas impacted by cable removal between Manresa and Sheffield Islands and areas impacted by previous cable installations. Such plan shall include provisions for backfill of the trenches and anchor strikes with suitable backfill material and the purchase and placement of cultch or other suitable bed material to encourage reestablishment of shellfish beds. The plan shall include a schedule for implementation. The Permittee shall consult with DOA to determine a suitable backfill material and clutch, and location for the placement of this material. The Permittee shall submit such plan to the Commissioner for review and written approval prior to implementation. The Permittee may request modifications to the approved plan, subject to the Commissioner's review and written approval based upon interim and/or final results of the post-installation monitoring surveys identified above. The Permittee shall implement this plan upon written approval by the Commissioner.

3. The Permittee shall develop an operations and maintenance plan describing cable maintenance and repair procedures. The Permittee shall submit the plan to the Commissioner for review and written approval not later than fifteen (15) days after completion of the work authorized herein and shall forward copies to the ACOE, the DOA, National Oceanic and Atmospheric Administration ("NOAA") and NMFS. The Permittee shall not conduct maintenance or repair work until the Commissioner approves such plan, and shall implement the operations and maintenance plan approved by the Commissioner.

Seasonal Restrictions

1. All work authorized herein including excavation, dredging, filling, removal of debris or other material is prohibited between May 1st through September 30th, inclusive, of any year in order to protect spawning shellfish in the area, unless otherwise authorized in writing by the Commissioner, before any such work or activity takes place.

Administrative Requirements

1. The Permittee shall keep daily work logs indicating cable-laying vessel position, weather conditions, navigation traffic encountered and length of cable installed and/or removed and shall provide the Commissioner and the Department of Agriculture, Bureau of Aquaculture ("DOA") with a copy of such logs by the end of each work week.
2. Within sixty (60) days of issuance of this permit, the Permittee shall submit to the Commissioner for her review and written authorization, details of the sedimentation and erosion control measures to be utilized in the work authorized herein.
3. Not later than one-week prior to the commencement of any work authorized herein, the Permittee shall submit to the Commissioner, on the form attached hereto as Appendix A, the name(s) and addresses of any contractors employed to conduct such work and the expected dates for commencement and completion of such work.
4. On or before (a) ninety (90) days after completion of the work authorized herein, or (b) upon expiration of the work completion date or any authorized one-year extension thereof, whichever is earlier, the Permittee shall submit to the Commissioner "as-built" plans prepared and sealed by a licensed engineer, licensed surveyor or licensed architect, as applicable, of the work area showing all contours, bathymetries, tidal datum and structures, and showing the final cable location including loran coordinates, GPS coordinates and burial depth.
5. Except as specifically authorized by this permit, no equipment or material including, but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse, on or off-site, or within any delineated

setback area, nor shall any wetland, watercourse or delineated setback area be used as a staging area or accessway other than as provided herein.

6. A complete copy of this permit, including all drawings, special conditions, and any amendments, shall be maintained at the work site(s) whenever work is being performed. The Permittee shall assure that all contractors, subcontractors and other personnel performing the authorized work are fully aware of all permit terms and conditions by including the entire permit in the specifications for work.
7. Within ninety (90) days of completion of the work authorized herein, provided it is true, the Permittee shall submit the following certification to the Commissioner:

"I have personally examined and am familiar with the written and electronic submittal of information provided to the Commissioner, by, or on behalf of, the Permittee regarding the activity authorized by this SCOPE OF AUTHORIZATION and I certify that, based upon reasonable investigation, including my inquiry of the individuals responsible for obtaining such information is true, accurate and complete and that the Permittee has complied with all of the terms and conditions of this SCOPE OF AUTHORIZATION, including but not limited to, burial of cables at the required location and depths.

I understand that any false statement regarding this certification or any other information submitted to the Commissioner concerning this SCOPE OF AUTHORIZATION may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the General Statutes and in accordance with any other applicable law."

8. Within ninety (90) days of completion of the work authorized herein if the Permittee is unable to truthfully provide the certification identified in paragraph 7., above, the Permittee shall provide a detailed explanation to the Commissioner as to why any such certification cannot be provided, including any non-compliance with the terms and conditions of the SCOPE OF AUTHORIZATION. If the reason for not providing the certification is resolved, within fifteen (15) days of any such resolution, or such longer time period that may be prescribed by the Commissioner, the Permittee shall submit the certification noted above to the Commissioner.

Nothing in this section shall affect any authority of the Commissioner, including but not limited to, the authority to take an enforcement action the Commissioner deems appropriate, regarding any non-compliance reported by the Permittee pursuant to this section.

9. Except during times of cable installation, maintenance or repair activities, the Permittee shall not interfere with the lawful and authorized use of shellfish bed leases, commercial aquaculture, shellfishing or fishing operations within and/or adjacent to the cable corridor.

10. Prior to the commencement of the work authorized herein, the Permittee shall post a performance bond or other financial surety in the amount of one million dollars (\$1,000,000.00), in favor of the Commissioner in order to secure emergency repairs, removal or relocation of the cable as determined necessary by the Commissioner. Prior to posting such surety, the Permittee shall submit to the Commissioner for her review and written approval the form and terms of such surety. Such surety shall only be released upon permanent removal of the new cables authorized herein and upon written approval of the Commissioner.
11. At the end of the useful life of the cables, the Permittee shall remove the cables from the waters of Norwalk Harbor and Long Island Sound and dispose of said cables in accordance with all applicable federal, state and local requirements.
12. All waste material generated by the work authorized herein shall be disposed of at an approved upland disposal location approved for the disposal of such material in accordance with all applicable federal, state and local requirements.
13. Prior to the commencement of the work authorized herein, the Permittee shall obtain all applicable state, federal and local authorizations, approvals or licenses.
14. The Permittee shall use leak-proof storage containers for the transport of the dielectric fluid and flushing water.
15. The Permittee shall submit final design plans regarding the volume and area of stone riprap to be placed on the south side of Sheffield Island within thirty (30) days of commencement of the activity identified in the SCOPE OF AUTHORIZATION, above.

Compensation Requirements

1. The Permittee shall, not later than sixty (60) days prior to the commencement of the work authorized herein, prepare and submit to the Commissioner for approval a plan by which the Permittee shall provide compensation to commercial shellfishermen, fishermen and lobstermen ("Claimants") for catch lost or destroyed as a result of the cable installation. The plan shall include an alternate dispute resolution process for the resolution, by mediation and/or arbitration, of claims. The use of the Plan procedures, rather than an action at law, shall be at the option of the Claimant. The Plan shall describe the available mediation and arbitration procedures, including the proof of loss required to be submitted or produced by a Claimant; shall provide a standard or formula for determining current fair market value of the lost or destroyed catch; and shall designate one or more mediators and arbitrators. All costs of mediation and/or arbitration, including the fees of the mediator or arbitrator, shall be paid by the Permittee.

