LIPA
Long Island Power Authority

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April 13, 2007

Ms. Jaclyn A. Brilling, Secretary
State of New York Public Service Commission
Three Empire State Plaza
Albany, NY 12223

Subject: Case 01-T-1679 – Application of Long Island Power Authority for a Certificate of Environmental Compatibility and Public Need regarding replacement of the 138 kV Submarine Electric Transmission Line between Northport, New York and Norwalk, Connecticut (Long Island Replacement Cable Project) Environmental Management and Construction Plan

Dear Ms. Brilling:

On behalf of the Long Island Power Authority (LIPA), enclosed are four copies of an Environmental Management and Construction Plan (EM&CP) and associated drawings for the Long Island Replacement Cable Project. The project will replace seven (7) existing single-conductor, liquid-insulated cables between Northport, New York and Norwalk, Connecticut, with three (3) new 3-conductor, solid-core cables. The new cables will utilize existing landfall at Northport, and the terminals of the Northport Substation will be reconstructed following the removal of the existing cables and terminal structures The EM&CP, which consists of a document and associated drawings, details the location of the facilities, manner in which they will be constructed and the environmental protection measures that will be implemented during construction.

As evidenced by the enclosed certificate of service, copies of the EM&CP and notices of filing are being served on active parties indicated in this letter. In addition, a notice will be published on or about April 16, 2006 in Long Island Newsday that the EM&CP has been filed. Upon receipt of the affidavit of publication from the newspaper, it will be forwarded to the Commission.

The EM&CP and all associated drawings are being placed for public inspection at the Huntington Public Library.

Anyone wishing to comment on this EM&CP should, within 45 days of the date on which the EM&CP is filed with the Public Service Commission, or within 30 days of the date of this notice, whichever is later, send written comments to:

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

and

Ms. Monique Brechter
Long Island Power Authority
333 Earle Ovington Blvd.
Suite 403
Uniondale, New York 11553

Anyone desiring additional information related to a specific geographic area or subject of the EM&CP should call or send a written request, indicating the specific area and subject of concern, to:

Ms. Monique Brechter
Long Island Power Authority
333 Earle Ovington Blvd.
Suite 403
Uniondale, New York 11553
(516) 719-7518

Sincerely,

Monique Brechter

Monique Brechter
Director of Environmental Affairs

Enclosures: EM&CP
Certificate of Service

cc: (w/ EM&CP):

Service List

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case 01-T-1679 – Application of Long Island Power Authority for a Certificate of Environmental Compatibility and Public Need regarding replacement of the 138 kV Submarine Electric Transmission Line between Northport, New York and Norwalk, Connecticut (Long Island Replacement Cable Project)

CERTIFICATE OF SERVICE

The undersigned being duly sworn deposes and says:

That on the 13th day of April, 2007, Deponent served a copy of the Environmental Management and Construction Plan (EM&CP) for the Long Island Replacement Cable Project on:

State Agencies and Officials

The Honorable Jaclyn A. Brilling
Secretary
NYS Public Service Commission
3 Empire State Plaza, 14th Floor
Albany, NY 12223-1350
(Original w/ 3 copies)

Paul Agresta, Esq.
NYS Department of Public Service
3 Empire State Plaza
Albany, NY 12223
(1 copy)

Ms. Betsey Hohenstein
NYS Department of Environmental Conservation
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Albany, NY 12233-1011
(2 copies)

Mr. Peter Scully
Regional Director
NYS Department of Environmental Conservation – Region 1
SUNY @ Stony Brook, Building 40
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Stony Brook, NY 11790-3409
(1 copy)

Mr. Charles A. Gargano, Chairman
Empire State Development Corporation
30 South Pearl Street
Albany, NY 12245
(1 copy)

Mr. Randy A. Daniels
Secretary of State
NYS Department of State
41 State Street
Albany, NY 12231
(1 copy)

Ms. Bernadette Castro
Commissioner
NYS Office of Parks, Recreation & Historic Preservation
1 Empire State Plaza, 20th Floor
Albany, NY 12238
(1 copy)

Nathan L. Rudgers
Commissioner
NYS Department of Agriculture & Markets
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Director of Engineering Services
Town of Huntington
100 Main Street, Room 111
Huntington, NY 11743

Mr. Harry Acker
Director of Marine Services
Town of Huntington
100 Main Street, Room 307
Huntington, NY 11743

Library

Huntington Public Library
338 Main Street
Huntington, NY

by depositing a true copy of same, enclosed in a properly addressed wrapper, in an official depository under the exclusive care and custody of Federal Express.

Craig Wolfgang
Manager, Environmental Planning
TRC

Sworn to before me this 13th day of April 2007.

Notary Public

JACQUELINE M McKEEVER
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES 04/25/2012

Environmental Management and Construction Plan

Long Island Replacement Cable Project Case 01-T-1679

Submitted to:
New York State Department of Public Service

Submitted by:
Long Island Power Authority

April 2007

LIPA
Long Island Power Authority

LONG ISLAND REPLACEMENT CABLE PROJECT
ENVIRONMENTAL MANAGEMENT AND CONSTRUCTION PLAN

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1 INTRODUCTION

On October 25, 2001, the Long Island Power Authority (LIPA) filed an application with the New York State Public Service Commission (PSC) for a Certificate of Environmental Compatibility and Public Need pursuant to Article VII of the Public Service Law for the construction and operation of the New York portion of three 138 kV electric transmission cables to run beneath Long Island Sound a distance of approximately 11 miles between a LIPA Substation in the Town of Huntington on the site of the Northport Power Station and Norwalk, Connecticut (Application of Long Island Power Authority for a Certificate of Environmental Compatibility and Public Need Regarding the Replacement of the 138 kV Submarine Electric Transmission Line between Northport, New York and Norwalk, Connecticut; PSC Case 01-T-1679). On July 19, 2002 LIPA requested that the Commission suspend further proceedings until certain business issues between LIPA and NUSCO were resolved. On October 24, 2004 LIPA advised the Commission that the issues were resolved and on November 24, 2004 filed a Supplemental Application to the Commission.

This Environmental Management and Construction Plan (EM&CP) responds to the Certificate, requiring that LIPA submit to the Commission for approval an EM&CP prepared in accordance with the guidelines set forth in Appendix E to the Joint Proposal. This EM&CP also reflects the environmental protection measures contained in the Application, the Water Quality Certification, and the Joint Proposal. This EM&CP includes identification of the various facilities and environmental features within the existing rights-of-way; construction access; protective measures for Long Island Sound and adjacent coastal areas; and LIPA's organizational framework to ensure implementation of the EM&CP.

2 GENERAL INFORMATION AND PLAN ORGANIZATION

2.1 Project Description

The Northport to Norwalk Cable Replacement Project ("the Long Island Replacement Cable (LIRC) Project" or "the Project") will replace seven (7) existing single-conductor, liquid-insulated cables between Northport, New York and Norwalk, Connecticut, with three (3) new 3-conductor, solid-core cables that will be better protected, more reliable and will eliminate the potential for release of dielectric fluid (alkylbenzene) into the environment.

The route for the new cables, as certified by the Public Service Commission, is within the existing cable corridor. The new cables will utilize existing landfall at Northport, and the terminals of the Northport Substation will be reconstructed following the removal of the existing cables and terminal structures (see *Northport Site Plan* in Appendix A).

Decommissioning and installation activities, with the exception of limited surface navigational transit and maneuvering, will take place within the existing cable corridor and the Northport Substation. The Project requires no right-of-way acquisition at the Northport landing, as shown on the *Northport Site Plan* in Appendix A.

2.2 Plan Organization

This EM&CP is organized by subject area and technical activity to facilitate implementation in the field by construction personnel and environmental monitors.

- **Section 3** summarizes the various sensitive resources found within the vicinity of the Project site;
- **Section 4** addresses site preparation activities that precede construction, including specifications for the various construction access roads and stream crossings for vehicular access;
- **Section 5** summarizes the various aspects of dielectric fluid removal from the cables;
- **Section 6** summarizes the various aspects of transmission cable removal, including excavation techniques and disposal of old cables;
- **Section 7** summarizes the various aspects of transmission cable installation, including the laying and burial of the new cables;

- **Section 8** provides specifications for right-of-way cleanup and restoration; and,
- **Section 9** details the environmental supervision and communication procedures that will ensure proper implementation of the environmental mitigation measures.

- **Appendix A** includes the construction drawings;
- **Appendix B** summarizes the plans to monitor turbidity levels during the construction activities;
- **Appendix C** provides the Stormwater Pollution Prevention Plan (SWPP Plan) including soil erosion and sediment control and pollution prevention measures that will be implemented throughout the construction period;
- **Appendix D** details the navigational and marine operations plan, including the anchoring plan for the Project; and,
- **Appendix E** provides the compliance matrices to the Public Service Commission Certificate Conditions and the EM&CP Guidelines.

2.3 Status of Permits

On March 14, 2007, the Long Island Power Authority (LIPA), Staff of the New York State Department of Public Service, New York State Department of Environmental Conservation (DEC), and the Town of Huntington submitted a Joint Proposal and Appendices, which purport to resolve all issues in the proceeding, and, accordingly, those parties requested the issuance of a Certificate of Environmental Compatibility and Public Need in accordance with Article VII of the Public Service Law. The New York State Public Service Commission is expected to issue an Order granting an Article VII Certificate in the near future.

Table 2.1 below identifies the permits and approvals required for the LIRC Project.

Table 2.1- Environmental Permits and Approvals for the Construction, Operation, and Maintenance of the Long Island Replacement Cable (LIRC) Project

Agency	Permit/Approval	Status
Federal		
U.S. Army Corps of Engineers (ACOE)	Section 10/404-Individual Permit	Submitted in 2003, Pending
U.S. Coast Guard (USCG)	USCG Permit	
State-Connecticut		
Connecticut Siting Council (CSC)	CSC Certificate Environmental Compatibility and Public Need	Issued September 5, 2002, extended July 25, 2005
Connecticut Siting Council (CSC)	CSC Development and Management Plan Approval	April 2007
Connecticut Department of Environmental Protection (DEP)	OSLIP PERMIT – combines Tidal Wetlands Permit, Dredge & Fill Permit, Coastal Zone Consistency Statement and Clean Water Act 401 Water Quality Certificate	Submitted in 2002, Pending
Connecticut Department of Public Utility Control (DPUC)	Method and Manner (Notice)	
State-New York		
New York Public Service Commission (PSC)	Certificate of Environmental Compatibility & Public Need	Pending
New York Public Service Commission (PSC)	Environmental Management and Construction Plan (EM&CP) approval	Pending
New York Public Service Commission (PSC)	401 Water Quality Certificate	Pending
New York Department of Environmental Conservation (DEC)	SPDES General Permit for Stormwater Discharges from Construction Activity (GP-02-01)	Pending
New York Department of State (DOS)	Coastal Zone Consistency Review	General Concurrence issued on January 19, 2007
New York Office of General Services (OGS)	Occupation and Use of State Lands Permit	Pending

2.4 Project Schedule

In accordance with the Certificate, no in-water construction work shall occur on and between April 30th and Labor Day in any calendar year. Accordingly, the first construction season in New York waters will begin on September 4, 2007 and extend until April 30, 2008.

Cable removal will be conducted in a single season with the removal of all existing cables and the subsequent installation of the three new cables completed between the 3rd Quarter of 2007 and the 2nd Quarter of 2008. Specifically, marine activities in New York to support the removal of the existing cables can commence on or after September 4, 2007, and will be completed by late January 2008. Installation of the three (3) new cables will commence following cable removal and is expected to be completed by the end of February 2008. Termination work at the Northport Substation will begin with the decommissioning of the existing cables, and is expected to be completed by the end of cable installation. Cable testing and commissioning of all three new cables is expected to be completed in early May 2008. Table 2.2 provides a summary schedule of these activities.

Table 2.2 LIRC Project Schedule

Activity	Start	Finish
Removal seven (7) existing submarine cables	September 2007	January 2008
Install three (3) new submarine cables	January 2008	February 2008
Terminations for new cables (Northport Substation)	October 2007	March 2008
Cable Testing	April 2008	April 2008
All Cables In-Service		May 2008

2.5 Public Notification of EM&CP Filing

Contemporaneously with the submittal and service of the EM&CP, LIPA will publish a notice in a local newspaper to notify the public that the EM&CP has been filed. LIPA will serve written notice(s) on all active parties to the proceeding, each person on the Commission's service list considered potentially affected by the project, and all statutory parties to this proceeding. This notice will explain EM&CP comment procedures and identify those locations where the EM&CP is available for inspection. A copy of the public notice and the Service List will be included with the EM&CP submittal. The written notice(s) and the newspaper notice(s) shall contain, at a minimum, the following: a statement that the EM&CP has been filed; a general description of the Facility; a listing of the locations where the EM&CP is available for public inspection; a statement that any person desiring additional information about a specific geographical location or specific subject may request if from LIPA; the name, address, and telephone numbers of LIPA's representative; the address of the Commission; and a statement that any person may be heard by the Commission on any matter or objection regarding the EM&CP by filing written

comments with the Commission and LIPA within 45 days of the filing date with the Commission of the EM&CP (or within 30 days of the date of the newspaper notice, whichever is later).

3 IDENTIFICATION AND PROTECTION OF SENSITIVE RESOURCES

3.1 Rare and Endangered Species and Their Habitats

The Project area within New York State was reviewed for the presence of threatened and endangered species. No federally-listed or proposed threatened or endangered species of birds under the jurisdiction of U.S. Fish and Wildlife Service (USFWS) are known to occur in the offshore portions of the cable route in Long Island Sound. Those federal marine species of concern that may occasionally visit the Long Island Sound, specifically three species of marine turtles and four species of marine mammals, are not expected to be impacted from any activities associated with the Project.

The piping plover (*Charadrius melodus*), a federally and state-listed endangered species, has been known to occur in the vicinity of the cable corridor at the Northport landfall. To prevent destruction of habitat, protected areas on the beach and bluff shall be marked prior to construction, and the placement of markers shall be done in consultation with DEC staff. To further protect the piping plover, no onshore construction work shall take place within 500 feet of piping plover breeding areas from April 1st to September 1st of any year. With the prior written consent of the DEC, LIPA may petition the Commission for an extension of the construction window, provided that LIPA utilizes a certified piping plover monitor for any work approved after April 1st.

The least tern (*Sterna antillarum*) is a New York State threatened species and a federal listed endangered species that is also known to forage and nest in the vicinity of the Facility. LIPA shall not store heavy machinery or equipment in any beach area or in or near any nesting and foraging areas of the piping plover and least tern, except that such machinery may be stored upon any improved parking surface at the Northport Generating Station giving first utilization to such areas that are farthest from any nesting and foraging areas of the piping plover and least tern.

The Project may have localized, temporary and short-term environmental impacts limited to the impairment of water quality and foraging habitat and the disturbance of individual organisms. The use of a hydraulic jetting system will reduce long-term adverse environmental impacts to marine biota and wildlife by minimizing required trench widths, the duration of the cable installation process, and potential sediment suspension associated with trenching activities.

The Project's construction schedule is primarily limited to the cold-weather months when most aquatic and wetland biota in Long Island Sound are either not present or less biologically active. To protect sensitive life stages of protected marine species, no in-water cable-laying or construction work shall occur on or between April 30th and Labor Day in any calendar year. In case of hardship, LIPA may petition the Commission for a modification of this "no-construction window" provided copies of the petition are served on all parties to this proceeding including the Town of Huntington, which should receive notice by express mail or overnight delivery.

3.2 Cultural Resources

Cultural resources within the construction areas of the Northport landfall and the offshore cable corridor were evaluated in consultation with the State Historic Preservation Office (SHPO) at the New York State Office of Parks, Recreation and Historic Preservation (ORHRP), and no sensitive resources were identified.

The Project is not expected to have an effect on cultural resources, as the shore areas are already extensively disturbed. Construction, laydown and access areas there will be limited to previously disturbed areas. There is no anticipated effect on archaeological and historic resources in the submarine portions of the cable corridor. A survey of potentially significant underwater objects (such as wrecks) was carried out, and cable removal and installation procedures will be carried out without affecting these in any way.

During construction, if archaeological materials are encountered in the upland portions, the construction contractor will immediately suspend activities that could affect the integrity of the discovery and notify the Construction Manager and Environmental, Health and Safety (EH&S) Inspector. Notification includes information about the specific location of the construction area and the nature of the discovery. The Construction Manager or EH&S Inspector will inform a designated LIPA contact who will authorize a certified archaeologist to review the discovery and its relationship to areas specifically affected by the project. The archaeologist will determine, based on the artifacts or historic property remains discovered, and based on the cultural sensitivity of the area in general, whether the discovery is potentially significant and affected by the Project, and whether it requires immediate notification to the OPRHP, and other agencies or parties by telephone. If immediate notification is not required, or if other written information is required, data regarding the discovery and its relationship to the Project will be transmitted by facsimile or sent by express mail, or similar expedited delivery, to these parties.

The archaeologist will consult and coordinate with the OPRHP, and other parties to propose procedures for treating and handling the discovery, and to clear the discovery area while minimizing impacts to the construction schedule, to the extent possible. Suspended construction activities in the discovery area may not proceed until approval has been obtained from the OPRHP, and other involved agencies and parties as appropriate, following completion of the agreed discovery-specific procedures. The concurrence of LIPA and the notification of the construction contractor's Construction Manager, in writing, is required to re-start suspended construction activities.

3.3 Water Resources

3.3.1 Freshwater Streams

There are no freshwater streams or rivers under federal or state jurisdiction at the Northport landfall. One freshwater wetland is located east of the Project site, but no impacts to this wetland are expected from any construction activity.

3.3.2 Floodplains

The FEMA Flood Insurance Rate Maps (FIRM) panel shows that the cable route at the Northport landfall site is located within areas mapped as Zone VE, Zone AE and Zone X. Zone VE is defined as an area inundated with the 100-year floodplain subject to coastal floods with velocity hazards (wave action). Zone AE is defined as an area inundated with the 100-year floodplain with the base flood elevation as 13 feet. Zone X is defined as either an area outside of the 500-year floodplain or within the 500-year floodplain but outside of the 100-year floodplain with average depths of less than 1-foot or with drainage areas less than 1 square mile. These areas are also protected by levees from the 100-year floodplain.

3.3.3 Tidal Wetlands

Federal and state wetland maps reviewed for the Northport landfall indicate the presence of some wetland resources in the vicinity of the Project area. According to National Wetlands Inventory (NWI) Map, the Northport landfall shows estuarine intertidal flats, irregular water regimes (E2FLM) and estuarine intertidal beach/bar, irregular regimes (E2BBP). Intertidal areas are defined as areas where the substrate is exposed and flooded by tides, and include the splash zone. According to NYSDEC Tidal Wetlands Maps, the cable corridor, transverses through areas

defined as littoral zone (LZ), coastal shoals, bars and mudflats (SM). The LZ is defined as land under tidal regimes that is not characterized as a marsh, salt meadow, coastal shoal, bar flat or formally connected tidal wetland and extends out to the -5 MLW contour (6 NYCRR Part 661.4). Coastal Shoals, Bars and Mudflats are defined as areas located within the tidal zone covered by water at high tide, exposed or covered by a maximum of one foot of water at low tide, and not vegetated by low marsh cord grass (*Spartina alterniflora*) (6 NYCRR Part 661.4). No rare wetland types or rare plant species are documented to be present at or adjacent to the Northport landfall.

Potential adverse environmental impacts to tidal wetland and floodplains from decommissioning and installation activities will be limited to areas of prior disturbance. The impacts will be localized, temporary and short-term resulting from direct or indirect sediment disturbance. In a few instances, small areas of wetland vegetation may be disturbed by construction activities. These temporary, insignificant impacts will occur in the previously disturbed cable route and will be further minimized by prompt restoration. Wetland vegetation growing adjacent to the disturbed areas will tend to naturally revegetate the trench area.

Any construction through tidal wetlands or adjacent areas shall be carried out using methods of construction for tidal wetland impact minimization, including measures that maintain pre-disturbance flow regimes. Vegetative mats and wetland soil horizons shall be separated during excavation and replaced to as near the original position as possible during backfilling and restoration.

LIPA shall not wash equipment or machinery in any tidal wetland and shall not permit run-off resulting from washing operations to directly enter any tidal wetland.

3.3.4 Groundwater

The Northport landfall site is located within the boundaries of the U.S. Environmental Protection Agency (USEPA) designated sole source aquifer, known as the Nassau – Suffolk Aquifer System. No drinking water wells were identified within one mile of the cable system. In addition, because the Northport Substation is located only 650 feet from the Long Island Sound shoreline in sandy soils, it is unlikely that the Project site is suitable for well installation. The limited extent of areas to be excavated and the application of proper erosion control measures will prevent potential impacts to groundwater resources.

3.4 Visual and Noise Mitigation

The Project will be located underground in an existing easement at the Northport landfall and beneath the waters of Long Island Sound, resulting in no change in visual resources.

The only audible noise that is expected as a result of the Project would be from the equipment used in the termination decommissioning and installation processes, however any noise will be mitigated by the attenuating effect of distance to potential receptors, time of year construction, the presence of existing vegetation, the use of "functional grade" mufflers on all heavy equipment and the intermittent and short lived character of the noise.

Except as to the termination installation work within the Northport Substation, construction work on buildings and structures shall only take place between 7:00 A.M. and 6:00 P.M. on weekdays. Other heavy construction work (excavation, grading, etc.) shall only take place between 7:00 A.M. and 6:00 P.M. with no day restriction. Nothing herein shall preclude LIPA from making the necessary arrangements for the extension of work hours and days with appropriate local agencies in compliance with local ordinances. DPS Staff, the Town of Huntington Supervisor's Office, Town of Huntington Department of Maritime Services and Town of Huntington Department of Engineering shall be notified at least 24 hours in advance if planned weekend, evening or holiday construction becomes necessary.

The termination installation work within the Northport substation, once commenced, may be performed on a continuous 24 hour basis until completed; provided, however that the Town of Huntington Supervisor's Office, Town of Huntington Department of Maritime Services and Town of Huntington Department of Engineering shall be notified at least 24 hours in advance if planned weekend, evening or holiday construction becomes necessary.

In-water cable removal operations and installation will need to proceed on a 24-hour basis.

3.5 Other Sensitive Land Uses

The Project is located within an existing easement held by LIPA. The cable system will be located within an existing utility corridor under the seabed of Long Island Sound and on upland parcels of land owned by LIPA and containing existing electric utility generation uses. The facility avoids direct permanent impacts to any residential area, park or recreational resource within New York.

4 SITE PREPARATION

4.1 Pre-Construction Survey

Integrated hydrographic/geophysical survey and geotechnical sampling programs were conducted along the existing cable corridor to provide pertinent data to characterize the seabed and underlying shallow stratigraphy and to identify specific features present on the seabed that might impede cable installation.

The bathymetry and cable profile shown on the *Plan and Profile Drawings* in Appendix A reflect the results of the hydrographic surveys that have been conducted. A multitude of side scan sonar targets were identified within the cable corridor, and prominent targets worthy of avoidance have been mapped and are also shown therein.

As the cable routes lay within an existing NOAA recognized cable corridor, few potential obstacles to cable installation were identified. All charted buoys fall outside the cable route corridor and do not pose a hazard to cable removal or installation.

4.2 Staking and Right-of-Way Delineation (Upland Sections)

As part of site preparation, the upland right-of-way will be staked to clearly identify existing cable locations and work area limits to minimize potential environmental impacts from initial construction activities including vegetation clearing, vehicular access and equipment deliveries.

When staking out or delineating the work areas for upland construction the following steps shall be taken:

- Mean high water lines and wetlands shall be clearly marked in the field with flagging, silt fence or construction fence to avoid inadvertent intrusion by construction equipment. Protected areas on the beach and bluff, such as piping plover breeding areas, shall be marked with snow fencing prior to construction and in consultation with DEC Staff.

- Stakes and flagging along the right-of-way shall be spaced at appropriate intervals (i.e., 50 feet or more depending on site-specific right-of-way conditions) to ensure that unauthorized clearing and grading does not occur outside of the approved right-of-way

boundaries. Flagging may be placed on trees or wooden stakes can be installed as needed along the outside edge of the work area.

- Cable centerlines, right-of-way and off-right-of-way access roads and extra workspace boundaries shall be surveyed and marked with stakes and colored flagging in accordance with the site plan drawings. The edges of rights-of-way shall also be staked and flagged.

- Areas designated as "no vehicular access" shall be clearly marked in the field with silt fence or construction fence to avoid inadvertent intrusion by construction equipment.

- Flagging and/or staking shall be checked by the Environmental Monitor or Project Construction Manager before construction to ensure proper alignment.

4.3 Clearing

In those areas between the Northport landing and the substation where vegetation impedes construction access or cable removal and installation, hand clearing (HC) or mechanical clearing (MC) will be identified (See *Northport Site Plan* in Appendix A). Cleared material will be chipped (CH) and removed from the access road or right-of-way. Stumps within the cable corridor will be grubbed and disposed of at an appropriate location off-site.

4.4 Construction Access

In the upland areas at Northport, movement of personnel, equipment and material for the preparation of the right-of-way and the removal of existing cables and the installation of new cables will occur within the existing cable corridor and along existing access roads at the Northport Generating Station (See *Northport Site Plan* in Appendix A). Construction staging will be wholly on LIPA/KeySpan property.

All construction equipment, material deliveries and material disposal associated with the Project will access or leave the Project site through the main gate to the Northport Generating Station on Eaton's Neck Road. Construction equipment to be used for excavation and backfill, such as rubber-tired or tracked backhoe or conventional excavator, will likely be delivered to the Project site on a lowboy trailer. Material deliveries will include select backfill (if necessary) using conventional dump trucks and concrete and structural steel and equipment for the new termination structures. Materials requiring off-site transport and disposal will include cleared

vegetation and stumps, demolition debris from the termination structures and pumping house at the Northport Substation, existing cable to be removed from the upland route, and possibly excavated material that is unsuitable for backfill. All materials leaving the Project site for disposal will be contained within dumpsters or dump trucks that will be covered before leaving the site.

4.5 Notification of Other Utilities

On land, no utilities will be affected by this Project other than those owned by LIPA. In the water, no pipelines or other electric cables in New York are crossed by the Project. Even so, LIPA and/or KeySpan shall notify all aboveground utilities located within the Project right-of-way or crossed by the Project of the anticipated construction date 3 to 10 days prior to construction. In accordance with 16 NYCRR Part 753, LIPA and/or KeySpan shall notify all underground utilities in the Project area through the "Call Before You Dig" program (See www.digsafelynewyork.com or call 1-800-962-7962) 3 to 10 days prior to any excavation work in the vicinity of the buried utilities. To assure public safety and to prevent damage to public and private property, LIPA and KeySpan shall comply with the other requirements of 16 NYCRR Part 753 including staking, marking, and the protection of underground facilities.

4.6 Public Notifications of Construction Commencement

No less than thirty (30) days before commencing site preparation, LIPA shall provide notice to local officials and emergency personnel, and provide such notice for dissemination to local media and display in public places (such as general stores, post offices, community centers and conspicuous bulletin boards). The notice shall contain: a map and a description of the Facility in the local area; the anticipated date for start of construction; the name, address and local or toll-free telephone number of an employee or agent of LIPA; a statement that the project is under the jurisdiction of the New York State Public Service Commission, which is responsible for enforcing compliance with environmental and construction conditions, and which may be contacted at an address and telephone number to be provided in the notice; and the notice will be written in a language reasonably understandable to the average person.

5 DIELECTRIC FLUID REMOVAL AND DISPOSAL

The first step in the removal of the existing cables will be the flushing of the dielectric fluid from the center duct of each cable, and the disposal of the recovered fluid. The total cable system contains approximately 17,400 gallons of dielectric fluid, including the oil tanks in the pump houses at both Norwalk Harbor and Northport, which contain approximately 5,200 gallons of dielectric fluid each. The recovered dielectric fluid will be disposed of as described below and in accordance with applicable federal, state and local regulations and accompanied by the requisite documentation. The removal and disposal of dielectric fluid will involve the services of specialized subcontractors. Fluid removal will start as soon as the cables can be taken out of service in September 2007 and is expected to take 3 to 4 weeks to complete.

The cable flushing process will involve temporary installation of pumping equipment at Norwalk Harbor Substation and use of a vacuum truck at the Northport Substation to simultaneously pump water through each cable to flush out the dielectric fluid under a vacuum. Optimum pumping and vacuum pressures will be used in order to remove the fluid at a reasonable rate without causing a cable rupture or leak. At Northport, the fluid will be transferred to KeySpan's waste oil tank for burning at the Northport Generating Station, in keeping with past practices and in compliance with the facility's Air Permit.

The anticipated volume of water to be used in the flushing operation is about 150% of the fluid volume, or approximately 1,500 gallons per cable. The combined fluid and water volume for each cable (2,500 gallons) is well below the capacity of the vacuum trucks that would be used (approximately 5,400 gallons). Municipal supply or portable tanks could provide the water source. The spatial requirements of the pumping equipment and vacuum trucks are not significant and are not expected to pose any constraints on the fluid removal operation.

Flushing of the dielectric fluid from the cables is just one of the means being used to mitigate possible spills of dielectric fluid into the environment during cable removal operations. Other techniques that will be used include limiting cable cuts, when feasible, to areas located above water, capping of any segment that may remain underwater or on land, and transporting the retrieved sections of cable to land inside of watertight containers. A Spill Response Plan will be developed prior to construction and implemented during the fluid removal and disposal process to quickly control and clean up any inadvertent spills that may occur.

6 REMOVAL OF EXISTING CABLES

6.1 Overall Staging

The objective is the complete removal of all seven (7) existing cables from termination to termination. Decommissioning of the existing cables and fluid removal is necessary prior to initiating the removal of the cable lines, and is detailed in Section 5 of this document. Cable removal will be accomplished in a single construction season; all seven (7) existing cables would be de-energized, dielectric fluid would be removed, and the cables would be removed from termination to termination. Cable installation would proceed within the existing cable corridor.

The removal of the existing cables below MHW will require a spud barge with anchors, equipped with a winch, an assisting tug, sealed containers to hold the extracted cables, cable lifting, cable cutting and cable capping equipment, jetting equipment (similar to jet probes) and divers to help loosen compacted soil around buried cables, and qualified operating/construction personnel. Vessel specifications, diagrams and photos are included as part of the *Navigation and Marine Operations Safety Plan* provided in Appendix D.

6.2 Advance Work

6.2.1 Pre-lay Survey of the Cable Route

The existing seven cables will be surveyed using side scan sonar prior to their removal to verify their location and depth. The cable route will not be subject to a full survey, only special areas of concern (wrecks, crossings etc.), as noted in the route survey findings and defined as important for the installation, will be checked.

6.2.2 Removal of In-water Interfering Objects

Interfering objects that are confirmed by side scan sonar and/or divers will be moved only enough to be out of the way for either cable removal or installation operations. Relocations will be done manually by divers or with the aid of a line and a winch or crane attached to a barge if objects are large.

In the unlikely event that newly discovered interfering objects are determined to be too large or too numerous, the feasibility of realigning the path of the replacement cable to avoid the objects will be determined. In such instances, the route for the new cable will be adjusted accordingly, and the interfering object(s) will be left in place.

Alternatively, if avoiding the obstruction is difficult, and/or if the obstruction may be a tangle of objects that can be removed readily with a grapnel, the removal will proceed to use this technique to create a free path for cable removal.

All interfering objects, their location and disposition, and any realignment made will be recorded in a log. All activities will take place within the existing cable corridor.

Lobster gear shall be considered to be active if it is marked (at the surface) and tagged as required by law. To the extent there is a need to move such active gear, the process will be set out in advance of cable removal operations through consultation with the local lobstermen, with the owner of the gear of other authorized party being given time in which to do so. Unmarked and untagged gear that interferes with the Project will be relocated or removed as if it were any other abandoned object.

6.2.3 Decommissioning the Cables

Prior to fluid removal, the cables must be de-energized and disconnected at both termination stations in Northport and Norwalk in accordance with New York ISO and ISO New England authorizations. Further, the cables shall be flushed of dielectric fluid prior to cutting and removal. The conceptual flushing procedure is described in Section 5 of this document.

Locating and flagging the exact location of the de-energized cables at landfalls, via detectors, divers and/or probe checks, as appropriate, shall occur prior to the cutting of existing cables. Further spot checks of existing location of cables at other points will also be conducted.

The seaward endpoints of the cable to be removed will be cut and capped at a point above the MHW line, except as otherwise noted (if the landward side is not removed at that time, it shall be capped as well).

6.3 Cable Removal Operations

6.3.1 Trenching and Cable Removal in Upland Areas

Trenching on land will be performed using traditional excavating methods by rubber-tired or tracked backhoe or excavator. After removal of the existing cables, the trenches will be backfilled and the surface reinstated to the surrounding standard.