GENERAL TERMS AND CONDITIONS

1. All work authorized by this permit shall be completed within three (3) years from date of issuance of this permit ("work completion date") in accordance with all conditions of this permit and any other applicable law.
2. The Permittee may request a one-year extension of the work completion date. Such request shall be in writing and shall be submitted to the Commissioner at least thirty (30) days prior to said work completion date. Such request shall describe the work done to date, work which still needs to be completed and the reason for such extension. The Commissioner shall grant or deny such request at her sole discretion.
3. Any work authorized herein conducted after said work completion date or any authorized one-year extension thereof is a violation of this permit and may subject the Permittee to enforcement action, including penalties, as provided by law.
4. In conducting the work authorized herein, the Permittee shall not deviate from the attached plans, as may be modified by this permit. The Permittee shall not make de minimis changes from said plans without prior written approval of the Commissioner.
5. The Permittee shall maintain all structures or other work authorized herein in good condition. Any such maintenance shall be conducted in accordance with applicable laws including, but not limited to, sections 22a-28 through 22a-35 and sections 22a-359 through 22a-363f of the CGS.
6. Prior to the commencement of any work authorized herein, the Permittee shall cause a copy of this permit to be given to any contractor(s) employed to conduct such work. At the work area the Permittee shall, whenever work is being performed, make available for inspection a copy of this permit and the final plans for the work authorized herein.
7. In undertaking the work authorized hereunder, the Permittee shall not cause or allow pollution of wetlands or watercourses, including pollution resulting from sedimentation and erosion. For purposes of this permit "pollution" means "pollution" as that term is defined by section 22a-423 of the CGS.
8. Upon completion of any work authorized herein, the Permittee shall restore all areas impacted by construction, or used as a staging area or accessway in connection with such work, to their condition prior to the commencement of such work.
9. Any document required to be submitted to the Commissioner under this permit or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

Permit Section
Office of Long Island Sound Programs
Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127

10. The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this permit means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.
11. The work specified in the SCOPE OF AUTHORIZATION is authorized solely for the purpose set out in this permit. No change in the purpose or use of the authorized work or facilities as set forth in this permit may occur without the prior written authorization of the Commissioner. The Permittee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this permit, request authorization from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.
12. This permit may be revoked, suspended, or modified in accordance with applicable law.
13. This permit is not transferable without prior written authorization of the Commissioner. A request to transfer a permit shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Permittee's obligations under this permit shall not be affected by the passage of title to the work area to any other person or municipality until such time as a transfer is authorized by the Commissioner.
14. The Permittee shall allow any representative of the Commissioner to inspect the work authorized herein at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.
15. In granting this permit, the Commissioner has relied on representations of the Permittee, including information and data provided in support of the Permittee's application. Neither the Permittee's representations nor the issuance of this permit shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.

16. In the event that the Permittee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically stated by the Commissioner in writing.
17. In evaluating the application for this permit, the Commissioner has relied on information and data provided by the Permittee and on the Permittee's representations concerning site conditions, design specifications and the purpose of the work authorized herein, including but not limited to representations concerning the commercial, public or private nature of the work or structures authorized herein, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked, and the Permittee may be subject to enforcement action.
18. The Permittee may not conduct any work waterward of the high tide line or in tidal wetlands at this work area other than work authorized herein, unless otherwise authorized by the Commissioner pursuant to section 22a-359 et. seq. and/or section 22a-32 et. seq. of the CGS.
19. The issuance of this permit does not relieve the Permittee of their obligations to obtain any other approvals required by applicable federal, State and local law.
20. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the Permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense."
21. This permit is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, State or local laws or regulations pertinent to the property or activity affected hereby.

Issued on 7/19, 2007.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Gina McCarthy
Commissioner

Permit #200201976-MG, Norwalk
Connecticut Light & Power Company

APPENDIX A

TO: Permit Section
Department of Environmental Protection
Office of Long Island Sound Programs
79 Elm Street
Hartford, CT 06106-5127

PERMITTEE: Connecticut Light & Power Company
c/o Jeff Martin
P.O. Box 270
Hartford, CT 06141-0270

PERMIT NO.: 200201976-MG, Norwalk

CONTRACTOR 1: _____

Address: _____

Telephone #: _____

CONTRACTOR 2: _____

Address: _____

Telephone #: _____

CONTRACTOR 3: _____

Address: _____

Telephone #: _____

EXPECTED DATE OF COMMENCEMENT OF WORK: _____

EXPECTED DATE OF COMPLETION OF WORK: _____

PERMITTEE: _____
(signature) (date)



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO:
ATTENTION OF:

August 27, 2007

Regulatory Division
CENAE-R-PEB
Permit Number: NAE-2004-1017

Connecticut Light & Power Company
Long Island Lighting Company d/b/a LIPA
P. O. Box 270
Hartford, Connecticut 06141-0270

Dear Sir or Madam:

Enclosed are two copies of a Department of the Army permit authorizing the work described therein. Your signature is necessary to execute this permit. The authorized work cannot start until we receive a complete, signed copy of the permit. If the conditions are acceptable, please sign both copies and return one signed copy of the entire permit to "Regulatory Division" at the address above. A fee of \$100.00 is required. Please enclose a check made payable to "FAO New England District", and return it with the signed permit copy. Please ensure your address and social security number, or tax identification number for businesses, are on the check.

Please post the enclosed ENG Form 4336 (i.e., Notice of Authorization) in a conspicuous location at the job site whenever work is ongoing. If you need to change the plans or construction methods (i.e., for work in our jurisdiction), please contact us immediately to discuss modifying your permit prior to undertaking these changes.

This authorization requires you to 1. notify us before beginning work so we may inspect the project, and 2. submit a Compliance Certification Form. You must complete and return the enclosed Work Start Notification Form(s) to this office at least two weeks before the anticipated starting date. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

This permit is a limited authorization containing a specific set of conditions. Please read the permit thoroughly to familiarize yourself with those conditions. If a contractor does the work for you, both you and the contractor are responsible for ensuring that the work is done in compliance with the permit's terms and conditions, as any violations could result in civil or criminal penalties.

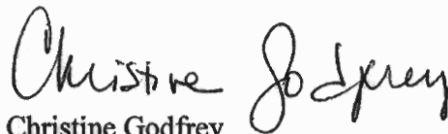
Please note that the Department of the Army permit process does not supersede any other federal, state, and/or local agency's jurisdiction.

This letter contains an approved jurisdictional determination for your subject site and a proffered permit for your proposed project. If you object to either this determination or decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. A combined Notification of Appeal Process (NAP) and Request for Appeal (RFA) form and flow chart explaining the appeals process and your options are enclosed with this letter. If you desire to appeal this determination, you must submit a completed RFA form along with any supporting or clarifying information to me, Regulatory Division Chief at 696 Virginia Road, Concord, Massachusetts 01742. Direct questions regarding the Corps of Engineers appeals process to Ms. Ruth Ladd, Chief, Policy and Technical Analysis Branch at (978) 318-8818 or at the above address.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR, Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP.