During upland trench excavation, the construction contractor will observe the excavation activities to determine the potential for contaminated soils. The contractor will determine the potential for contaminated soils through indicators such as presence of free product, stained soils, oil or chemical odors, and/or utilizing photo-ionization air monitoring equipment such as an organic vapor meter (OVM) or flame ionization devices such as the organic vapor analyzer (OVA). If it is determined by the contractor that contaminated soils may be present, the contractor will stop excavation activities in that area and notify LIPA's Environmental Health and Safety representatives who will coordinate soil testing in accordance with LIPA's standard procedures. Should the results of the testing determine that contaminated soils are in fact present; the contaminated soils excavated would be disposed of by a licensed contractor at a facility licensed to accept such material in accordance with applicable laws.

6.3.2 Removal of Cables in Water

In-water cable removal operations will commence at the shoreline where the cable has been cut above the MHW line and temporarily capped. The severed cable will be attached to a line from the barge and gently pulled back until the end is aboard the barge. This process continues until reaching the opposite shoreline, where a similar process removes the final section of the cable. As the cable is retrieved, it is cut into lengths on the barge and deposited in sealed containers. Removed cable is then transported to shore and delivered to an approved material processor for final processing and/or disposal.

Release of dielectric fluids to the environment will be minimized by the previous flushing operation to remove as much fluid as possible prior to cable removal. Tensions on the cable are monitored at the winch; however, if the cable breaks during removal, the amount of dielectric fluid leaked to the environment will be minimized by the absence of fluid pressurization and quick retrieval of the broken cable for capping.

6.3.3 Interruption of the Cable Removal Process

The Certificate requires that the existing cable system be removed in its entirety from the seabed, and that no cutting and abandonment of any portion of the cables will be permitted (Certificate Condition 68). For most of the length of the existing cables, particularly where the cables were not buried, this requirement will be readily met. However, under certain circumstances or depending on localized conditions, this requirement may necessitate extraordinary measures or result in additional environmental impacts.

Cable removal operations may be interrupted if excess tension (approximately 3 tons) is encountered, possibly indicating deep burial or a previously identified obstacle that was left in place over the cable. Under these circumstances, the first option would be to send a diver to inspect the cable and attempt to loosen or relocate the obstruction (possibly with the aid of a jet wand) to allow the cable removal to continue. Divers can be used for depths of up to 70 feet. For depths greater than that, a remotely operated vehicle (ROV) would be required to perform the visual inspection. If it is determined that these techniques are not effective in loosening the cable, the cable will be slackened, cut above the water, capped and returned to the seabed where it could be picked up later. The barge would then move a short distance, the divers would expose and lift (with the aid of the winch) the cable at a new location, make a cut in the water, cap one end and return it to the seabed, and use the other to continue the removal operation. The construction contractor would then notify LIPA and the Environmental Inspectors and together they would review the situation to determine an appropriate course of action to either complete removal of the entire cable or to petition the Commission for an amendment to the Certificate to allow that portion of the cable to be abandoned in place.

The construction contractor will log and document such interruptions as to the time, location, cause and ultimate resolution, and include this in a report for submission to the appropriate regulatory agencies by LIPA.

6.4 Transport and Disposal of Cables

The retrieved cables will be cut into lengths on the barge and deposited in sealed containers for temporary storage before transport to recycling or disposal facilities. All storage containers will be leak proof to ensure no residual fluid will spill into the environment.

7 INSTALLATION OF NEW CABLES

7.1 Overall Staging

The installation of new cables requires the use of the *C/S Nexans Skagerrak* (or similar vessel) to lay the longer portion from Sheffield Island to Northport, New York. A shallow draft barge will be used in the near shore area at Northport during cable burial. Vessel specifications, diagrams and photos are included as part of the *Navigation and Marine Operations Safety Plan* provided in Appendix D.

Once the existing cables are removed and shoreline preparations are made, the cable laying process will commence. The *C/S Nexans Skagerrak* will lay cable on the seafloor into New York after having begun cable lay operations in Connecticut. Cable laying will continue as close to shore as possible, about the 32-foot contour (water depth). Thereafter the cables will be floated to near the location of the removed cables and pulled to the termination positions at Northport Substation. Upon completion of the initial cable laying, the process will be repeated for the remaining two cables.

Some operations may be required to run concurrently or out of sequence to enable completion of in-water work within the prescribed construction window. For example, burial operations in near shore areas on cable 1 could proceed before completion of cable laying if either lay vessel encounters unforeseen obstacles on cables 2 or 3.

The alignment of the new cables shall be as shown on the *Plan and Profile Drawings* in Appendix A.

Demolition of the existing termination structures will commence once the cables have been flushed and removed clear of the foundations on land. The steel pothead structures, bus work, potential transformers, current transformers, control wiring switches and other ancillary equipment will be disassembled and removed from the site. Existing foundations that will not be reused and do not interfere with new foundations will be abandoned in place. Construction will then commence simultaneously on the three new terminal structures.

7.2 Cable Laying Specifications

7.2.1 Normal Laying Across Long Island Sound

The cable laying vessel *C/S Nexans Skagerrak* will be set to lay the cable(s) in so-called "AUTOTRACK" mode, meaning that the computer is set in such a way that the vessel will travel along and lay the cables according to a pre-defined route. A navigation test will be conducted by the *C/S Nexans Skagerrak* to verify the navigation control system prior to the initiation of cable laying.

During the laying operation, the cable touch down will be monitored by ROV and will provide documentation of the as-laid position as much as visibility allows.

7.2.2 Northport Pull In

Cable laying will continue as close to shore as possible, about the 32-foot contour (water depth). The cable system is tied to an anchored tension relief buoy while continuing laying of cable system on cable floats perpendicular to the laying route (to lay out the required calculated length). The cable is cut and a pull-in head is fixed to the end. The pull-in winch wire is connected to the cable system end, and the end is pulled in. The tension relief buoy and floats are released as required.

The cable wire is routed on land through pre-installed cable guides and over rollers. This will allow the cable to roll into a pre-determined location with little or no friction to increase the tension needed to pull the cable. Once the cable is located properly for termination, the rollers and guides will be removed and the cable buried as per the site drawings.

7.3 Cable Jetting in Seabed

7.3.1 Jetting Equipment

Once the cable is on the bottom surface, the cable can be jetted in place. Two types of jetting tools will be used for the operation; the Capjet 650 – 1 MW or equivalent device for the deeper Long Island Sound portion of the Project, and the Capjet 50 or equivalent device in the nearshore area. The Capjet 650 – 1 MW is operated from the cable-laying vessel in water with a depth

greater than 32 feet. The Capjet 50 is more suited to shallow waters and is supported by a barge and operated by divers.

Jetting operations will be visually monitored by divers (Capjet 50 or equivalent) or video (Capjet 650 – 1 MW). For waters greater than 32 feet, subsea survey equipment mounted on the Capjet 650 – 1 MW will be used to determine the burial depth along the remaining route.

7.3.2 Turbidity Monitoring and Mitigation

Proper set-up of the Capjet swords and the use of the tensioner system will minimize turbidity during cable burial. The correct set-up and pre-mobilization alignment of the swords will ensure that the material flow of the fluidized sediments will be within the lower 1/3 of the trench, keeping material loss to a minimum. The front sword will be checked for correct nozzle setting, and the upper 50 cm nozzle will be blocked. The alignment of the front and aft sword will be checked so that the measurement of the angle on the transportation nozzles reads –1 to –5 degrees (negative values indicate that the nozzles are pointing down).

With the use of the tensioner system the Capjet systems can reduce the use of the vertical front thrusters during operation as use of the vertical front thrusters increases turbidity. The tensioner system will be installed and tested during mobilization of the Capjet units.

To minimize turbidity during cable burial operations, the Capjet will progress at a constant, optimum speed as determined during the pre-installation demonstration, according to the burial depth and sediment type. In addition, if high turbidity measurements are recorded during cable burial operations, the forward thrust will be reduced to zero and the aft vertical thrust will be reduced to a lower pressure while pitch values are monitored to ensure the forward and aft wheels of the Capjet remain along the seabed. The speed of the Capjet will not be altered, as a reduction of speed could increase turbidity. In the event target burial depth is not achieved, a second pass with the Capjet should be avoided, as that would result in additional turbidity with only a negligible increase in burial depth.

All installation operations will be monitored for turbidity and total suspended solids according to the *Turbidity Monitoring Plan* in Appendix B. In accordance with the Certificate, LIPA shall also obtain the services of a marine construction expert, independent from LIPA and all contractors and professionals working on either the design or construction of the Facility, to act as an independent "Jet Plow Monitor."

The Jet Plow Monitor will be present during the performance of all nearshore cable installation work and will oversee jetting operations to ensure that appropriate measures are taken to minimize turbidity and environmental impact. The qualifications of the individual shall be presented to DPS Staff for approval, and any decision made by DPS Staff will be subject to review by the Commission, on its own motion or upon the petition of any other entity.

7.3.3 Cable Burial Depth

At the start of cable burial, an initial demonstration of the Capjet systems will be performed to bury a pre-determined segment of cable. This demonstration will be used to check the operation of the various Capjet controls and monitoring equipment, and measurements will be taken to verify the burial depth of this segment of cable before continuing with the burial operations. As necessary based on the results of this demonstration, the Capjet system will be calibrated to ensure that best efforts are made to achieve the target burial depth.

The target burial depth for the new cables is ten (10) feet below the seabed in the "Nearshore Cable Installation" work area, defined as the area between the New York landfall (at the mean high water contour) and a point 1,000 feet seaward of the northernmost mean lower water contour. The target burial depth beyond (i.e., north of) the nearshore cable installation work area is six (6) feet.

For the nearshore cable installation, if the Capjet 50 is unable to achieve the target burial depth of ten feet below the seabed, LIPA will work with the construction contractor and make best efforts to obtain the maximum burial depth achievable. In such case, equipment changes or adjustments that could better allow for trench formation may be made, but in no case is dredging or side casting of materials allowed, nor are a geotextile cover or concrete mats allowed to be placed over the cables.

If, after these efforts, the cables are buried less than ten feet below the seabed, DPS Staff will make a written decision, after consultation with the Jet Plow Monitor and DEC Staff, whether best efforts have been made and the actual burial depth is adequate. Any decision made by DPS Staff will be subject to review by the Commission, on its own motion or upon the petition of any other entity. The DPS Staff decision will be made before completion of the nearshore cable installation work.

LIPA must provide a minimum of 48 hours prior notice to the DEC Region 1 staff before performing nearshore cable installation work.

7.3.4 Cable Protection

As the target burial depths are adequate for cable protection, no additional protection for the cables will be provided in New York waters.

7.4 Upland Cable Installation

The land routes are short; the approximate distance from the shoreline to the termination point at the Northport Generating Station is about 750 feet. The entire route length will be installed by floating cable from the main laying vessel; the cables will be pulled on the shore to termination pole positions using a combination of winches and cable pulling machines. Joints or splices are not planned.

The cable will be buried to ten (10) feet below the seabed from a point 1,000 feet seaward of the mean low water contour up to the mean high water contour. From the mean high water line contour, the cable burial depth will transition from 10 feet to approximately six (6) feet at the security fence. From the security fence to the terminations the cable will be buried four (4) feet below grade.

8 GENERAL CLEAN UP AND RESTORATION

8.1 Clean up Standards and Practices

During construction, the upland right-of-way shall be kept, to the extent possible, free of debris and discarded material. All man-made debris resulting from excavation, cable removal and cable installation shall be disposed of at an approved disposal site in compliance with all appropriate environmental regulations. Trucks leaving the construction area shall be loaded, trimmed and covered in accordance with applicable regulations. Under no circumstances shall any man-made debris be burned or buried on or off the right-of-way.

During offshore cable removal and installation, precautions will be taken to avoid inadvertent loss of materials and equipment over the side of the vessels. Under no circumstances shall any man-made debris be disposed of in the waters of Long Island Sound or stored within 50 feet of the MHW line.

8.2 Restoration

Following construction, the upland right-of-way will be restored as much as possible to its original condition and character compatible with the operation of the new cables. Restoration of the portion of the construction area that was previously vegetated will include preparation of the soil for subsequent seeding, application of topsoil on unpaved areas, and the provision and application of an appropriate seed mixture in accordance with approved erosion control plans. Refer to the *Erosion Control Notes* of the *Stormwater Pollution Prevention Plan* (Appendix C) for standards regarding vegetative cover and stabilization.

8.2.1 On-Shore Grading

Upland areas that are scarred and/or rutted due to construction activities will be re-graded, and the original vegetative cover will be restored via seeding. This activity shall be completed within three months after construction along a particular segment has been completed unless seasonal limitations preclude final restoration within this timeframe. Where the trench backfill area has settled below ground level, it may be necessary to import topsoil or other suitable compatible material to return the area to its original grade.

8.2.2 Topsoil

In unpaved areas, topsoil will be applied to an appropriate depth to cover all areas where seeding will be conducted. The proposed top soiling schedule and permanent vegetative cover standards are provided as part of the *Erosion Control Notes* in Appendix C. When appropriate, the Contractor will scarify or till the subsoil surface to permit bonding of the topsoil and subsoil. Excess soils may be removed from site, although excess topsoil may be used in other areas of the site where it is needed.

8.2.3 Groundcover Restoration

Outside the security fence, the area within the cable right-of-way that is disturbed by construction will be backfilled with native soils and re-graded to promote natural revegetation from the nearby undisturbed areas. Inside the security fence, grass areas that are damaged shall be seeded under supervision of the Environmental Monitor. Grass seed shall be of fresh, clean certified crop seed. Seeding operations will commence only after an acceptable seedbed has been established as presented above. Seed will be applied by hand, cyclone seeder, drill, or cultipacker type seeder at a depth of ¼ to ½ inch. Hydroseeding is considered an acceptable alternative for seeding larger areas. The seedbed shall be firmed following seeding operation with a roller or light drag, except where cultipacker type seeder is used. Mulching and anchoring the mulch may be necessary in some areas. Refer to the *Erosion Control Notes* of the *SWPP Plan* (Appendix C) for the seed mixtures and seed feed rates to be used for fall and spring planting periods.

8.2.4 Mulching

Mulch will be applied to the areas to be reseeded and in the immediate vicinity of proposed plantings to encourage the downward movement of surface water. Mulching will reduce loss of soil moisture by evaporation and will decrease the possibility of seedling damage from a soil heaving caused by freezing and thawing. Mulch will be spread uniformly in a continuous blanket of sufficient thickness. The mulch may be spread by hand or machine. Mulch may be spread before or not later than three days after planting. Anchorage such as jute mesh will be used as required. In those areas to be seeded, hydroseeding can be used as an alternative to the seeding/mulching procedure.

For standard hay mulching, the construction contractor shall provide unrotted salt hay, clean hay or small grain straw. When used after seeding, mulch shall be applied at a rate of 70 to 90 pounds per 1,000 square feet (2 tons/acre).

8.2.5 Vegetation Plantings

To the extent possible, trees, shrubs, grass and groundcover plants inadvertently removed, damaged, or killed as a result of construction activity in upland areas shall be replaced with the equivalent type tree or shrub, except where:

- Permitted by the approved EM&CP plan;
- Equivalent-type replacement trees or shrubs would interfere with the proper clearing, construction, operation, or maintenance of the facility; or
- Replacement would be contrary to sound right-of-way management practices or to any approved long-range right-of-way management plan applicable to the project.

No herbicides will be used. Following completion of construction activities, LIPA will provide an assessment of the need for landscape improvements, including vegetation plantings, earthwork or installed features to screen or landscape the Northport Substation.

9 ENVIRONMENTAL SUPERVISION AND COMMUNICATIONS

This section outlines the procedures that shall be used to assure compliance with the EM&CP and applicable environmental regulations during Project construction.

9.1 Responsibilities of the Environmental Monitor

An Environmental Monitor will be available throughout the construction and restoration period for the LIRC Project. The Environmental Monitor(s) shall have sufficient knowledge and experience to manage the environmental compliance procedures described in this document. The name and the qualifications of the supervisor and environmental monitor(s) shall be submitted to the appropriate regulatory agencies at least two weeks prior to the start of construction.

The Environmental Monitor(s) and Construction Inspector(s) shall be equipped with sufficient documentation, transportation and communication equipment to effectively monitor contractor compliance with the provisions of the Certificate of Environmental Compatibility and Public Need, other federal permits, and applicable laws and regulations.

9.2 Environmental Compliance

LIPA shall provide construction contractors with complete copies of the Certificate, approved EM&CP, updated construction drawings, any site specific plans, any permit issued pursuant to § 404 of the Federal Clean Water Act, and the § 401 Water Quality Certification.

As discussed in the SWPP Plan, the Environmental Monitor is responsible for all response, reporting and documentation procedures required under the Oil Pollution Prevention Regulations (40 CFR Part 112) and pursuant to the guidance in the Determination of Reportable Quantities for Hazardous Substances regulations (40 CFR 117) and Designation, Reportable Quantities and Notification regulations (40 CFR Part 302).