If you have any questions regarding this correspondence, please contact Ms. Diane M. Ray at (978) 318-8831, (800) 343-4789, or use (800) 363-4367 within Massachusetts.

Sincerely,

A handwritten signature in black ink that reads "Christine Godfrey". The signature is written in a cursive, flowing style.

Christine Godfrey
Chief, Regulatory Division

Enclosures

Copy furnished:
CT DEP-OLISP

State of New York Department of Public Service
Three Empire State Plaza
Albany, NY 12223-1350

State of New York Department of State
41 State Street
Albany, NY 12231-0001

DEPARTMENT OF THE ARMY PERMIT

Permittee The Connecticut Light & Power Company & Long Island Lighting Company d/b/a LIPA

Permit No. NAE-2004-1017

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Replace an existing electrical cable system which connects electrical power generation facilities at Norwalk, Connecticut and Northport, New York as described on Page 15.

Project Location:

From Norwalk, Connecticut to Northport, New York

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on DECEMBER 31, 2012. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

(Special Conditions continued on Page 4)

Further Information:

1. **Congressional Authorities:** You have been authorized to undertake the activity described above pursuant to:

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).

☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1414).

2. **Limits of this authorization.**

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. **Limits of Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

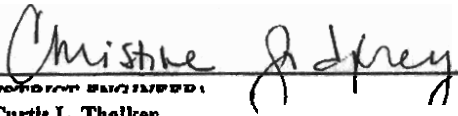
6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE)

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

for 
DISTRICT ENGINEER
Curtis L. Thalken
Colonel, Corps of Engineers
District Engineer

8-27-07

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

(Special Conditions continued from Page 2)

If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structures or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

3. All submittals shall be marked with the words "Permit No. NAE-2004-1017" and shall be addressed to "Inspection Section, CENAE-R, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751", and "U.S. Army Corps of Engineers, New York District, Regulatory Branch, 26 Federal Plaza, New York, NY 10278". Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit.

Notice Requirements

1. The Permittee shall post a Notice to Mariners in accordance with United States Coast Guard regulations and shall notify commercial fishermen, shellfishermen and lobstermen of the start and completion dates of the work, the hours in which the work will be performed, the name and description of the work vessels, the VHF radio channel(s) the vessels will be monitoring and the Permittee's point of contact for the installation.
2. In accordance with the terms of the Connecticut Department of Environmental Protection (DEP) permit issued for the project, the Permittee shall provide notice to the shellfish bed owners and leaseholders potentially impacted by the authorized work and shall provide written demonstration of such notification to the Connecticut Department of Environmental Protection (DEP) and the Department of Agriculture, Bureau of Aquaculture (DOA).
3. Not later than thirty (30) days prior to commencement of the work authorized herein, the Permittee shall contact the DEP- Marine Fisheries Division and DOA for lists of potentially affected fishermen, lobstermen, and shellfish bed owners and leaseholders ("affected parties"), respectively, and in consultation with DEP and DOA, provide written

notification of the cable installation schedule to the affected parties not later than twenty-one (21) days prior to the commencement of the work. This notification shall include the timing, sequence and location of each cable installation, a map of the proposed cable routes, LORAN coordinates and magnetic course description of the cable paths as well as a contact person and phone number so that an affected party may contact the Permittee. The Permittee shall provide copies of all written notifications to the list of potentially affected parties and to:

Department of Environmental Protection
Marine Fisheries Division
c/o Mark Johnson
333 Ferry Street
P.O. Box 719
Old Lyme, CT 06371

and

Department of Agriculture
Bureau of Aquaculture
c/o David Carey
P.O. Box 97
Milford, CT 06460

4. The Permittee shall notify the following hydrographic mapping agencies regarding nautical chart changes to reflect the new cables in Norwalk Harbor and Long Island Sound, as soon as "as-built" coordinate positions of the cable locations in Norwalk Harbor and Long Island Sound are available and shall confirm such notification in writing to the DEP and the Army Corps of Engineers (COE):

The Director
Defense Mapping Agency
Attn: Code DH
8613 Lee Highway
Fairfax, VA 22031-2137

Mr. Steven Debrecht
DMAHTC/MCC – Mailstop D-44
6000 MacArthur Blvd.
Bethesda, MD 20816-5000

5. The Permittee shall notify the following publications regarding nautical chart changes to reflect the new cables in Norwalk Harbor and Long Island Sound, as soon as as-built coordinate positions of the cable locations in Norwalk Harbor and Long Island Sound are available and shall confirm such notification in writing to the DEP and to the Army Corps of Engineers:

NOAA
U.S. Coast Guard
Defense Mapping Agency
Shipping Guides

6. Prior to the commencement of the work authorized herein, the Permittee shall contact the following agencies and shall comply with requirements regarding requirements for cable notification in any other appropriate navigational aid/marine safety publications/media:

Harbor Liaison Officer
Bureau of Aviation and Ports
State Pier
New London, CT 06320

Commander
U.S. Coast Guard Group/COTP
Long Island Sound
120 Woodward Avenue
New Haven, CT 06512

Commander
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02210-2209

7. Not later than seven (7) days prior to the commencement of the work authorized herein, the Permittee shall provide notification to and submit a construction schedule indicating anticipated date(s) of cable installation work to the DEP, the Army Corps of Engineers and the following agencies:

City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856

Michael Griffin, Norwalk Harbormaster
7 Donohue Drive
Norwalk, CT 06851

Commander
U.S. Coast Guard Group/MSO
Long Island Sound
120 Woodward Avenue
New Haven, CT 06512

Commander
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02210-2209

8. Not later than seven (7) days prior to the commencement of the work authorized herein, the Permittee shall notify the New York District, U. S. Army Corps of Engineers, Regulatory Branch, 26 Federal Plaza, New York, NY 10278 of the commencement and completion dates of any work done in New York waters.

Pre-Installation Requirements

- 1.(a) Prior to commencement of the cable installation work and no later than six (6) months after the installation of the cables authorized herein, the Permittee shall survey the cable corridor as follows:**
 - (i) Within the Norwalk Harbor Federal Navigation Channel, the permittee shall perform an electronic full sweep hydrographic survey prior to the start of cable installation work and after completion of cable installation (including backfill) and removal work. The limits of electronic sweep survey shall extend the entire width of the federal navigation channel and shall extend to 200 feet upstream and downstream of the cable route. Plans adequately showing the results of these sweep surveys along with a written description of how they were performed and all field books, notes and Fathometer rolls shall be submitted for review and approval by the Corps of Engineers. Successive sweeps will have a minimum overlap of 3 feet. Sounding lines shall be numbered on depth sounder rolls and plots. Event marks shall be taken at 30-second intervals correlating horizontal position with depth and shall be marked and numbered on depth sounder rolls. Tide readings shall be made with every change of 0.1' and recorded on the Fathometer roll or recorded in field book with date and time. Sweeping shall be done only during daylight hours. The applicable area(s) will be swept clear to the required depth(s). Survey data submitted to the Corps of Engineers shall be such as to allow independent plotting and verification of survey results.**

The permittee shall provide at least seven (7) work days prior notification to the Corps of Engineers of the start date of pre-construction and post-construction sweep surveys to allow a Corps of Engineers representative to accompany the survey party during the performance of the pre- and post-construction sweep surveys. Prior notification shall be made to Stephen Johnston, Corps of Engineers, Survey Section at 978-318-8527.