9.3 Safety Compliance

The highest priority will be placed on safety at the construction site. The construction contractors shall ensure that a reputable safety program is in place that includes, but is not

limited to, safety training for new hires, on-site safety meetings and inspections, accident/injury reporting, spill prevention and response procedures, and first aid practices. Additionally, the use of safety gear (i.e., hardhats, safety glasses, safety vests, steel toed shoes, etc.), equipment and devices necessary to comply with LIPA and OSHA programs shall be enforced at the construction site. Safety considerations specific to the Northport site and the LIRC project will also be thoroughly reviewed.

9.4 Procedure for Issuing a Stop Work Order

LIPA's Construction Inspector or the Environmental Monitor(s) have the right to issue a "Stop Work Order" because of a safety or environmental concern at the Project site. When a safety or environmental concern arises, any concerned individual should immediately notify the Construction Supervisor or the Environmental Monitor and provide him (or her) with information regarding the nature of the concern. The responsibility for ensuring that this takes place depends upon open communication between the construction contractor, subcontractors, and LIPA's employees. After LIPA's Construction Supervisor or the Environmental Monitor becomes aware of the concern, he or she shall meet with the contractor and/or subcontractor's employees to discuss and resolve the issues.

In the event that the issue is not resolved, LIPA's Construction Supervisor or the Environmental Monitor has the authority to issue a verbal "Stop Work Order" (if necessary) for the specific operations in question to the Construction Manager while other unrelated activities may progress. The Environmental Monitor shall enter a summary of such Stop Work Order discussions into the General Site Activities record.

Once the order is issued, the Construction Manager shall direct his workers and all subcontractors affected by the Stop Work Order to stop work immediately. The Environmental Monitor, within 24 hours, shall provide a written Stop Work Order to both the Construction Manager as well as LIPA's Project Manager. The written Stop Work Order shall include an explanation of the issue of concern and a summary of relevant discussions, the date and time of when the order was issued and the date and time that construction was stopped and/or should stop.

The Environmental Monitor shall ensure that any and all written Stop Work Order(s) shall be hand delivered to the Construction Manager and/or Site Supervisor. If the Construction Manager or Site Supervisor is not available, then the order shall be issued to the next person in command.

The Environmental Monitor shall not issue a Stop Work Order directly to any of the contractor's employees or its subcontractors under any circumstance with the exception as follows:

If the activity poses an immediate threat to life and/or safety or the contractor is carrying out activities in a manner that is reckless, dangerous or in a non-compliant manner, then the Environmental Monitor may issue a Stop Work Order, either verbally or in writing, directly to the contractor's employees or its subcontractors. The Environmental Monitor shall issue the Stop Work Order to the on-site representative responsible for overseeing such activities, or next in command if direct supervisor is not available, and may call upon necessary support, including but not limited to regulatory agency or Police support to stop the operations immediately.

Once a Stop Work Order has been issued, the activities in question cannot be resumed without the Environmental Monitor first receiving and approving a written statement from the contractor indicating that the activity (ies) in question have been satisfactorily addressed and that ongoing construction activities shall be carried out in compliance with all applicable federal, State and local statutes, ordinances, rules and regulations. In addition, the Environmental Monitor shall meet with the Construction Manager, the contractor's Project Manager, and any additional relevant party to discuss the non-compliance and to implement guidelines to avoid such non-compliance in the future.

9.4.1 Additional Stop Work Procedures in New York

In New York, LIPA shall regard the DPS staff representatives (certified pursuant to PSL Section 8) as the Commission's designated representatives in the field. LIPA, DEC Staff and the Town of Huntington shall be advised of the name(s) of the Commission's designated DPS staff representative(s) prior to the start of construction. In the event of any emergency resulting from the specific construction or maintenance activities that violate or may violate the terms of the Certificate or any other order in this proceeding, such DPS staff representative may issue a Stop Work Order for that location or activity. The DPS staff representative shall immediately thereafter inform the LIPA Project Manger and/or Environmental Monitor of the action taken.

A DPS-issued Stop Work Order shall expire in 24 hours unless confirmed by a single Commissioner. If a Stop Work Order is confirmed, LIPA may seek reconsideration from the confirming Commissioner or the whole Commission. If the emergency prompting the issuance of a stop-work order is resolved to the satisfaction of the Commission, the stop-work order shall

be lifted. If the emergency has not been satisfactorily resolved, the Stop Work Order will remain in effect.

Stop-work authority shall be exercised sparingly and with due regard to the potential economic costs involved and possible impact on construction activities. Before exercising such authority, DPS staff representatives shall consult (wherever practicable) with LIPA's representatives possessing comparable authority. Within reasonable time constraints, all attempts shall be made to address any issue and resolve any dispute in the field. In the event that the dispute cannot be resolved, the matter shall be immediately brought to the attention of LIPA's Project Manager and the DPS Chief, Energy Resources and the Environment. In the event that a DPS staff representative issues a Stop Work Order, neither LIPA nor the contractor will be prevented from undertaking such safety-related activities as they deem necessary and appropriate under the circumstances. The DPS staff representative may in his/her sole discretion stop work or direct implementation of measures, as described below, during these discussions.

If a DPS staff representative discovers a specific activity that is a significant environmental threat that is or may immediately become a violation of the Certificate or any other Order in this proceeding, the DPS staff representative may--in the absence of responsible LIPA supervisory personnel or the presence of such personnel who, after consultation with the DPS staff representative, refuse to take appropriate action--direct the field crews to stop the specific environmentally harmful activity immediately. If responsible LIPA personnel are not on site the DPS staff representative shall immediately thereafter inform LIPA's construction supervisor and/or environmental coordinator of the action taken. The DPS staff representative may lift the stop-work directive if the situation promoting its issuance is resolved.

9.5 Site Compliance Inspections

LIPA shall organize and conduct site compliance audit inspections for agency staff as needed, but not less frequently than once per month during the site preparation, construction, and restoration phases of the Project, and at least annually for two years after the Project is operational. The inspection shall include a review of the status of compliance with all certification conditions, requirements, and commitments, as well as a field review of the Facility site, if necessary. The inspection may also include:

- Review of all complaints received, and their proposed or actual resolutions;

- Reviews of any significant comments, concerns or suggestions made by the public, local governments, or other agencies;
- Reviews of the status of the project in relation to the overall schedule established prior to the commencement of construction; and
- Any other items LIPA or agency staff consider appropriate.

LIPA shall provide a written record of the results of the inspection, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit.

9.6 Emergency Response

LIPA shall coordinate with local fire officials regarding on-site fire safety and emergency response. The construction contractor shall keep LIPA's Construction Supervisor, the Environmental Monitor, and the local fire department and emergency management teams apprised of chemicals and wastes on site and periodically conduct safety inspections at the construction sites that focus on housekeeping issues related to fire prevention and spill prevention. A contact list of local fire department and emergency management teams is included in Table 9.1 below.

Table 9.1- Emergency Contacts – Northport, New York and Norwalk, Connecticut

Municipality	Fire Department	Police Department	Medical Emergency	Oil /Chemical Spill Response
New York State	NYS DOS Office Fire Prev. (518) 474-6746	NY State Troopers Zone 2- Brentwood (631) 231-5962	NYS Dept. Health Regional EMS (212) 417-4455	NYSDEC Hotline (800) 457-7362
Suffolk County	Suffolk County Fire Rescue (631) 852-4851	Suffolk County Police Dept. (631) 852-6000	Suffolk County EMS (631) 853-5800	SCDHS (631) 444-0320
Village of Northport	Northport Fire (631) 261-7504	Northport Police (631) 261-7500		
Town of Huntington	*Town Public Safety- 631-351-3234*			
National Spill Response Center				(800) 4247-8802
USGG-Maritime Search and Rescue Emergencies				(757) 398-6390

9.7 EM&CP Revision Procedure

LIPA shall report any proposed changes to the approved EM&CP, other than editorial or minor drawing changes, to the DPS staff and DEC staff. DPS Staff will refer to the Secretary of the Commission (or a designee) reports of any proposed changes that do not cause substantial change in environmental impact or are not related to contested issues decided during the proceeding. DPS Staff will refer all other proposed changes, such as any change that conflicts directly with any obligation imposed by any ordering clause or certificate condition specified in this Order, in the EM&CP to the Commission for approval. Upon being advised that the DPS staff will refer a proposed change to the Commission, LIPA shall notify all active parties that have requested (before the approval of the EM&CP), as well as all property owners or lessees whose property is affected by the proposed change. The notice shall describe the original conditions and the requested change and state that documents supporting the request are available for inspection at specified locations and state that persons may comment by writing or calling (followed by written confirmation to) the Commission within 15 days of the notification date. LIPA shall not execute any proposed change until oral or written approval is received,

except in emergency situations threatening personal injury, property damage or severe adverse environmental impact.

9.8 Public Complaint Procedure

LIPA has established a toll free number (1-800-490-0025) or local phone number of an agent or employee where complaints may be received during the construction of the LIRC Project. In addition, the phone number of the Commission Secretary (1-518-474-6530), and the phone number of the Commission Environmental Compliance Section (1-518-474-5368) shall also be provided.

All complaints that cannot be resolved after reasonable attempts to do so, or within 30 days after receipt of the complaint (whichever comes first) shall be reported to DPS staff.

9.9 Construction Notification Requirements

Construction of the Facility shall not commence until the Connecticut portion of the cable has received such permits and approvals as are necessary for it to be constructed pursuant to any Federal and State permit or licensing requirements applicable within the territorial boundaries of the State of Connecticut.

If applicable, LIPA shall submit a Notice of Intent to exercise authority under the General Stormwater State Pollution Discharge Elimination System permit of construction and industrial activities. Other pre-construction notifications to be made in accordance with the conditions of the Certificate are as follows:

- *Within thirty (30) days after issuance of the Certificate*, LIPA shall submit to the Commission either a petition or rehearing or a verified statement that it accepts and will comply with the Certificate. Failure to comply with this Ordering Clause shall invalidate the Certificate.

- *No less than thirty (30) days* before commencing site preparation, LIPA shall provide notice to local officials, emergency personnel and provide such notice for dissemination to local media and display in public places (such as general stores, post offices, community centers and conspicuous community bulletin boards). The notice shall contain a map and description of the Facility in the local area; the anticipated date for

start of construction; the name, address and local or toll-free telephone number of an employee or agent of LIPA; a statement that the project is under the jurisdiction of the New York State Public Service Commission, which is responsible for enforcing compliance with environmental and construction conditions, and which may be contacted at an address and telephone number to be provided in the notice; and where possible the notice will be written in language reasonably understandable to the average person. Upon distribution, a copy shall be submitted to the Secretary of the Commission, the DEC Staff and OSG.

- *At least two (2) weeks* prior to the start of construction, LIPA shall hold a pre-construction meeting for which an agenda, location and attendee list will be agreed upon between DPS Staff, the Town of Huntington and LIPA. LIPA shall supply draft minutes from this meeting to all attendees, the attendees may offer corrections or comments and LIPA shall issue the finalized meeting minutes to all attendees. If, for any reason, the construction contractor cannot finish the construction of this project, and a new construction contractor is needed, there will be another pre-construction meeting with the same format as outlined above.

- *At least five (5) days* before commencing construction or clearing associated with the Long Island Sound Replacement Cable Project, LIPA shall provide the Secretary, the DPS staff, OGS staff, Town of Huntington, and DEC staff the date that construction and clearing activities are anticipated to begin.

Other construction notifications to be made in accordance with the conditions of the Certificate are as follows:

- *Weekly* status reports summarizing construction, and indicating construction activities and locations for the following two weeks shall be provided by LIPA to DPS and DEC Staff.

- *As needed, but not less frequently than once per month* during the site preparation, construction, and restoration phases, LIPA shall organize and conduct site compliance audit inspections for DPS Staff, and at least annually for two years after the Facility is operational. The monthly inspection shall include a review of the status of compliance with all certification conditions, requirements and commitments, as well as a field review of the Facility site, if necessary. The inspection may also include; a review of all

complaints received, and their proposed or actual resolutions; review of any significant comments, concerns or suggestions made by the public, local governments or other agencies; review of the status of the project in relations to the overall schedule established prior to the commencement of construction; and other items LIPA or DPS Staff consider appropriate. LIPA shall provide a written record of the results of the inspection, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit.

- *At least forty-eight (48) hours prior* to performing Nearshore Cable Installation Work, LIPA must provide notice to the DEC Region 1 Staff of such.

- *At least twenty-four (24) hours in advance* LIPA shall notify DPS Staff and the TOH if planned weekend, evening or holiday construction becomes necessary.

- *Within twenty-four (24) hours of such discovery*, LIPA shall notify DPS Staff and OPRHP Field Services Bureau to determine the best course of action should archeological materials, human remains or evidence of human burials be encountered during construction. LIPA shall stabilize the area and cease construction activities in the immediate vicinity of the find and protect the same from further damage.

- *Within twenty-four (24) hours* of such discovery, LIPA shall notify DPS Staff and OPRHP Field Services Bureau to determine the best course of action should human remains or evidence of human burials be encountered during conduct of archeological data recovery fieldwork or during construction. All work in the vicinity of the find shall be immediately halted and the remains shall be protected from further damage.

- LIPA shall *periodically* consult with State and local highway transportation agencies about traffic conditions near the project site.

- LIPA shall keep local fire department and emergency management teams apprised of chemicals and wastes on site.

- LIPA shall immediately notify DEC of any fuel or chemical spills.

Post-construction notifications to be made in accordance with the conditions of the Certificate are as follows:

- LIPA shall promptly notify the Commission in writing should it decide not to complete construction of all or any portions of the LIRC Project and shall serve a copy of such notice upon all parties.

- *Within ten (10) days* after the Facility is in service (i.e., supplying customer load), LIPA shall notify the Public Service Commission the date that the new cables system was placed in service.

- *Within ten (10) days* of the completion of final restoration, LIPA shall notify the Commission of the date that all restoration activities were completed in compliance with the EM&CP.

- *Within one (1) year of the date the Facility is placed in service*, LIPA shall on completion with the Facility provide to DPS Staff an assessment of the need for landscape improvements, including vegetation planting earthwork or installed features to screen or landscape the Facility in respect to the substation; prepare plans for any visual mitigation found necessary, i.e. removal, rearrangement and supplementation of existing landscape improvements or plantings should be considered, as appropriate; and consult with DPS Staff on the content and execution of its assessment, resultant landscaping plan specifications and materials lists, details shall include measures for controlling maintenance, third party or wildlife damage to any landscape and vegetation plantings.

If construction of the Facility herby certified is *not commenced within eighteen (18) months* of the receipt of all permits and approvals necessary to construct and operate the Facility, the Certificate may be vacated with notice to LIPA.

Long Island Power Authority

Long Island Replacement Cable Project

Appendix A

Construction Drawings

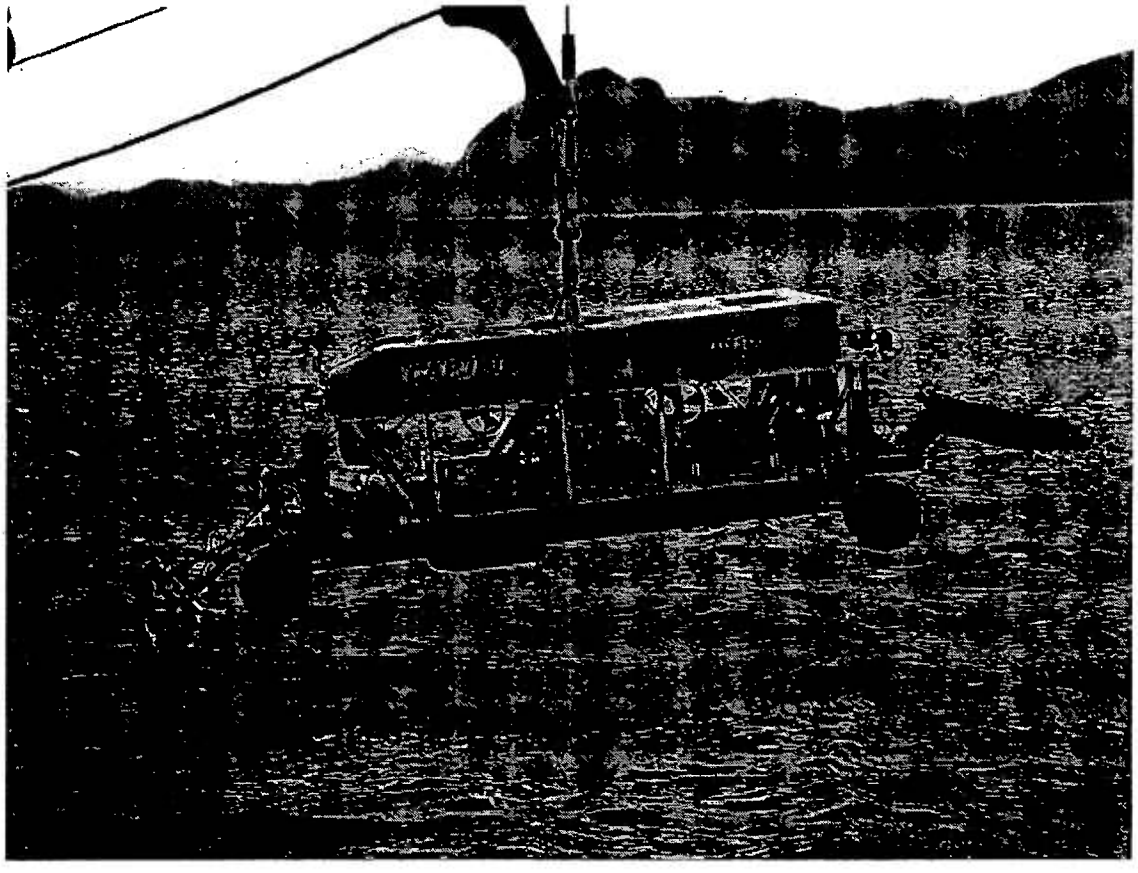
APPENDIX A: CONSTRUCTION DRAWINGS

Table of Contents

Nexans

CAPJET 650 – 1MW TRENCHING SYSTEM

TECHNICAL INFORMATION



CAPJET 650-1 MW TRENCHING SYSTEM

TECHNICAL INFORMATION

Nexans Norway AS
P.O. Box 130 Økern
0509 Oslo
Norway
Telephone: +47 22 63 88 20
Telefax: +47 22 63 76 44

CONTENTS:

1. INTRODUCTION

Nexans Norway AS is a leading company for installation and turn key projects in the fields of submarine communications and energy cables.