- (ii) south of Sheffield Island, two (2) representative traverse areas across all seven (7) existing cables, one of which will be located near the 36-foot depth contour and cover an area approximately 800-feet long (i.e. along the cable alignments) by 2,200-feet wide (i.e. across the cable alignments), the other will be located near the state boundary and cover an area approximately 3,000-feet long by 6,000-feet wide; and
- (b) No later than 30 days after completion of the authorized work an as-built scaled drawing shall be submitted to the Corps showing the actual location of the cable(s) within the limits of the federal channel. As-built drawing(s) shall include the coordinate positions (based on the Lambert Grid System for the State of Connecticut, NAD 1927 datum) and vertical depth of the cable relative to MLLW 83-01, and shall also include the coordinate positions where the cables intersect the limits of the federal channel. The elevation of mean lower low water shall be referenced to the National Geodetic Vertical Datum (NGVD). The drawing(s) shall show the horizontal and vertical position of the cable(s) every 10.0 feet and at every point where the cables(s) change vertical and/or horizontal direction. The drawing(s) shall show a north arrow, shoreline features, a horizontal grid and shall note the drawing scale, horizontal and vertical datums, and the date the survey was done. The drawing shall be stamped by a Professional Engineer or Land Surveyor registered in the state in which the work is being performed. The Corps will note the location on future survey drawings and will forward the submitted information to the National Oceanic and Atmospheric Administration (NOAA) so it can be located on future Coast Charts. As-built information shall include a narrative describing the specific survey equipment and methodology used for location of the as-built cable(s). Calibration techniques and information shall also be provided if survey is performed with GPS equipment. Copies of such report shall also be forwarded to the DEP, National Marine Fisheries Service ("NMFS") and DOA.
- (c) Subsequent to completing the surveys required pursuant to paragraph 1. (a), above, the Permittee shall re-inspect the entire cable route every two (2) years to determine if any portion(s) of the cables have migrated and report the results. The report shall include the information required pursuant to paragraph 1.(a), above, and shall be submitted to the Army Corps of Engineers (at both New England District and New York District). Each written report shall also be forwarded to DEP, NMFS and DOA. In the event that five consecutive inspection reports demonstrate no change in cable location, the Permittee may request modification of the monitoring intervals by the Corps of Engineers.

(d) If such report reveals that any portion(s) of the cables has migrated or is not buried to a minimum depth of two (2) feet below the seabed of Norwalk Harbor and to a minimum depth of six (6) feet below the authorized dredge depth of the Norwalk Harbor Federal Navigation Channel, the Permittee shall immediately notify the ACOE, NMFS, DEP and DOA, secure all necessary authorizations from the COE for corrective measures and upon receipt of such approvals undertake immediate corrective action(s). Within thirty (30) days upon completion of the corrective action(s), the Permittee shall provide a written report to the COE, NMFS, DEP and DOA, describing the action taken, its completion date, and including a resurvey in accordance with paragraph 1. (a), above.

2.(a) Prior to the commencement of the cable installation work authorized herein, the Permittee shall, in consultation with DEP-Marine Fisheries Division, DEP-OLISP and DOA, develop and implement a plan and schedule to conduct a baseline survey of the existing shellfish beds located on either side of the existing cable corridor and three (3) additional surveys beginning six (6) months after installation of the cable, with the second and third at six-month intervals thereafter. The purpose of these surveys is to determine the rate of sediment reconsolidation and biological recolonization of the disturbed substrate. Such surveys shall include, but shall not be limited to, a physical assessment of the existing benthic conditions, sediment conditions, temperature, shellfish resource types and health and shellfish resource concentrations. The Permittee shall submit for the DEP Commissioner's review and written approval a plan outlining how the surveys will be conducted

(b) The Permittee shall carry out the surveys pursuant to paragraph 2.(a), above, in accordance with the plan and schedule approved by the DEP Commissioner. The Permittee shall prepare written reports of each survey and shall submit such reports to the DEP Commissioner for review and written approval on or before thirty (30) days following the completion of each survey. The Permittee shall also provide copies of these reports to DEP-Marine Fisheries Division and DOA.

(c) If, based upon review of the reports, the DEP Commissioner determines that shellfish beds in Connecticut have been adversely impacted as a result of the removal of the existing cables, installation of the new cables, cable repair, or as the result of unanticipated events related to the cables, the DEP Commissioner may require remediation of impacted shellfish beds. Within ninety (90) days of notification by the DEP Commissioner of such requirement, the Permittee shall develop a plan and schedule in consultation with ACOE, DOA and DEP for the remediation of impacted shellfish beds, and shall submit such plan for the review and written approval of the Commissioner.

(d) The Permittee shall implement the plan and schedule as approved by the DEP Commissioner pursuant to paragraph 2(c), above.

Installation Requirements

1. Except as may be otherwise authorized by the U.S. Coast Guard, the Permittee shall only utilize anchors within the area between Sheffield Island and Manresa Island in the locations identified on the attached plans, entitled, "ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)", in three sheets.
2. The Permittee shall only utilize metal cable sheath protection within the area located between Sheffield Island and Manresa Island in the locations identified on the attached plans entitled, "ADDED PROTECTION AND ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)", in three sheets.
3. The Permittee shall install the cables authorized herein to a minimum depth of two (2) feet below the seabed between Manresa Island and Sheffield Island, except in area where split pipe cable protectors are utilized, and to a minimum of six (6) feet below the existing authorized dredge depth, including allowable overdredge of the Norwalk Harbor Federal Navigation Channel. The Permittee shall install the cables authorized herein to a minimum of four (4) feet below the seabed south of Sheffield Island across Long Island Sound and into New York waters. If the existing bottom is below the authorized dredge depth in the Norwalk Harbor Federal Navigation Channel, the cables shall have at least 4.0 feet of bottom cover over the top of the cable.
4. Work associated with this permit shall not affect the depth or width of the Federal Navigation Project (FNP) (federal channel) except as authorized by this permit. Any material, machinery or equipment lost, dumped, thrown into, or otherwise entering the waterway shall be removed immediately or as soon as possible. If immediate removal is impractical and the object entering the waterway is or could become an obstruction or hazard to navigation, the object shall be marked immediately to protect navigation and the Coast Guard shall be notified immediately. Upon project completion, the permittee shall submit to the Corps a certification from a registered professional engineer or surveyor that the elevation and condition of the bottom of the waterway have not changed and that the waterway is clear of materials or debris resulting from construction. The submittal shall include a plan showing pre- and post-construction elevations and contours of the bottom of the waterway.

Post-Installation Requirements

- 1.(a) The Permittee shall develop, in consultation with NMFS, the DEP-Marine Fisheries Division and DOA, a plan and schedule to conduct two (2) years of monitoring, in Connecticut waters, of electromagnetic fields, temperature, sediment chemistry, habitat disturbance and species impacts along the cable routes. Such plan shall be submitted to the Corps of Engineers no later than sixty (60) days after issuance of this permit.
 - (b) The Permittee shall monitor the benthic profile, in areas identified in accordance with condition 1.(a) above, every six months for one year or until original profile is restored and submit these reports to the Corps of Engineers (at both New England District and New York District).
 - (c) The Permittee shall implement the plan and schedule as approved by the DEP pursuant to paragraph 1. (a), above. The monitoring reports shall be submitted for the Corps of Engineers, NMFS, the DEP-Marine Fisheries Division and DOA no later than thirty (30) days after completion of each survey event.
 - (d) If, based upon the results of one or more of such surveys, the DEP or this office determines that mitigation and/or restoration is necessary to address adverse impacts caused by the cable installation within ninety (90) days of notification by the DEP of such requirement, the Permittee shall develop a plan and schedule in consultation with NMFS, the DEP-Marine Fisheries Division and DOA, and shall submit such plan for the review and written approval of the DEP. A copy of the plan shall be submitted to this office.
 - (e) The Permittee shall perform a sweep survey in the area where the cable crosses the Federal Channel, including both a baseline survey and an after installation survey. If grades differ significantly or a shoal is created, the Permittee shall remedy the situation.
 - (f). The permittee shall submit to the Corps of Engineers, within eight weeks of the cable installation, engineering as-built drawings, in plan and profile, showing the final submarine cable location. The permittee shall give the Corps of Engineers an opportunity to review location methods to be used for locating the cable within the Federal navigation channel to insure that the method meets Corps standards.
2. The permittee shall not hold the Government or its contractor responsible for damage(s) to structures during surveying or dredging operations.

Restoration Requirements

1. Not later than forty-five (45) days of issuance of this permit, the Permittee shall develop, in consultation with DEP-OLISP, a tidal wetlands restoration plan to mitigate the impacted tidal wetlands areas on Sheffield Island associated with the removal of the existing cables and the installation of the new cables. The restoration plan shall include a schedule for implementation. Such plan shall be submitted for the Commissioner's review and written approval. The Permittee shall implement the plan and schedule as approved by the Commissioner. The Permittee shall not conduct work at Sheffield Island until the Commissioner approves such plan.
2. Prior to the commencement of the work authorized herein and not later than sixty (60) days of the issuance of this permit, the Permittee shall, in consultation with DOA, develop a plan for the restoration of shellfish beds in the areas impacted by cable removal between Manresa and Sheffield Islands and areas impacted by previous cable installations. Such plan shall include provisions for backfill of the trenches and anchor strikes with suitable backfill material and the purchase and placement of cultch or other suitable bed material to encourage reestablishment of shellfish beds. The plan shall include a schedule for implementation. The Permittee shall consult with DOA to determine a suitable backfill material and clutch, and location for the placement of this material. The Permittee shall submit such plan to the Commissioner for review and written approval prior to implementation. The Permittee may request modifications to the approved plan, subject to the Commissioner's review and written approval based upon interim and/or final results of the post-installation monitoring surveys identified above. The Permittee shall implement this plan upon written approval by the DEP.
3. The Permittee shall develop an operations and maintenance plan describing cable maintenance and repair procedures. The Permittee shall submit the plan to the DEP for review and written approval not later than fifteen (15) days after completion of the work authorized herein and shall forward copies to this office, the DOA, and NMFS. The Permittee shall not conduct maintenance or repair work until the DEP approves such plan, and shall implement the operations and maintenance plan approved by the DEP.

Seasonal Restrictions

1. Connecticut waters – There shall be no work performed from May 1st through September 30th, inclusive, of any year in order to protect shellfish resources in the vicinity of the project site.
2. New York waters – There shall be no work performed between May 1st through September 4th, inclusive, of any year in order to protect shellfish resources in the vicinity of the project site.
3. All work associated with construction at Northport Beach (NY) shall not be performed between April 1 to September 1 to minimize impacts to breeding piping plover.

4. If piping plovers have not utilized their traditional nesting habitat at Northport Beach by July 1, the permittee, in consultation with the U. S. Fish and Wildlife Service and the Corps of Engineers, may be authorized to begin beach nourishment operations prior to the end of the plover nesting season (September 1).

Administrative Requirements

1. The Permittee shall keep daily work logs indicating cable-laying vessel position, weather conditions, navigation traffic encountered and length of cable installed and/or removed and shall provide the DEP and the Department of Agriculture, Bureau of Aquaculture ("DOA") with a copy of such logs by the end of each work week.
2. Within sixty (60) days of issuance of this permit, the Permittee shall submit to this office and the CT DEP details of the sedimentation and erosion control measures to be utilized in the work authorized herein.
3. No later than 30 days after completion of the authorized work an as-built scaled drawing shall be submitted to the Corps, at both New England District and New York District, showing the actual cable location(s). The drawing shall show a north arrow, shoreline features, and a horizontal grid and shall note the scale, horizontal and vertical datums and the date the survey was done. The submittal shall be marked with the words "Permit No. NAE-2004-1017" and shall be addressed to "Inspection Section, CENAE-R, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751", and "U.S. Army Corps of Engineers, New York District, Regulatory Branch, 26 Federal Plaza, New York, NY 10278". Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit
4. Except as specifically authorized by this permit, no equipment or material including, but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse, on or off-site, or within any delineated setback area, nor shall any wetland, watercourse or delineated setback area be used as a staging area or access way other than as provided herein.
5. A complete copy of this permit, including all drawings, special conditions, and any amendments, shall be maintained at the work site(s) whenever work is being performed. The Permittee shall assure that all contractors, subcontractors and other personnel performing the authorized work are fully aware of all permit terms and conditions by including the entire permit in the specifications for work.
6. Except during times of cable installation, maintenance or repair activities, the Permittee shall not interfere with the lawful and authorized use of shellfish bed leases, commercial aquaculture, shell fishing or fishing operations within and/or adjacent to the cable corridor.

7. Prior to the commencement of the work authorized herein, the Permittee shall post a performance bond or other financial surety in the amount of one million dollars (\$1,000,000.00), in favor of the CT DEP Commissioner in order to secure emergency repairs, removal or relocation of the cable as determined necessary by the Commissioner. Prior to posting such surety, the Permittee shall submit to the Commissioner for her review and written approval the form and terms of such surety. Such surety shall only be released upon permanent removal of the new cables authorized herein and upon written approval of the Commissioner.
8. At the end of the useful life of the cables, the Permittee shall remove the cables from the waters of Norwalk Harbor and Long Island Sound and dispose of said cables in accordance with all applicable federal, state and local requirements.
9. All waste material generated by the work authorized herein shall be disposed of at an approved upland disposal location approved for the disposal of such material in accordance with all applicable federal, state and local requirements.
10. The Permittee shall use leak-proof storage containers for the transport of the dielectric fluid and flushing water.
11. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

(Work Description Continued from Page 1)

Replace an existing 300 MW electrical interconnection cable system between Norwalk, Connecticut and Northport, New York. The work requires the removal of seven existing single-conductor fluid-insulated cables, laid on and in the seabed of Long Island Sound (LIS) and Norwalk Harbor, and the installation of three fully buried, 3-core, solid dielectric submarine transmission cables. The new system will have the same electric capacity as the existing cable system and utilize a portion of the authorized 11-mile long and varied width cable corridor. The new cables will cross Sheffield Island, CT, within the existing easement.