Nexans Norway has accumulated a wealth of experience in the marine sector. One of the main sectors are trenching of cables and pipelines. The CAPJET System is an example of this activity. Already, the CAPJET System has been used to bury approx. 3 million meters of cables and pipelines.

The CAPJET burial systems are non mechanical trenching systems for burial of fibre optical cables, power cables and pipelines. The CAPJET "family" consist of a range of trenchers, from the remote operated CAPJET machines to the diver operated CAPJET 50 units.

At present, Nexans Norway operates three separate remote operated CAPJET systems, CAPJET 1000 and two CAPJET 650-1MW. CAPJET 1000 is specially designed for trenching of power cables and light weight cables, as small diameter fibre optic cables. The larger CAPJET 650-1MW are specially designed for trenching of flexible pipelines and smaller diameter ridged pipelines, but are also used for trenching of umbilicals and cables.

All trenchers are light weight units, ranging from a few hundred kilos for the diver operated versions, to a total of approximately 12 tons for the larger remote operated CAPJET 650-1MW.

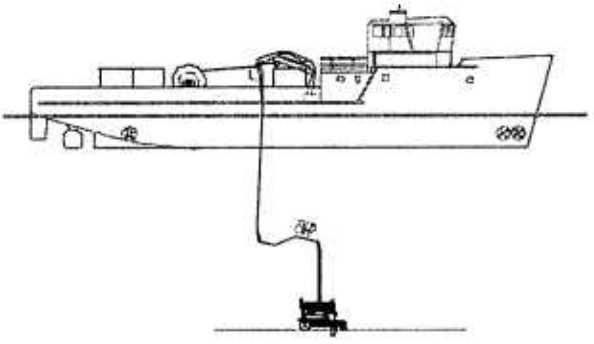
This description covers the CAPJET 650-1MW system.

2. CAPJET 650-1MW, SYSTEM DESCRIPTION

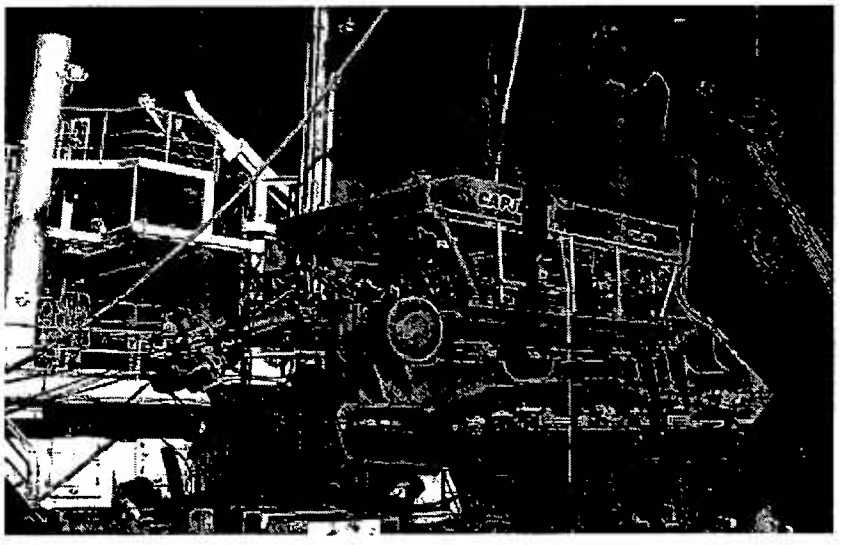
2.1 General

The CAPJET 650-1MW system was built in 1999 and specially developed for trenching of flexible and rigid pipelines and for free-span correction of pipelines.

The CAPJET 650-1MW is a small, lightweight trenching system which does not require special support vessels or special designed handling gear. The CAPJET system can be operated from most DP vessels presently used for ROV and survey work. The CAPJET 650-1MW has a low in air weight and is nearly neutrally buoyant in water, both during sub sea manoeuvring as well as during trenching. It has the same operational-, manoeuvring- and electronic transmission capacity as modern large ROVs.



CAPJET 650-1 MW during trenching



The trencher is handled with either the ships crane or a 150tm crane which is installed on the vessel during the mobilization

3. TRENCHING METHODS

The vehicle can be used for trenching on umbilicals, cables, flexible pipelines and ridged pipelines.

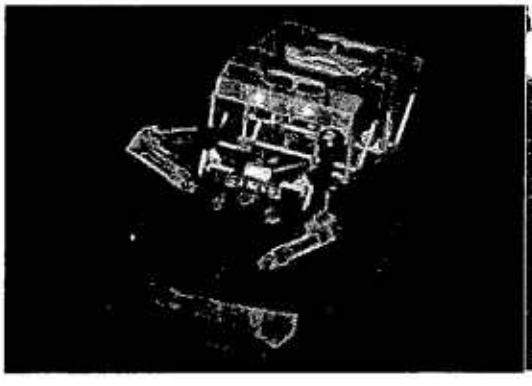
3.1 Trenching of cables and flexible flowlines

The CAPJET 650-1MW system will normally be used for trenching of power cables, when the requirement for trenching depth large or if the sea bed soil consist of difficult soil materials. During trenching of cables and flexible pipelines, one pair of trenching swords will normally be positioned in the front of the machine, since such lines very often needs trenching of small radio curves.

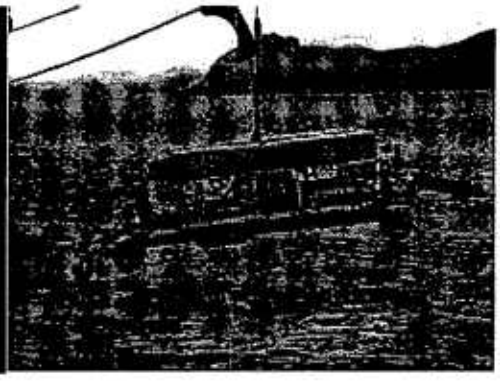
3.2 Trenching of pipelines

The trencher can be equipped with different trenching modules for rigid pipelines, flexible pipelines and a specially module for stabilization of large pipelines
For "normal" trenching of rigid pipelines, two sets of trenching swords are normally used. In the front of the vehicle a set of swords are used for cutting the first part of the trench. At the rear of the vehicle the second set of trenching swords are positioned. The rear swords shall fluidize the lower part of the trench, but in addition they shall keep the soil fluidized until the pipeline has been lowered to the required depth. If variable trench depth is required, as for free-span corrections, a vertical adjustable sword module will be used. The width of the trenching swords can be adjusted during trenching.

For trenching/stabilization of larger diameter pipelines (up to 42"), a specially designed module must be used. Two Front arms, equipped with nozzles will be maneuvered under the pipeline and the soil will be blown to each side of the pipe. No backfill can be expected. Reference is made to the sketch below.



CAPJET 650-1MW, w/pipeline stabilization module



CAPJET 650-1MW, w/two sets of trenching swords.

4. THE CAPJET SYSTEM MAJOR FEATURES

4.1 Main Advantages

The combination of the fluidisation technique and the CAPJET 500-1MW system capabilities offers the following main advantages:

- No risk of cable or pipeline damage during normal operation or caused by accidental loads due to e.g. loss of DP, umbilical failure or other incidents.
- No external force imposed to the cable or pipeline during trenching.
- Operation close to structures without risk of damage to either the cable/pipe or the structure.
- Rapid trenching of spanning section and crossing of pipelines or other obstruction without risk for damage.
- A narrow partly back-filled trench immediately aft of the trencher.
- Trenching of steep curves.
- Excellent operational capabilities in soft soil conditions due to a neutral thruster controlled trencher.
- Operation in deep water with the same performance as modern ROV systems.
- Easy and cost effective operation from most DP vessels without A-frame or other special designed launching arrangement.
- Operation and launch/recovery in heavy swell.

5. CAPJET 650-1 MW operational characteristics

- Operational in water depth up to approx. 650 m (optional more).
- Suitable for trenching of cables and pipelines with diameter up to approx. 16".
- No diver intervention required, neither for positioning nor for trenching.
- Suitable for trenching of very narrow trenches, just wider than the object itself. Trenching depth up to more than 2 meters.
- Trenching in sand, silt and clay with shear strength up to approx. 100 kPa (optional more).
- Trenching capacity in soft clay with shear strength down to approx. 0 kPa.
- Dredging in sand, gravel, clay and crushed granite (rip rap).

6. CAPJET 650-1MW TECHNICAL DATA

The trencher uses the latest technology as proportional valves, software controlled pressure settings, single mode fiber technology with 1.2 Gbit data link and Windows based control system. The trencher is mostly built of high strength titanium, and all pressure housings and frame is rated for 2000 m sea water depth. It has 10 powerful thrusters and a total of 300 HP for propulsion, which makes it ideal for operation

Hydraulic system

2x150 HP HPU redundant systems
1x6 HP dirty hydraulic
10x17" thrusters (each 550 kgf)
Bollard pull

Fwd approx.	2000 kg
Lateral	1000 kg
Vertical	1000 kg

All HPUs pressure software controlled

Trench module and water pumps

2x420KW water pumps
Aft sword

Vertical linear movement	600mm
Horizontal adjustment	200 mm
Front sword	200 mm

Pressure from 10 to 40 bar dependent of project requirement.

Electronic/data

1.2 Gbit datalink w 5xRS232 and 5x,RS485/422, 6 x video and 2 x imaging sonar links, Ethernet w 3x 10Mbits links

6.1 CAPJET 650-1MW main units

This chapter list the approximate size and weight for the main units in a standard trenching version of the CAPJET 500-1MW system.

		Size (LxWxH)		Weight
Vehicle	(in operation)		(10x4.5x2.5) m	12.0 t
	(in transport)		(7x3x2.3)m	11.0 t
Winch			(4.095x2.8x2.7)m	15.0 t
Control container		20'	(605x244x259)m	3.0 t
Trafo container		20'	(605x244x259)m	10.5 t
Work shop/spare container		12'	(3655x2435x2589)m	3.0 t
Work shop/spare container		12'	(3655x2435x2589)m	3.5 t

Optional equipment depending on project and the actual vessel:

Spare container	20'	(605x244x259)	9.0 t
Generator container (2x1250 KVA)	2x20'	(605x244x259)	20.0 t
Crane Bonfiglioli 150 tm (in transport w/foundation)			9.0 t

6.2 Support vessel requirements

The CAPJET system does not require any special vessel or handling gear. A normal DP vessel with hydroaccoustic positioning system (HPR or similar), as used for ROV surveys, is normally suitable. However the following guidelines can be used:

Power supply	:	2000 kVA, 440 V/60 Hz (if available)
Crane (HIAB type)	:	min. 150 tm with 12 t winch
Deck space (typical)	:	Area to accommodate the actual CAPJET spread, approximate (20 x 15) m.
Other	:	Experienced crane operators for 24 hrs operation

A complete spread, including the vessel, can however be supplied by Nexans Norway.

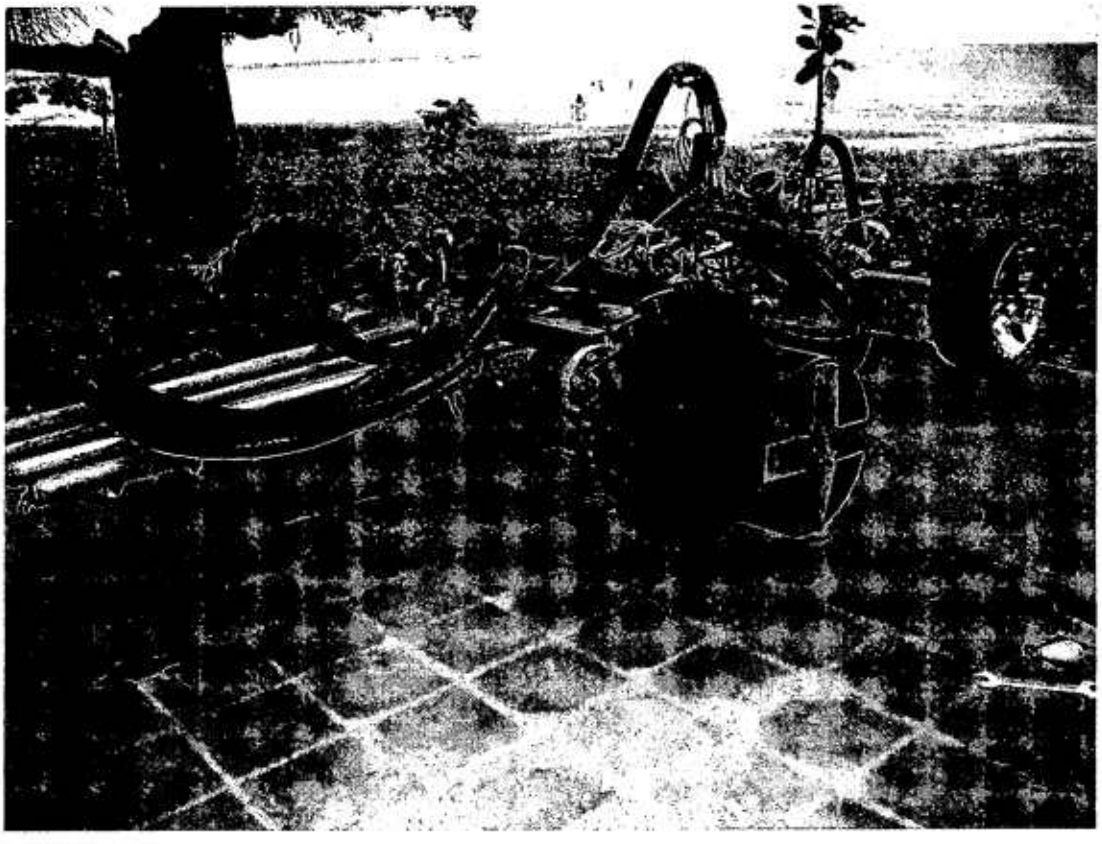
CAPJET TRENCHER
System description and Specifications

INTRODUCTION

The Capjet system is a trenching system for the installation of submarine cables and pipelines. The Capjet system is based on seabed fluidizing and works well in seabed consisting of sand and clay. The system is characterized by its lightweight, high efficiency and easy handling, hence correspondent easy mobilization and demobilization.

The equipment can be modified to handle several trenching depths, and also to handle cable uncovering and cable lifting to seabed level, as well as ejecting open trenches and material distribution. Several units are available in a modularised system.

A standard design of equipment very often corresponds to normal working depths, meaning that Capjet 50 is designed for 50 meters working depth, Capjet 80 for 80 meters working depth, etc.