The cables will be installed using a remote operated vehicle (ROV) jetting tool, or other jetting methodologies and mechanical means for the Sheffield Island crossing and the Manresa Island landfall. In the aquatic areas, the new cables will be installed using hydraulic jet technology. In intertidal and upland areas, burial will be done mechanically.

The removal of the existing cables will be preceded by flushing the insulating fluid from the conductor cores into an appropriate receptacle either at Northport, New York or Norwalk, Connecticut for disposal at an approved upland location. Water will be pumped through the cables' conductor core to remove free, residual insulating fluid. The cables will then be removed using methods similar to those authorized for installation of the new system, and pulled up onto a barge for appropriate disposal.

The upland trench work at the three project landfalls (Manresa Island and Sheffield Island, CT and Northport, NY) involves removing the existing cable after opening the trenches. These areas are predominantly coastal beaches. One site in CT includes a small area of intertidal marsh. Intertidal and upland trenches will be back-filled and re-vegetated to pre-construction conditions as appropriate.

At the Northport, New York landing, the transition from the sub-tidal environment of Long Island Sound to upland environment would occur over approximately 1,000 feet. As previously mentioned, the trenches in the sub-tidal environments would be approximately 6 feet below the seabed, while the upland portions of the trenches would be approximately 4 feet below grade, but in both cases the bottoms of the trenches would be 4 feet wide. In the marine environment, jetting would be used to install the cables, but as the trenches climbed higher on the beach profile (and eventually above U.S. Army Corps of Engineers' jurisdiction), a clamshell bucket would be used for installation. The material removed from these portions of the trenches would be stored temporarily on site, and to the maximum extent practicable, used for backfill. Excess material would be disposed of off site in a state-approved manner.

This work is shown on the attached plans entitled "Project Vicinity Map – Norwalk, CT, Project Vicinity Map – Northport, NY, Plan View – Existing Cable Locations, Norwalk, CT, Sheffield Island CT, and Northport, N.Y. Landfall Floodplain Map & Datum Relationship; CL&P/LIPA Submarine Cable Replacement, At: Norwalk, Fairfield County, Connecticut, Northport, Suffolk County, New York, In: Sheffield Island Harbor and Long Island Sound," in 7 sheets, dated, "01/18/02"; "Alignment Sheets, Proposed Cable Routes, Long Island Replacement Cable (LIRC), in eleven sheets, not dated and "ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)", in three sheets, not dated; and "ADDED PROTECTION AND ANCHOR PLANS LONG ISLAND REPLACEMENT CABLE (LIRC)", in three sheets, not dated.

Susan Herz

From: Joseph S. Giordano [jgiordano2@keyspanenergy.com]
Sent: Wednesday, September 05, 2007 4:09 PM
To: Susan Herz
Cc: Anna S Chacko
Subject: [Fwd: RE: KeySpan Projects With NYSOGS]
Attachments: jgiordano2.vcf

Susan,

The response from NYSOGS was an e-mail attached below from Laura Graham, NYSOGS, dated 7/31/07, in response to my e-mail. I have several projects pending with NYSOGS, and NUSCO is Project #1 below. Is this sufficient for your packet of permit approvals? Thanks.
 Joe

----- Original Message -----

Subject: RE: KeySpan Projects With NYSOGS
Date: Tue, 31 Jul 2007 10:01:31 -0400
From: Graham, Laura <Laura.Graham@ogs.state.ny.us>
To: Joseph S. Giordano <jgiordano2@keyspanenergy.com>
References: <46ADFD83.7000006@keyspanenergy.com>

Good Morning, Joe! Sorry I was not able to get back to you yesterday - some of the people I needed answers from were not available. Below please find comments on the three projects:

1. KeySpan 1385 NUSCO Cable Replacement: Under the existing easement, LIPA/KeySpan may commence installation. We would appreciate an updated insurance certificate. Upon receipt and approval of the as-built survey, the easement will be modified to reflect the change in the number of cables. Please be advised that you will still need to obtain approvals from the Army Corps, DEC, and DOS.
2. KeySpan Northport Power Station Geotube Project: Our Environmental Analyst is consulting with DEC as to what will be required for your project. We anticipate issuing a license. I will let you know as soon as possible.
3. KeySpan/EEA Substratum Intake System Project at Shoreham: The necessary Petition, Survey Requirements with grant information, and Vendor Responsibility Forms as required by the Comptroller were sent to Jim McAleer on July 17 via e-mail and regular mail. If you need any further assistance in completing the application, please contact me.

-----Original Message-----

From: Joseph S. Giordano [mailto:jgiordano2@keyspanenergy.com]
Sent: Monday, July 30, 2007 11:02 AM
To: Graham, Laura
Subject: KeySpan Projects With NYSOGS

Laura,
 Thank you for speaking with me today. Below is my contact info for your file. When you have a chance, please contact me regarding status and next steps for the following projects:

- 1) KeySpan 1385 NUSCO Cable Replacement: Existing easement dated May 28, 1998 (Vol. 40 of Misc Deeds at Page 17). LIPA is removing the seven existing cables and replacing with three new cables within the same easement area. Please see letter dated October 20, 2006 from Allen Hecht. Can LIPA/KeySpan commence installation under the existing easement? We provided an insurance certificate in Nov. 2006 and can provide an updated certificate as necessary. As per Allen Hecht's letter, KeySpan will provide an as-built survey. Will existing easement need to be amended?
- 2) KeySpan Northport Power Station Geotube Project: Please my letter dated June 15, 2007. I am inquiring as to status and what NYSOGS will require to commence project.
- 3) KeySpan/EEA Substratum Intake System Project at Shoreham: Based on the project info provided by EEA, we would like to obtain an easement for the piping facilities that would be installed under the sea floor of the Long Island Sound.

Regards,
 Joe

Joseph S. Giordano
 Land Use Manager
 KeySpan - Legal Dept.

9/5/2007

New York State Department of Environmental Conservation

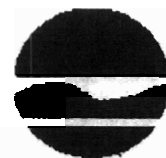
Division of Water

Bureau of Water Permits, 4th Floor

625 Broadway, Albany, New York 12233-3505

Phone: (518) 402-8111 • Fax: (518) 402-9029

Website: www.dec.state.ny.us



Alexander B. Grannis
Commissioner

8/16/2007

Long Island Power Authority

Steve Dalton

175 E. Old Country Road

Hicksville NY 11801-

**Re: ACKNOWLEDGMENT of NOTICE of INTENT for
Coverage Under SPDES General Permit for Storm
Water Discharges from CONSTRUCTION
ACTIVITY General Permit No. GP-02-01**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-02-01 for the construction activities located at:

LIPA Northport Substation

Eatons Neck Road

Northport NY 11768-

County: Suffolk

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-02-01 from the above construction site will be authorized **5 business days** from **8/10/2007** which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR 10N347**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **8/10/2007** is accurate and complete.
2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-02-01 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-02-01.

4. Payment of the annual \$50 regulatory fee, which is billed separately by the Department in the early fall. The regulatory fee covers a period of one calendar year. In addition, as of September 1, 2004, construction stormwater permittees will also be assessed an initial authorization fee of \$50 per acre of land disturbed and \$300 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. You have obtained all necessary Uniform Procedures Act (UPA) permits. You should check with your Regional Permit Administrator for further information. (Note: Construction activities cannot commence until all UPA permits have been issued.)

6. Before disturbing greater than 5 acres of soil at any one time, you have obtained approval from our regional office. You should contact the regional office listed below to have your construction sequencing plan reviewed.

Tony Leung
NYS Department of Environmental Conservation - Region 1
SUNY at Stony Brook, 50 Circle Road
Stony Brook, NY 11790-3409

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-02-01, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

cc: RWE - 1
SWPPP Preparer

TRC
Wolfgang, Craig
1200 Wall Street West, 2nd Floor
Lyndhurst NY 07071-



STATE OF NEW YORK
DEPARTMENT OF STATE
41 STATE STREET
ALBANY, NY 12231-0001

ELIOT SPITZER
GOVERNOR

January 19, 2007

Susan Herz
ESS Group, Inc.
888 Worcester Street, Suite 240
Wellesley, MA 02482

Re: F-2007-0061 (Formerly F-2004-1030)
U.S. Army Corps of Engineers/New York District Permit
Application
LIPA/CL&P - Replacement 300MW electrical
interconnection cable system between Norwalk, CT and
Northport, NY
Long Island Sound, Suffolk County
General Concurrence

Dear Ms. Herz:

The Department of State received your Federal Consistency Assessment Form and consistency certification and supporting information for this proposal on January 16, 2007.

The Department of State has determined that this proposal meets the Department's general consistency concurrence criteria. Therefore, further review of the proposed activity by the Department of State, and the Department's concurrence with an individual consistency certification for the proposed activity, are not required. This decision is based on the understanding that the manner in which the cable will be buried adheres to the clauses specified in the letter dated January 12, 2007.

This General Concurrence is without prejudice to and does not obviate the need to obtain all other applicable licenses, permits, other forms of authorization or approval that may be required pursuant to existing State statutes.

When communicating with us regarding this matter, please contact Bridget Sasko at (518) 486-7670 and refer to our file #F-2007-0061.

Sincerely,

Jeff Zappier
Supervisor of Consistency Review
Division of Coastal Resources

cc: COE/New York District - Mary Ann Miller
COE/New England District - Diane Ray
DEC/Central Office - Betsy Hohenstein
Couch White, LLP - Leonard Singer

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE**THREE EMPIRE STATE PLAZA, ALBANY, NY 12223-1350**Internet Address: <http://www.dps.state.ny.us>**PUBLIC SERVICE COMMISSION****PATRICIA L. ACAMPORA***Chairwoman***MAUREEN F. HARRIS****ROBERT E. CURRY JR.****CHERYL A. BULEY****PETER McGOWAN**
*Acting General Counsel***JACLYN A. BRILLING**
Secretary

July 18, 2007

Monique Brechter
Long Island Power Authority
333 Earle Ovington Boulevard
Suite 403
Uniondale, New York 11553
FAX: (516) 719-8602

Re: Case 01-T-1679 - LIPA Northport to Norwalk

Dear Ms. Brechter:

Enclosed is the Section 401 Water Quality
Certification for the Northport to Norwalk Article VII Facility
approved in Case 01-T-1679.

Very truly yours,

A handwritten signature in black ink, appearing to read "James Gallagher".

JAMES GALLAGHER
Director
Office of Electricity
and Environment

Encl.

cc.: Administrative Law Judge Stockholm
All Active Parties

**NEW YORK STATE PUBLIC SERVICE COMMISSION
WATER QUALITY CERTIFICATION**

Pursuant to: Section 401 of the Clean Water Act, 33 U.S.C. 5 1341(a)(1); Article VII of the New York State Public Service Law; 16 NYCRR Subpart 85-2; and 6 NYCRR Section 608.9

Certification issued to: Long Island Power Authority
333 Earle Ovington Boulevard
Suite 403
Uniondale, New York 11553

Facility Description

Long Island Power Authority ("LIPA") proposes to construct, operate and maintain a 138 kV submarine electric transmission cable system, substation upgrades, and related equipment (the "Facility") from LIPA's Northport Substation located on the site of the Northport Power Station in the Town of Huntington, Suffolk County, under the seabed of Long Island Sound to the border of Connecticut and New York State. The details and justification for the Facility are contained in the administrative record before the Public Service Commission in Case 01-T-1679.

Location of Facility

The Facility will consist of three 138 kV solid dielectric electric transmission cables, substation upgrades, and related equipment to replace seven existing liquid-insulated cables. All of the Facility will be buried except for some equipment within the existing switchyard of the substation. The proposed Facility route lies underneath improved utility land, a small section of grassy upland, a beach and the seabed of Long Island Sound. No streams or freshwater wetlands are crossed. A portion of the route is within the floodplain of the Long Island Sound. The right-of-way will be maintained in accordance with the Environmental Management and Construction Plan ("EM&CP") for the proposed line, and the Certificate of Environmental Compatibility and Public Need (the "Certificate").

Certification

The New York State Public Service Commission certifies pursuant to Section 401 of the Clean Water Act, 33 U.S.C. Section 1341 (a)(1); Article VII of the New York State Public Service Law; 16 NYCRR Subpart 85-2; and 6 NYCRR Section 608.9, that if LIPA submits an acceptable EM&CP, and complies with the conditions stated below, construction of the Facility will comply with applicable requirements of Sections 301, 302, 303, 306 and 307 of the Clean Water Act, as amended, and will not violate New York State water quality standards and requirements. This certification is issued in conjunction with the Certificate issued to LIPA in Case 01-T-1679, and any EM&CP as approved.

Conditions

1. Construction and operation of the Facility shall at all times be in conformance with the application in Case 01-T-1679, to the degree not superseded by the Certificate, and all conditions of approval contained in the Certificate.
2. Construction and operation of the Facility shall at all times be in conformance with the terms and conditions of the Joint Proposal filed in Case 01-T-1679 on March 14, 2007, to the degree not superseded by the Certificate.
3. Construction and operation of the Facility shall at all times be in conformance with the EM&CP, and all conditions incorporated in any order approving the EM&CP, in Case 01-T-1679.
4. LIPA shall provide a copy of this certification to the U.S. Army Corps of Engineers along with a copy of the application, Joint Proposal, Certificate, EM&CP, and order approving the EM&CP (and all subsequent EM&CPs and approval orders) in Case 01-T-1679 so that the U.S. Army Corps of Engineers will have a complete record of the conditions that apply hereto.