One of the Capjet versions that will be the front runner at Northport, New York

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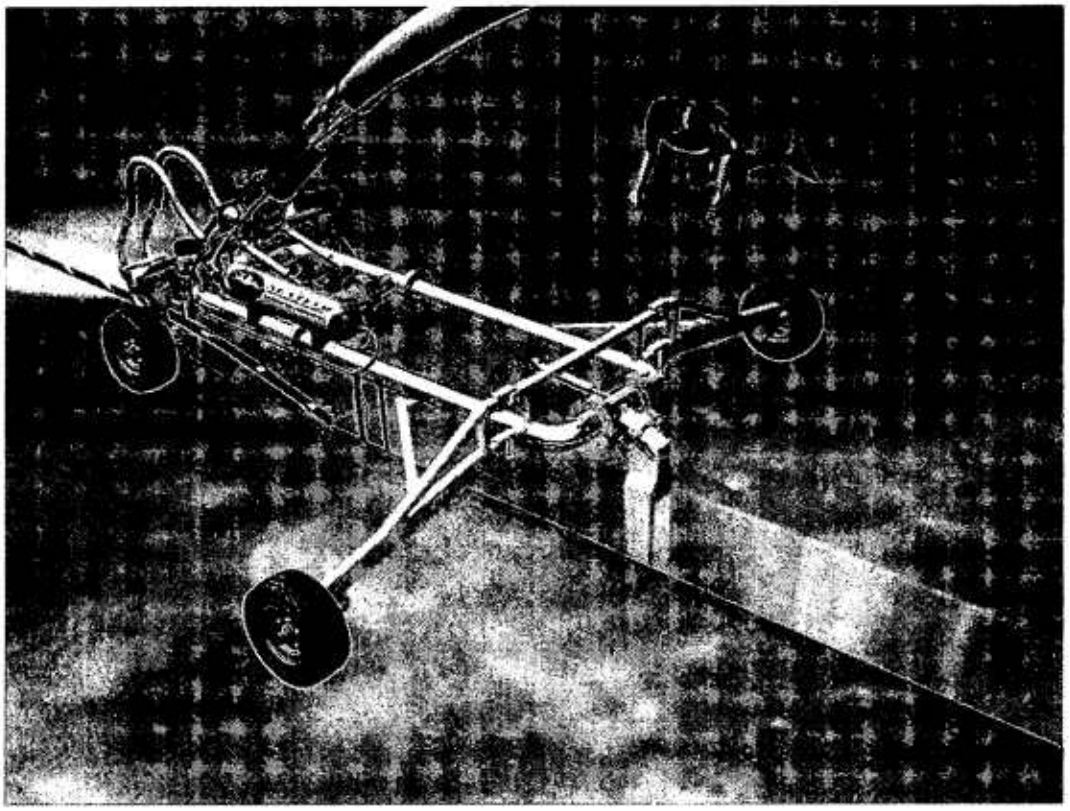
CAPJET, GENERAL

Capjet 50 is the designation for diver operated water jet trencher with water support from the surface. Diver assistance is required for docking on and off the cable, and to support the trencher in case unexpected problems occurs subsea. During the trenching operation, cameras provide surveillance. Divers are needed to remove obstacles and carry out regular inspections and adjustments.



A standard unit with an extended rear part to increase trenching depth.

The trenching principle is based on fluidisation and hydrodynamic transport of the fluidised material. Water jets keep an open trench utilising the "Bentonit principle" to stabilise trench sidewalls. The jetting stinger is dependent on trench depth, as well as of type of cable. For example, a stinger designed for fibre optic cables will have a depressor roller to ensure that the light cable is left in the bottom of the trench. Power cables and pipelines will sink gently down to the bottom of the trench without any exposure to hardware forces. The Capjet performs burial of prelaid cables using the cable as a guide.

Setting the stinger establishes the predetermined depth of the trench, and downward directed water jets will achieve the depth. Rear directed water jets start blowing and rotating the suspending particles backwards, while giving the trencher propulsion at

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the same time. The particles will be deposited behind the trencher where the water jets are no longer effective.

Buoyancy calculations of seabed particles flowing in a directed current document that the level of trench backfill is better in sand than in silt and clay. In addition to backfill during the trenching, sidewalls collapses after the machine has passed and the cable is buried.

WORKING PRINCIPLE

The water jets cut a narrow trench with almost vertical sidewalls. This is due to the previous mentioned "Bentonit principle." The final overburden will to a large extent depend on the seabed materials. By experience there is usually no trace of the trench a few days after the operation when the seabed consists of sand. The overburden in clayish seabed will be less than 80%.

The trenching system is characterized by its short time for mob/demob, a minimal risk for damaging the cable and adjustments that can be easily carried out to meet the requirements of the customers' technical specification. The water pumps are installed onboard a small support vessel and connected with flexible hoses.

The Capjet trenching system is built up by modules that fit together. This unique design allows flexibility to build up a tailor-made trencher for each project. A number of units are available.

MACHINE FOR 3-METER TRENCHING DEPTH

To obtain a target depth of 3 m (10 feet), the front runner as shown previously will be followed by a rear unit that maintains the initial 2 m deep trench and cuts an additional 1 m while maintaining the trench through the Bentonit principle with rotating and backwards transport of the fluidised materials.

Actual distance between the two swords is determined after the jet probing that shows type of seabed material. The rear sword can either be arranged as a bogey following the front runner, or in favourable seabed material, as an extension of the front runner. The latter is a typical solution in uniform sand, trenching a cable with low bending radius, installed with low residual tension.

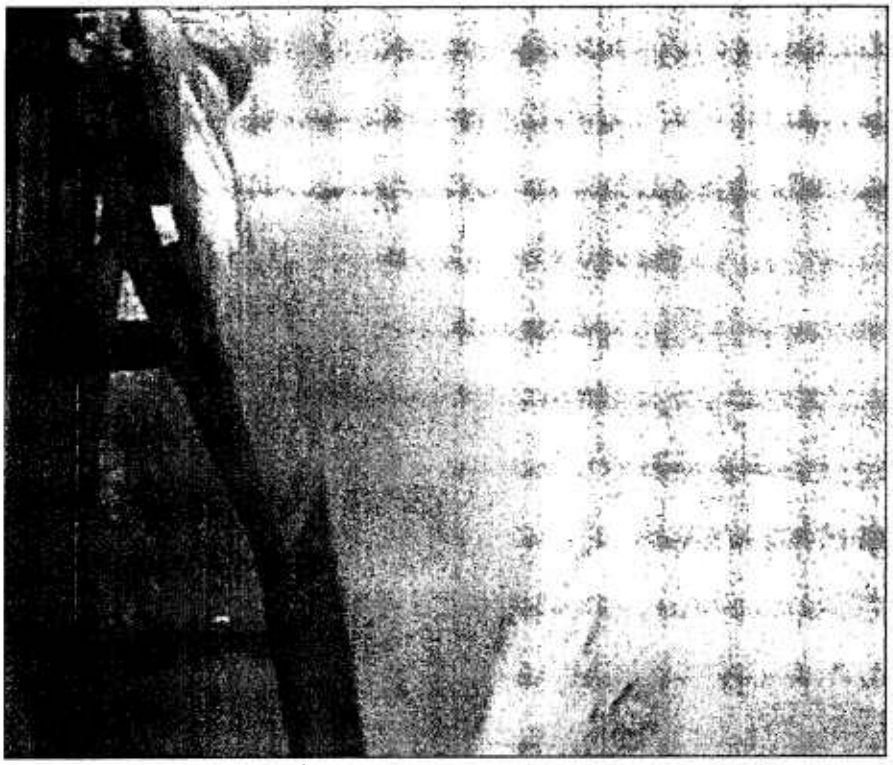
The trenching sword(s) will be adjusted to cable specifications, as well as eventual specifications for Cast Iron Shells, when used for additional cable protection. Cast Iron Shells result in a low bending radius through the machine, hence reducing the length of the open trench while the cable is settling in the bottom of the trench.

Modules and spares are included to adjust Capjet 50 to the actual conditions at site, optimizing its performance in the given soils.

The front sword will have penetrating depth of 2 m. The backswords will have penetrating depth of 3.3 m. The lower length of the backswords will also have cutting nozzles.

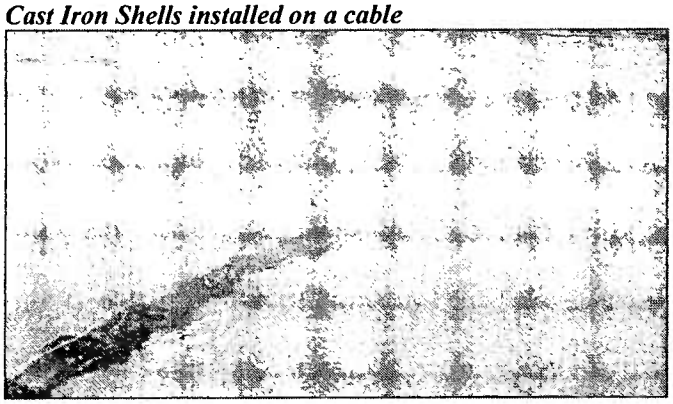
Previous trenching work in Tarifa in 2006 resulted in a measured burial depth of 3.1 m to 3.5 m with the same machine.

From the 3 m trenching work in 1997 the depth was measured at 2.9 to 3.4 m depth. These measurements were made some period after the trenching so there had been quite significant sand movement in between trenching and measurement.



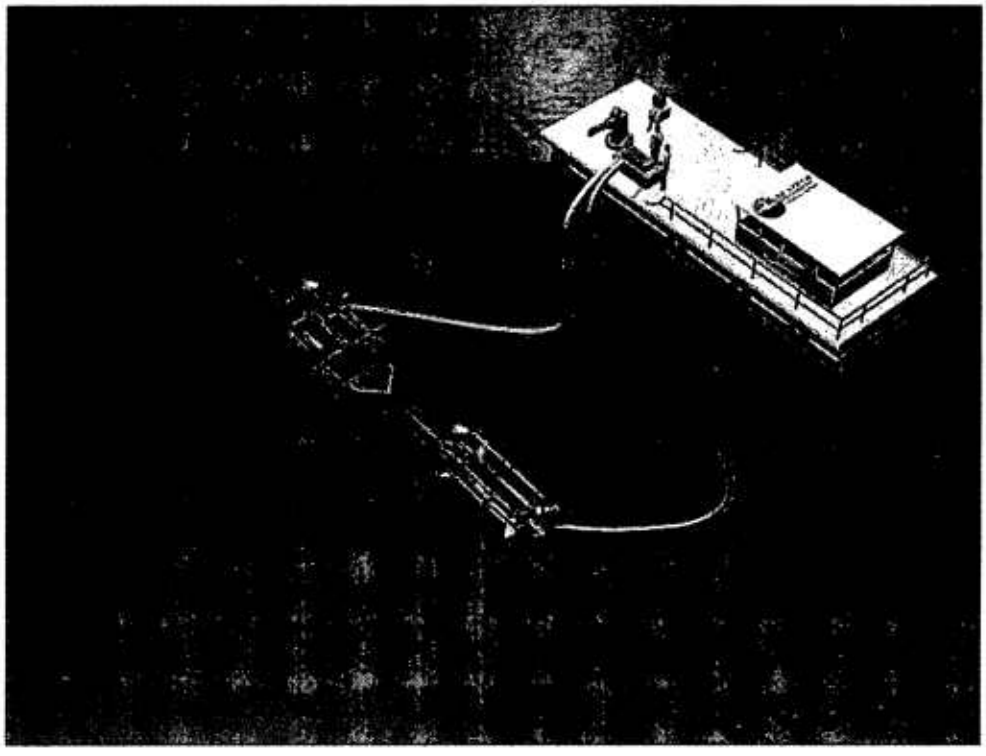
3 m trenching in sand in Tarifa

Cast Iron Shells installed on a cable



At Gibraltar the sword width was 350 mm, but can be adjusted to any size.

For 3 m trenching depth, two pumps will be used, one 400 Hp and one 250 Hp. (Alternatively 3 pumps of 250 Hp).



A possible layout for the 3 m trenching at Northport, New York, introducing the rear sword in a bogey.

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SPECIFICATIONS

The main data for the trencher:

Width	: 1.2 m (main frame)
Length	: 3,3 m + rear unit, total about 8.5 m
Height	: 1.0 m + trencher swords when folded down
Water support	: 150 mm flexible hose from surface vessel 1 (2-3)
Propulsion	: Waterjets
Pump 1	: 400 Hp (Approx 720m3 at b 10 bar)
Pump 2	: 250 Hp (Approx 380 m3/hr at 10 bar)
Weight in air	: Total around 1 ton

OPERATIONAL LIMITATIONS

Weather criteria:

Max. Wind speed:	10 m/sec
Max wave height:	1 m
Max. Current:	1.5 knots
Surface visibility:	Depending on local regulations and traffic control.
Water visibility:	1 m

Seabed material:

CAPJET 50 is based on fluidising suitable soils including silt, mud, clay, sand, fine gravel and all mixtures between these. In clay the undrained shear strength must be less than 75 kPa. and the plasticity index less than 35.

Cable tension:

The bottom tension on the cable to be buried is of major importance. If the seabed profile is irregular and the cable bottom tension is too high, the cable will not be able to sink into the open trench. The nominal bottom tension should be 500 kg.

Trenching depth:

Typical trenching depths are 1-2 meters beneath the seabed. Trenching of 3 m deep trenches in sand has also been performed with extension of rear part. To ensure correct depths in such trenching, the pumping capacity is increased by a second water pump. In addition a suction trencher may be installed in the front of the machine, to temporary lower the seabed along the cable, as the trencher follows behind.

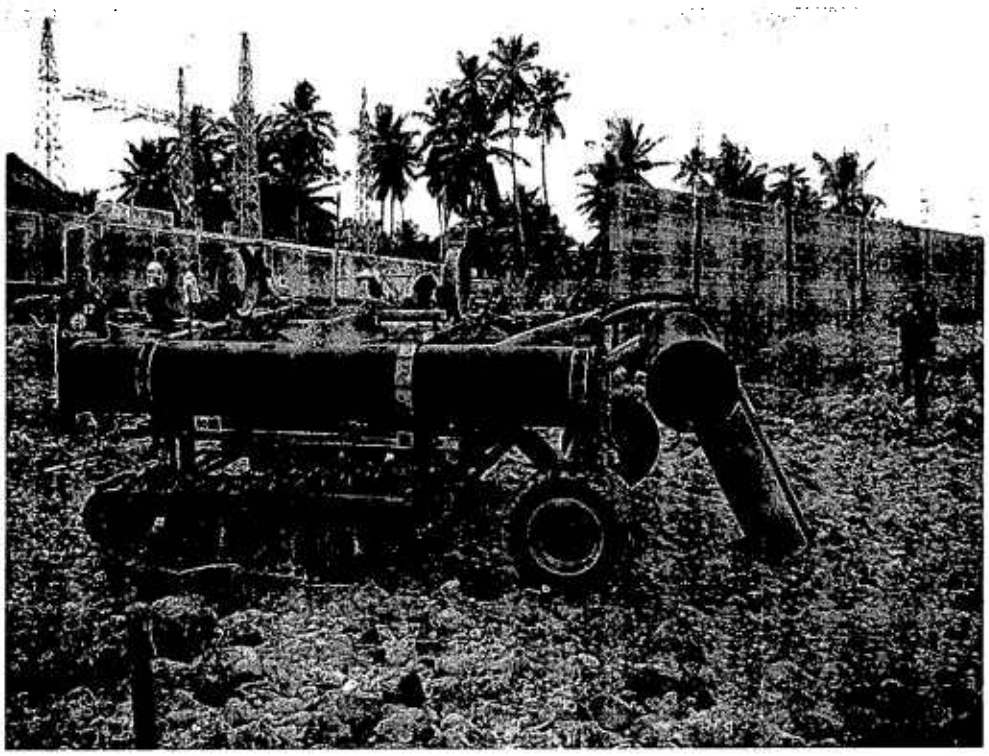
OPTIONAL EQUIPMENT

Water ejector

The same units as above can also be used for a water ejecting unit able to eject material along the cable to lower the cable into the seabed. Recently this equipment has been used to eject trenches down to -2 m in gravel and boulders at Santander, the Philippines.

This work was performed in December 2006 and January 2007. The picture below shows the tractor unit used to carry the ejector.

Water pumps are the same as previously and the ejector has the capacity to take a max boulder size of 300 – 350 mm diameter.



Water ejector installed on tractor.

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LOGGING AND DOCUMENTATION

The instrumentation system consists of the following components:

Subsea:

Two colour video cameras
Two 50W halogen lights
Two roll and pitch sensors, one attached to the trencher frame as a reference, one attached to a measuring arm
Aluminium pressurised cylinder containing electronic control system, power supplies, pressure sensor and a fluxgate compass.
An external pressure sensor mounted at the end of the sword

Surface unit:

Control box with video receivers and video overlay system
Two 17" LCD video monitors
Two video HDD recorders
GPS receiver
PC

The umbilical is a 10mm dia. cable with four power leads and three twisted pairs, neutrally buoyant.