5. LIPA shall provide to all construction contractors complete copies of the Article VII Certificate, the approved EM&CP, and this certification.

6. All limits of tidal wetland disturbance shall be demarcated by the construction of a silt fence. The silt fence must be constructed in accordance with specifications provided in the EM&CP. The purpose of the silt fence is to limit disturbance within the wetlands to the areas shown in the above referenced plans, and to avoid the discharge of either fill or turbid water to the wetland areas.

7. Wet or fresh concrete or leachate shall not be allowed to enter any wetland or surface water. Washings from concrete trucks, mixers or other devices cannot be allowed to enter any wetland or surface water.

8. Any excavated soil must be suitably retained and managed at least 50 feet from the boundary of any tidal wetland and so that there is no turbid runoff discharged either directly or indirectly into any of the wetlands.

9. To avoid the spread of invasive species, such as purple loosestrife or *Phragmites*, all construction equipment must be adequately washed prior to entering each work area associated with a wetland. The equipment shall be washed in a manner to avoid the spread of the invasive species.

Certified by:



James Gallagher, Director
Office of Electricity and Environment
New York State Department of Public Service
Three Empire State Plaza
Albany, New York 12223

Case 01-T-1679
LIPA Northport-Norwalk

Active Parties List As Of: May 18, 2007

Presiding:

Jeffrey E. Stockholm, Administrative Law Judge
NYS Dept. of Public Service Three Empire State Plaza Albany, NY 12223-1350
Telephone: 518-474-8400
Fax: 518-473-3263
Email: jeffrey_stockholm@dps.state.ny.us

FOR: DPS Staff
Paul Agresta, Esq.
NYS Department of Public Service
3 Empire State Plaza
Albany, NY 12223
Tel: 518-486-2653
Fax: 518-473-7081
E-mail: paul_agresta@dps.state.ny.us

FOR: Empire State Development
Hon. Charles A. Gargano, Chairman
Empire State Development
30 South Pearl Street
Albany, NY 12245
Tel: 518-292-5120

FOR: NYS Dept. of Public Service
David Macks, Utility Supervisor
NYS Dept. of Public Service
3 Empire State Plaza
Albany, NY 12223
Tel: 518-474-1613
Fax: 518-474-6026
E-mail:
david_macks@dps.state.ny.us

FOR: KeySpan Corporation
Anna S. Chacko, Esq.
KeySpan Corporation
One MetroTech Center
Brooklyn, NY 11201
Tel: 718-403-3044
Fax: 718-403-2698

FOR: Long Island Power Authority
Stanley B. Klimberg, Esq.
Long Island Power Authority
333 Earle Ovington Blvd.
Unlondale, NY 11553
Tel: 516-719-9811
Fax: 516-719-9885
E-mail:
SKlimberg@lipower.org

FOR: KeySpan Corporation
Donna L. Riccobono, Esq.
KeySpan Corporation
One MetroTech Center
Brooklyn, NY 11201
Tel: 718-403-3044
Fax: 718-403-2698
E-mail: driccobono@keyspanenergy.com

FOR: Cullen and Dykman LLP
David T. Metcalfe, Esq.
Cullen and Dykman LLP
Garden City Ctr.
100 Quentin Roosevelt Blvd
Garden City, NY 11530-4850
Tel: 516-357-3700
Fax: 516-357-3792
E-mail: dmetcalfe@cullenanddykman.com

FOR: Keyspan Energy Environmental
Steven V. Dalton, Project Licensing Coordinator
Keyspan Energy Environ. Licensing Dept
175 East Old Country Road
Hicksville, NY 11801
Tel: 516-545-2560
Fax: 516-545-2582
E-mail: sdalton@keyspanenergy.com

Case 01-T-1679

May 18, 2007

FOR: Long Island Power Authority
Monique Brechter
Long Island Power Authority
333 Earle Ovington Boulevard
Uniondale, NY 11553
Tel: 516-719-7518
Fax: 516-719-8602
E-mail: MBrechter@lpower.org

FOR: Multiple Intervenors
Leonard H. Singer, Esq.
Couch White L.L.P.
540 Broadway P.O. Box 22222
Albany, NY 12201-2222
Tel: 518-320-3406
Fax: 518-320-3499
E-mail: lsinger@couchwhite.com

FOR: Northeast Utilities
Kathleen A. Shea, Esq.
Northeast Utilities
P.O. Box 270
Hartford, CT 06141-0270
Tel: 860-665-5504
Fax: 860-665-5504
E-mail: sheaka@nu.com

FOR: Northeast Utilities Service Co.
Jeffrey R. Martin, Esq.
Northeast Utilities Service Co.
P.O. Box 270
Hartford, CT 06141-0270
Tel: 860-665-5930
Fax: 860-665-5504
E-mail: martijz@nu.com

FOR: NYS Department of State
Hon. Randy A. Daniels, Secretary of State
NYS Department of State
41 State Street
Albany, NY 12231
Tel: 518-474-6740

FOR: NYS Dept. of Agriculture & Markets
Hon. Nathan L. Rudgers, Commissioner
NYS Dept. of Agriculture & Markets
1 Winners Circle
Albany, NY 12235
Tel: 518-457-1059

FOR: NYS Dept. of Environmental Conservation
Jennifer Hairie, Esq.
NYS Dept. of Environmental Conservation
625 Broadway
Albany, NY 12233-1500
Tel: 518-402-9188
Fax: 518-402-9018
E-mail: jhairie@gw.dec.state.ny.us

FOR: NYS Dept. of Environmental Conservation
Betsy R. Hohenstein
NYS Dept. of Environmental Conservation
625 Broadway
Albany, NY 12223
Tel: 518-402-9174
Fax: 518-402-9168
E-mail: brhohens@gw.dec.state.ny.us

FOR: NYS Dept. of Parks, Recrea. & Historic Preser.
Hon. Bernadette Castro, Commissioner
NYS Dept. of Parks, Recrea. & Historic Preser.
One Empire State Plaza
Albany, NY 12238
Tel: 518-474-0430

FOR: NYS Office of Parks, Recreation & Historic Preservation
Carol Ash, Commissioner
NYS Office of Parks, Recreation & Historic Preserv
Empire State Plaza, Agency Bldg. 1
Albany, NY 12238
Tel: 518-474-0443
Fax: 518-474-1365
E-mail: carol.ash@oprhp.state.ny.us

FOR: Town of Huntington
Heidi S. Levine-Sorkin, Esq.
Town of Huntington
100 Main Street
Huntington, NY 11743-6991
Tel: 631-351-3042
Fax: 631-351-3032
E-mail: hlevine@town.huntington.ny.us