Video signals from the cameras are transmitted simultaneously to the surface via video drivers on twisted pairs. Data from the instruments are transmitted to the surface as one telegram via a full-duplex 9600b/s FSK line. At surface, this telegram is interfaced with signals from the GPS receiver, and sent to the PC serial port for display and logging.

The data display will show:

GPS position and time
Working depth
Magnetic Heading
Trencher roll and pitch
Measuring arm angle (relative to horizontal)
Trench depth, calculated from this arm angle and machine pitch
Sword depth, calculated from the pressure difference between the external and internal pressure sensors

Time intervals for logging to file are user-selectable. Data is stored in tab-separated text format.

Long Island Power Authority

Long Island Replacement Cable Project

Appendix B

Turbidity Monitoring Plan

REPLACEMENT OF THE 138 KV SUBMARINE ELECTRIC TRANSMISSION LINE BETWEEN NORTHPORT, NEW YORK AND NORWALK, CONNECTICUT

DRAFT TSS MONITORING PLAN FOR NEW YORK WATERS

LONG ISLAND POWER AUTHORITY
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MARCH 2007

INTRODUCTION

Total suspended solids (TSS) monitoring will be conducted during submarine cable removal and jetting operations within New York State waters. The suspended sediment disturbance created by removal and jetting operations will be characterized using a three fold approach: 1) by collecting in situ vertical profiles of the water column using a specially equipped Conductivity-Temperature-Depth-Optical Back Scatter Profiler; 2) by documenting the 3-dimensional current flow and suspended sediment cross section of the water column using a vessel-mounted Acoustic Doppler Current Profiler (ADCP); and 3) by collecting water samples at various depths for laboratory analysis of TSS. This field work will be conducted in the direct vicinity of the cable removal or jetting operations and at background/control stations up-current of the cable operations. Monitoring will occur in four surveys: nearshore monitoring of cable removal, nearshore monitoring of cable replacement (jet plow installation), offshore monitoring of cable removal, and offshore monitoring of cable replacement (jet plow installation).

GENERAL MONITORING PROCEDURES

The physical characteristics and dimensions of the dispersing plume of sediment placed in suspension by the operating jet plow or removal device and concurrent TSS will be detailed from a small boat equipped with a combination of calibrated acoustic and optical instruments and a drawn water sampler. The acoustic instrumentation will consist of a high frequency ADCP. This system will provide nearly continuous profiles of acoustic backscattering intensity and coincident current speed and direction each 0.5m over the vertical. The quantitative relationship between backscattering intensity and the concentration of suspended sediments (TSS) will be established immediately prior to the survey period by comparing measured acoustic backscattering to direct samples of TSS obtained by drawn water sampling at multiple points over the vertical. TSS concentrations in each drawn water sample will be determined by vacuum filtration through dried and pre-weighed filters (0.47 μ pore size).

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The Optical Back Scatter (OBS) sensor will be mounted on a conductivity/temperature/depth (CTD) array housed within a rosette sampler. This combination of instrumentation will provide a continuous profile of optical backscattering as well as water temperature and salinity over the vertical at selected stations along and across the plume of suspended sediments. Similar to the method used for the ADCP, the quantitative relationship between optical backscattering and TSS will be established immediately prior to the survey by laboratory comparisons of OBS output signal levels to a range of suspended material concentrations. To supplement these pre-survey laboratory calibrations, additional drawn water samples will be obtained throughout the survey period using the rosette sampler. Comparisons of these data and concurrent OBS and ADCP output signals will provide a continuing check on system stability and calibration.

The combination of acoustic and optical instrumentation deployed on a mobile small boat is considered the most comprehensive, accurate, and cost effective means to define background TSS conditions and to detail the character and extent (both space and time) of the plume of sediment placed in suspension by the operating jet plow or removal device. The instrument system (ADCP-CTD/OBS) will allow real time detailing of plume characteristics sufficient for both scientific and management needs. In addition, the data provided by this array will allow post-project verification of the model predictions included in the permit application. This verification will benefit this and future projects employing hydraulic embedment techniques.

DETAILED MONITORING PROCEDURES - NEARSHORE WATERS

Nearshore monitoring of the suspended sediment plume will be conducted once during flood and once during ebb tide conditions in nearshore areas (-35 feet MLW to shoreline) as described below.

- Real-time monitoring will consist of ADCP measurements (boat mounted) and CTD-OBS profile measurements taken along four transects. The first transect will be conducted as close as possible to and down-current of the removal or jet plow installation device. The remaining three transects will be conducted down-current at distances of approximately 200 feet, 500 feet and 800 feet from the removal or jet plow installation device. Final spacing of these transects will be adjusted in the field to resolve the actual spatial extent of the down-current suspended sediment plume. One transect will also be conducted approximately 200 to 500 feet up-current of the removal or jet plow installation device (or at reasonably safe survey distance in front of the removal or installation vessel) to detail ambient or background conditions.
- At each transect, the CTD-OBS profiler and the boat mounted ADCP will track conditions throughout the water column. In addition, discrete drawn water samples will be obtained at three points on the vertical (near-surface, mid-depth, and near bottom) at each down-current transect and at the up-current transect, resulting in a total of 15 drawn water samples for each tidal survey in nearshore waters. Water samples will be shipped to an analytical laboratory for analysis of by-weight concentrations of TSS.

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- Any real-time measurements used to determine the need to initiate operational adjustments to the jet plow or removal operations in nearshore waters will be conducted at a distance of 500 feet down-current of the operating removal or jet plow installation device. This distance is based on analytical analyses conducted by ASA and Dr. Frank Bohlen, presented in Attachment 4-C to the Article VII application and in Exhibit 34 to the Joint Proposal. These analyses indicate that the plume of sediment placed in suspension by the operating jet plow in nearshore waters will produce an initial mixing area extending approximately 500 feet down-current of the operating jet plow. This is a smaller mixing area than expected in offshore waters (see below) due to the coarser sediments and somewhat lower currents in the nearshore area. Analytical and numerical results presented in the Article VII application and supplemental filings also indicate that along the down-current limits of this mixing area, suspended material concentrations resulting from jet plow embedment averaged over the vertical may exceed background values by 500 mg/L. Given this site-specific sediment and transport information, the following protocol is recommended:

  In nearshore waters (defined above), real-time measurements used to determine the need to initiate operational adjustments to the jet plow or removal operations will be conducted at a distance of 500 feet down-current of the operating removal or jet plow installation device. Results at this location will be compared to results at an up-current station (approximately 200 to 500 feet up-current and outside the influence of the operating removal or jet plow installation device). If in the course of monitoring project conditions, average TSS concentrations over the vertical are shown to exceed the up-current background TSS concentrations by 500 mg/L at 500 feet down-current of the operating removal or jet plow installation device, then mitigation measures will be implemented such as adjusting the vertical thrusters and/or the tensionors of the Capjet. Nothing herein shall preclude adjustments to installation or removal protocols if such adjustments are necessary to achieve the cable burial to a depth of 6 feet for the majority of NYS waters or to depths specified in Condition 49 of the Article VII Certificate.

DETAILED MONITORING PROCEDURES - OFFSHORE WATERS

Offshore monitoring of the suspended sediment plume will be conducted once during flood and once during ebb tide conditions each day of operation in offshore areas (from the NY/CT border to -35 feet MLW) as described below.

- Real-time monitoring will consist of ADCP measurements (boat mounted) and CTD-OBS profile measurements taken along four transects. The first transect will be conducted as close as possible to and down-current of the removal or jet plow installation device. The remaining three transects will be conducted down-current at distances of approximately 500 feet, 800 feet and 1,000 feet from the removal or jet plow installation device. Final spacing of these transects will be adjusted in the field to resolve the actual spatial extent of the down-current suspended sediment plume. One transect will also be conducted approximately 200 to 500 feet up-current of the removal or jet plow installation device (or at reasonably safe survey distances in front of the removal or installation vessel) to detail ambient or background conditions.

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- At each transect, the CTD-OBS profiler and the boat mounted ADCP will track conditions throughout the water column. In addition, discrete drawn water samples will be obtained at three points on the vertical (near-surface, mid-depth, and near bottom) at each down-current transect and at the up-current transect, resulting in a total of 15 drawn water samples for each tidal survey in offshore waters. Water samples will be shipped to an analytical laboratory for analysis of by-weight concentrations of TSS.

- Any real-time measurements used to determine the need to initiate operational adjustments to the jet plow or removal operations in offshore waters will be conducted at a distance of 1,000 feet down-current of the operating removal or jet plow installation device. This distance is based on analytical analyses conducted by ASA and Dr. Frank Bohlen, presented in Attachment 4-C to the Article VII application and Exhibit 34 to the Joint Proposal. These analyses indicate that the plume of sediment placed in suspension by the operating jet plow will extend over distances in excess of 1,000 feet in offshore waters with the majority of the sediment settling within the initial mixing zone with dimensions varying as a function of local flows and sediment type. Along the cable route in offshore waters (defined above), the sediment type is predominately silt/clay as presented in the Article VII application and supplemental filngs. The dominance of finer sediments and high currents within this offshore area is expected to produce an initial mixing area extending for a distance of approximately 1,000 feet down-current of the operating jet plow. Analytical and numerical results presented in the Article VII application and supplemental filings also indicate that along the down-current limits of this mixing area, suspended material concentrations averaged over the vertical may exceed background values by 500 mg/L. Given this site-specific sediment and transport information, the following protocol is recommended:

  In offshore waters (defined above), real-time measurements used to determine the need to initiate operational adjustments to the jet plow or removal operations will be conducted at a distance of 1,000 feet down-current of the operating removal or jet plow installation device. Results at this location will be compared to results at an up-current station (approximately 200 to 500 feet up-current and outside the influence of the operating removal or jet plow installation device). If in the course of monitoring project conditions, average TSS concentrations over the vertical are shown to exceed the up-current background TSS concentrations by 500 mg/L at 1,000 feet down-current of the operating removal or jet plow installation device, then mitigation measures will be implemented such as adjusting the vertical thrusters and/or the tensionors of the Capjet. Nothing herein shall preclude adjustments to installation or removal protocols if such adjustments are necessary to achieve the cable burial to a depth of 6 feet for the majority of NYS waters or to depths specified in Condition 49 of the Article VII Certificate.

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DESCRIPTION OF WHY PROTOCOL IS PROTECTIVE OF IN-WATER RESOURCES

Despite the relatively short-term high concentrations of TSS expected in nearshore and offshore waters during removal and installation, the deposition of this mass of sediment will result in only a thin cover of fresh sediment deposited over ambient bottom with a thickness of approximately 5 to 10 mm. This dimension is similar in magnitude to that affected by the passage of high energy storm events. This, in combination with the short time the sediments will remain in suspension (a return to ambient conditions is expected within hours after passage of the removal or jet plow installation device) and the time of year during which the project is to be completed, effectively limits the biological impacts resulting from jet plow induced resuspension and subsequent settlement. These factors were considered in developing the above monitoring protocol. Therefore, the distances and thresholds proposed for the real-time monitoring measurements used to determine the need to initiate operational adjustments to the jet plow or removal operations should be considered conservative, favoring minimal impacts to in-water resources.

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Long Island Power Authority

Long Island Replacement Cable Project

Appendix C

Stormwater Pollution Prevention Plan

LONG ISLAND REPLACEMENT CABLE PROJECT
STORMWATER POLLUTION PREVENTION PLAN

Table of Contents

List of Attachments

List of Acronyms

BMPs	Best Management Practices
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEC	New York State Department of Environmental Conservation
EH&S	Environmental Health and Safety
ERT	Emergency Response Team
ft	feet
gpm	Gallons Per Minute
kV	Kilovolt
mi	Miles
LIPA	Long Island Power Authority
MSDS	Materials Safety Data Sheet
MHWL	Mean High Water Line
MLWL	Mean Low Water Line
msl	Mean Sea Level
NOITT	Notice of Intent, Termination or Transfer
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NU	Northeast Utilities
NYCRR	New York Code of Rules and Regulations
OSHA	Occupation Safety and Health Administration
PCM	Project Construction Manager
RQ	Reportable Quantity
SOP	Standard Operating Procedure
SPCC	Spill Prevention Control and Countermeasure
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
USDA	United States Department of Agriculture
US EPA	United States Environmental Protection Agency
WIR	Weekly Inspection Report

1 INTRODUCTION

The Long Island Replacement Cable (LIRC) Project includes the removal of seven (7) existing 138 kV transmission cables that are routed approximately 11 miles across Long Island Sound between Northport, New York and Norwalk, Connecticut, and the subsequent installation of three (3) new 138 kV solid dielectric transmission cables along the same corridor. In addition to the submarine segment, this Project includes relatively short underground segments between the landfall and the termination at the Northport Substation (See *Northport Site Map* in Appendix A). Attachment 1 represents an aerial photograph of the Northport Substation that illustrates the approximate property boundaries.

The locations of site development activities are indicated on Attachment 2. Proposed development and construction activities that will occur in existing easements include:

- Removal of dielectric fluid from the existing seven (7) 138 kV transmission cables;
- Excavation for the removal of the seven (7) existing 138 kV transmission cables;
- Excavation for the installation of three (3) new 138 kV transmission cables.

This document, referred to as the Construction Stormwater Pollution Prevention Plan (SWPP Plan), identifies the "Best Management Practices" ("BMPs") to be followed during construction activities to minimize impacts to the environment (i.e., construction sequence, soil erosion and sediment control measures, landscaping and site restoration, stormwater management, etc.). This Plan pertains only to the construction activities in the upland areas above the mean high water line at Northport. This Plan has been developed to support compliance with requirements under the NYSDEC *General Permit for Stormwater Discharges from Construction Activity (GP-02-01).*

Guidance for "Best Management Practices" applicable to the Northport landfall and substation was obtained from the following regulatory programs:

- Title 6, New York Code of Rules and Regulations ("NYCRR") Part 750 et seq., also known as the State Pollutant Discharge Elimination System regulations;
- *New York Guidelines for Urban Erosion and Sediment Control.*

Specific responsibilities for carrying out the provisions of the SWPP Plan will be shared between the Owners and its Construction Contractors. Key steps and responsibilities associated with plan implementation are highlighted below:

1. Develop a SWPP Plan for construction activities (Owners).

2. Maintain a copy of the SWPP Plan at the Substations as well as at the main construction field offices for both LIPA and NU and its contractors (Owners and Construction Contractors)

3. Implement the stormwater pollution prevention controls for construction activities as set forth in the construction plans (Construction Contractors).

4. Implement best management practices (i.e., oil-skimmer, containment moats, etc.) for operations as set forth in the stormwater management plan (Owners).

5. Routinely inspect the erosion and sediment controls and best management practices identified within the SWPP Plan and prepare and maintain inspection reports with authorized signatures (Environmental Monitor and Construction Contractors)

6. Maintain stormwater pollution prevention controls, as needed (Construction Contractors or Owners).

7. Update/prepare revisions to the SWPP Plan to accurately reflect site changes, control measure changes, or in response to a Reportable Quantity release (as referenced, 40 CFR 110, 40 CFR 117 and 40 CFR 302) (Owners).

8. Notify, as appropriate, the emergency response contractor, local emergency responders (police, fire, ambulance), and appropriate regulatory agency staff (Town of Huntington, Suffolk County Department of Health, New York State Department of Environmental Conservation ("NYSDEC"), and the National Response Center (NRC), and, if required, to the US Environmental Protection Agency ("USEPA")) as soon as knowledge of a discharge equal to or greater than the Reportable Quantity or standard for oil and hazardous substance is obtained (Owners).

9. Modify the SWPP Plan within 14 days of knowledge of the release of a Reportable Quantity, including a description of the release of oil or hazardous substance, the circumstances leading up to the release, an estimate of the amount of the release, and the steps that will be taken in response to the release (Owners).

10. Retain the SWPP Plan and all construction records for a period of at least three years following final stabilization. A copy of the SWPP Plan and all pertinent records shall be maintained at the site during the duration of construction activity (Owners).

The remainder of this document outlines the structural and non-structural controls that will be implemented at the site during construction activities as well as operations. BMPs were chosen to address the site-specific erosion and sediment control issues and site-specific contaminants of concern during operation (i.e., dielectric fluid).

1.1 Plan Organization

The major sections of the SWPP Plan are as follows:

- Plan Certifications (Section 2.0);
- Site Description (Section 3.0);
- Construction Soil Erosion and Sediment Controls (Section 4.0);
- Pollution Prevention Measures (Section 5.0); and
- Inspection and Reporting Requirements (Section 6.0).

Regular inspections and maintenance of the controls identified in this Plan will be conducted and records will be maintained for a term of not less than 3 years after final site stabilization. Inspection and maintenance requirements of the SWPP Plan are listed in Section 6.3 and 6.4, respectively. The record retention requirements of this Plan are presented in Section 6.5.

All construction design drawings, including engineering design drawings referenced in the text, are provided in Appendix A of the EM&CP; the site specific photographs and development

activities are identified on Attachment 1 and 2 respectively of this document. A copy of the Notice of Intent (NOI) Form is provided in Attachment 3 (will be provided under separate cover). The *Erosion Control Notes* for the Northport Substation are provided in Attachment 4. Attachment 5 provides examples of the inspection records.

2 CERTIFICATIONS

Owner: Long Island Power Authority

Responsible Corporate Officer:

Certify that Long Island Power Authority has read or been advised of the conditions of the Construction Permit GP-02-01 and understands them. Verify that the stormwater pollution prevention control measures described within the Plan are fully supported by the management of the Long Island Power Authority, and will be implemented as herein described as the first element of construction.

Certification:

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system design to assure that qualified personnel properly gathered and evaluated the information presented. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information presented is, to the best of my knowledge and belief, true, accurate and complete. This Plan is fully supported by the management of the Long Island Power Authority, and will be implemented as herein described as the first element of construction. I also certify that the Long Island Power Authority agrees to comply with all terms and conditions of General Permit-02-01 for which this Plan has been prepared. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature	Date	Title

CONTRACTOR WITH DAY-TO-DAY OPERATIONAL CONTROL OVER SWPP PLAN COMPLIANCE ACTIVITIES

Contractor:

Responsibilities:

Ensure that the SWPP Plan for the Project site is implemented, maintained and updated, as appropriate, to address site conditions throughout the construction process.

Day-to-day operational control of the Project site, including the implementation, monitoring and maintenance of controls identified in the SWPP Plan, except as otherwise noted in the plan.

Certification:

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the pollution prevention plan for the construction site identified in such plan as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges for construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. This document and all attachments were reviewed under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluated the information contained herein. Based on inquiry of the person or persons who manage the system, or those persons directly responsible for reviewing the information, the materials contained in this document, to the best of my knowledge and believe, are true, accurate, and complete.

_____

Signature

_____

Name

_____

Title

_____

Date

3 GENERAL INFORMATION AND SITE DESCRIPTION

3.1 General Information

Work at Northport will occur generally within an approximately 30 foot wide corridor, approximately 750 feet in length from the landfall to the termination structures at the existing Northport Substation (See *Northport Site Plan* in Appendix A).

KeySpan holds a NYSDEC SPDES permit for the existing stormwater management system serving the Northport Generating Station and substation area. Site stormwater runoff is collected in surface swales and catch basins and routed through a subsurface piping system. The stormwater from undeveloped areas runs naturally off-site via infiltration and overland flow.

3.2 Site Plans and General Arrangements

The *Northport Site Plan* (See Appendix A) shows the existing site conditions and general equipment arrangement at each substation; proposed areas of development; proposed underground cable alignments; facility property lines; as well as site topography.

3.3 Physical Characteristics

3.3.1 Topography

The Northport Substation landfall is located on the north central coast of Long Island in an area comprised of points and peninsulas interrupted by intermittent tidal marshes, creeks, and rivers.

From the water's edge, the cables run a distance of approximately 750 feet across cobble-coarse sand beach and sparsely vegetated, sand-gravel upland to the Northport Substation. The elevation rise from the water's edge to the substation is approximately 10 feet.

3.3.2 Soils

The *Soil Survey of Suffolk County, New York* (Warner *et al.*, 1975), prepared by the U.S. Department of Agriculture, Soil Conservation Service in cooperation with the Cornell

Agricultural Experiment Station describes mapped soil types within the Project area in Northport.

The following soil types are mapped by the soil survey within the Northport landfall site: Beach (Bc), Cut and Fill Land (CuB), Riverhead and Haven Soils (RhB), and Tidal Marsh. Beaches are comprised of sandy, gravely, or cobbly areas between water at mean sea level and dunes or escarpments. The cut and fill land soil type mapped within the Project Area is made up of level to gently sloping areas that have been cut and filled for non-farm uses. Areas of cut and fill land contain deep cuts in or near the sandy substratum of the soil or sandy fills of 28 inches or more. Generally, cuts are so deep or fills are so think that identification of the soils by series is not possible. The Riverhead and Haven soils mapped on the Project Site are comprised of Riverhead sandy loam, haven loam, or both. These areas have been altered by grading operations for various development-related uses. The Riverhead series consists of deep, well-drained, moderately coarse textured soils that formed in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. The Haven series consists of deep, well-drained, medium-textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. The Tidal marsh is comprised of wet areas that are around the borders of calmer embayment and tidal creeks. These level areas are not inundated by daily tide flow, but are subject to flooding during abnormally high moon or storm tides.

3.3.3 Water Resources

The closest waterbody to the Northport landfall with a hydrologic connection to Long Island Sound is Crab Meadow Brook, at 1.2 miles away. Crab Meadow Brook is classified as SA from its mouth upstream to its first tributary, which is unnamed (NYSDEC, 1995, 1998a). This indicates saline surface waters whose best usage is shellfishing for market purposes, primary and secondary contact recreation, and fishing. The SA waters are also suitable for fish propagation and survival (NYSDEC Surface Waters and Groundwaters Classification and Standards, 6 NYCRR 10: 700-706, 1999). Crab Meadow Brook, upstream of this first tributary is considered Class C fresh surface water (NYSDEC, 1995, 1998a).

The Discharge Canal and nearby Blanchard Lake, as well as the small unnamed pond east of Waterside Road, are classified as Class C fresh surface waters (NYSDEC, 1995, 2000). This indicates that the best use of these waters is for fishing. The waters are suitable for fish propagation and survival. Primary and secondary contact recreation is also suitable uses,

although other factors may limit the use for these purposes (NYSDEC, 1999). Blanchard Lake and the pond in the vicinity of the Project are not hydrologically connected to Long Island Sound.

The waters of Long Island Sound in the vicinity of the Northport landfall and cable route are currently classified as SA by the NYSDEC. SA waters are best suited for primary and secondary contact recreation and fishing, and area also suitable for fish propagation and survival (NYSDEC, 2000a).

Long Island Sound water quality is considered "in good health" and resilient to pollutant loadings, with few localized contamination problems according to CTDEP (1998). Two major water quality issues are hypoxia (low levels of dissolved oxygen) and excess nitrogen loading.

3.4 Stormwater Management

The Northport landfall site, cable corridor, stockpile area and staging and storage area will disturb an area of approximately 7.8 acres (See *Northport Site Plan* in Appendix A). At the Northport Generation Station, the majority of the precipitation that falls over the developed portions of the site is captured in the on-site stormwater management system. The remaining undeveloped portion of the site, which includes most of the project area, is characterized as beach areas that drain naturally off-site via infiltration and overland flow north towards the Long Island Sound and east towards the Discharge Canal for the Northport Generating Station. Substation stormwater generation and runoff has been minimized through the minimization of impervious, paved surfaces with the use of crushed stone. Refer to the Northport Substation *Erosion Control Notes* (See Attachment 4) for the stormwater management controls to be installed during construction and maintained during operations. No permanent stormwater management controls will be installed for the construction of the transmission facilities.

4 SOIL EROSION AND SEDIMENT CONTROL PLAN

The plan and profile drawings, the substation construction drawings and the supporting *Erosion Control Notes* illustrate the general components of the Project's soil erosion and sediment control program (See Attachment 4). The general components of the Soil Erosion and Sediment Control Program as presented in the referenced drawings are described in the sections below. All Best Management Practices (BMPs) shall be designed and maintained in accordance with the *New York Guidelines for Urban Erosion and Sediment Control* and *Connecticut Guidelines for Soil Erosion and Sediment Control.*

4.1 Construction Sequencing

Representative construction activities for the transmission cable segments at the landfalls generally consist of the following:

- Stake and flag construction limits (i.e., right-of-way, off right-of-way access roads and extra work areas);
- Mark-out utilities;
- Install erosion and sediment control measures;
- Work zone clearing (as necessary);
- Trench excavation (underground circuits);
- Cable installation
- Trench backfill (underground circuits);
- Remove temporary erosion and sediment controls;
- Site restoration (i.e., paving and/or seeding); and
- Inspection and record maintenance.

BMPs for erosion and sediment control shall be implemented early in the construction process and prior to the start of grading and excavation activities. These include installation of erosion and sediment control measures (i.e., straw bale barriers and/or silt fencing). Measures for protecting catch basins shall be installed on an as-needed basis.

4.2 Plan Components

The soil erosion and sediment controls to be implemented on-site include but are not limited to the following:

- The Town of Huntington will be notified within 72-hours in advance of any land disturbing activity.

- All work will be done in accordance with the New York State Standards for Soil Erosion and Sediment Control.

- All soil erosion and sediment control practices are to be installed prior to any major soil disturbance or in their proper sequence and maintained until permanent protection is established.

- If necessary, dewatering effluent will be filtered prior to its release to the stormwater drainage system.

- Stockpiling and staging locations will be determined in the field, but will be located within the limits of construction disturbance. Stockpiles shall be protected from erosion using silt fence and/or straw bales as shown on the *Erosion Control Notes* (Attachment 4).

A more detailed description of the major plan components of the Soil Erosion and Sediment Control Plan are provided in the sections below.

4.2.1 Clearing, Excavation and Grading

The existing cable corridor at Northport generally consists of unvegetated near shore areas and upland herbaceous and shrub communities. Accordingly, extensive vegetation clearing will not be required for removal of the existing cables. The identified corridors for the new cables will require limited clearing of shrub vegetation and small trees at Northport. During cable removal and installation, excavated material shall be temporarily stockpiled within the right-of-way away from storm water conveyance areas in a manner that prevents erosion and transport of sediments

(i.e., silt fence, hay/straw barrier, etc.). Following backfilling of the trench, excess or unsuitable material shall be removed from the right-of-way to an approved disposal location.

The Construction Contractor shall exercise all necessary and reasonable precautions to minimize sedimentation, soil erosion and permanent impacts to wetlands and waterbodies in the work areas and along the right-of-way.

4.2.2 Site Stabilization

Surface stabilization techniques shall be used during construction in upland areas to reduce sediment loading in storm water runoff. All disturbed areas that will be left exposed more than 21 days, and not subject to construction traffic will be stabilized; previously vegetated areas shall receive a temporary seeding. Temporary and permanent vegetative cover standards are provided as part of the *Erosion Control Notes* (Attachment 4). Stabilization measures that shall or may be used during project construction include:

- ***Protection of Vegetation.*** Natural vegetation shall be preserved to the extent practicable. Where feasible, preserving natural vegetation shall reduce soil erosion.

- ***Mulching.*** Mulching is the placement of unrotted salt hay, clean hay, or small grain straw on the soil surface to cover and hold in place disturbed soils. Refer to the Erosion Control Notes for details regarding the standards for stabilization with mulch.

- ***Temporary Seeding.*** Temporary vegetation cover (i.e., seeding) will be used to the maximum extent practicable for previously vegetated areas that are disturbed for periods longer than 3 weeks. Refer to the *Erosion Control Notes* (Attachment 4) for appropriate seed mixture and feed rates.

Stabilization practices shall be initiated as soon as practicable, but no more than 14 days in any portion of the site where construction activities have temporarily or permanently ceased. If weather (i.e., snow cover) precludes the initiation of stabilization then such measures shall be undertaken as soon as practicable. Where construction activity shall resume on a portion of the site within 21 days from when the activities ceased, then stabilization practices do not have to be initiated on that portion of the site.

4.2.3 Structural Controls

Structural controls are used to divert storm water runoff flows away from disturbed areas, or otherwise limit the discharge of pollutants from exposed areas of the site to the degree attainable. Structural controls shall be installed prior to the start of work at any structure site, if within or adjacent to a resources and shall remain in place throughout the construction effort until final restoration and/or landscaping has been established. Routine inspections shall be undertaken to ensure that their integrity is maintained.

The types of structural controls to be implemented during construction of the LIRC Project are described in the sections below.

a. Silt Fence and Straw Bale Barriers

Silt fences consist of posts with filter fabric and are used as a temporary measure. The fence is installed along the down slope or side slope of a disturbed area. Runoff passes through the openings in the fabric, while sediment is trapped and settles on the uphill side. Silt fences shall be placed, as appropriate, along perimeter areas that drain away from disturbed surfaces.

Straw bale barriers act as a temporary measure similar to a silt fence. Straw bales shall be tightly packed in a linear or crenellated fashion, and each bale shall be secured with two stakes. Silt fence or straw bale barriers shall be provided as follows:

- Along the downhill perimeter edge of all areas disturbed;
- Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas;
- Along the toe of all cut slopes and fill slopes of the construction areas;
- Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc., that traversed disturbed areas or carry runoff from disturbed areas;
- Perpendicular to flow in the bottom of new drainage ditches, channels and swales;

- Around existing catch basins or at the entrance to culverts that receive runoff from disturbed areas;

- Across the right-of-way on any slope leading into wetlands or streams; and

- Along the edge of the construction area with slopes that lead into wetlands or streams.

b. Dewatering

During construction it may be necessary to remove surface or subsurface water from work areas. Should such conditions develop the water shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches or other means in accordance with New York. Pumped water shall not be pumped onto gravel fill.

In relatively minor saturated soil conditions where soils consist of consolidated silty loam material and saturated in static ground water conditions, wet soils shall be excavated and stockpiled directly adjacent to the excavation within a circular contained area made from hay bales and/or silt fence to prevent siltation into surrounding areas.

In the event that ground water seeps into the excavated hole at a rate not suitable for the above method but manageable with the use of a portable pump, the discharge of water from the excavation area shall be pumped into a hay bale/silt fence barrier to settle suspended silt material. Soil excavated from the hole shall be stockpiled separately within a hay bale/silt fence barrier as well. Water shall then be allowed to infiltrate back into the ground or filter through and/or overtop the hay bale/silt fence dike depending on the pump rate required.

Under extremely saturated conditions where ground water infiltration rates and surrounding water volumes far exceed the ability to dewater the excavated hole, a double work-shell arrangement that provides the ability to pump the space between the work-shells and the excavated hole shall be installed to provide dewatering capability to safely excavate and install the structure. The hay bale/silt fence barrier described above shall also be implemented for the excavated soil.

When there is not sufficient room in the work area to install a temporary retention structure as described above, commercial filter bags may be used to remove sediments from dewatered

effluent. Once the dewatered effluent passes through the filter bag, the clear water shall be allowed to drain onto vegetated areas. Additional erosion and sediment controls shall be installed as determined necessary in the field.

Trapped sediment collected during dewatering activities shall be graded on the right-of-way or at the substation site without being washed into the adjacent water body, wetland, or other sensitive resource.

4.2.4 Other Best Management Practices

a. Dust Suppression

High traffic areas and exposed soils and roadways shall be wetted as needed during extended dry periods to minimized dust generation. Only plain water will be used for dust suppression; chemical dust suppressants shall not be used.

4.2.5 Final Stabilization and Landscaping

Restoration of the portions of the construction areas that were previously vegetated will include preparation of the soil for subsequent seeding, application of topsoil on unpaved areas, and the provision and application of an appropriate seed mixture in accordance with approved erosion control plans. The Owners will survey restored areas and identify where additional landscaping and plantings are desired. Vegetation plantings will be performed by a qualified nursery and supervised by the Owners.

In unpaved areas, topsoil will be applied to an appropriate depth to cover all areas where seeding will be conducted. The proposed topsoiling schedule and permanent vegetative cover standards are provided as part of the *Erosion Control Notes* (Attachment 4). When appropriate, the Contractor will scarify or till the subsoil surface to permit bonding of the topsoil and subsoil. Excess soils may be removed from site, although excess topsoil may be used in other areas of the site where it is needed.

Mulch will be applied to the areas to be reseeded and in the immediate vicinity of proposed plantings to encourage the downward movement of surface water. Mulching will reduce loss of soil moisture by evaporation and will decrease the possibility of seedling damage from a soil

heaving caused by freezing and thawing. Mulch will be spread uniformly in a continuous blanket of sufficient thickness. The mulch may be spread by hand or machine. Mulch may be spread before or not later than three days after planting. Anchorage such as jute mesh will be used as required.

5 POLLUTION PREVENTION

Proper material storage, handling and disposal practices coupled with spill prevention, control and countermeasures procedures shall be implemented during the construction period to reduce the risk of exposure of materials and hazardous substances to stormwater or the environment.

5.1 Potential Pollutant Sources

Table 5.1 summarizes the types of materials that may be found at the work sites during construction of the LIRC Project.

Table 5.1- Potential Pollutant Sources for Construction Activities

Pollutant	Quantity	Container and Storage Description
Dielectric Fluid	18,400 gallons	Existing cable system; mobile vacuum trucks for disposal following removal from the cable system.
Hydraulic Fluid	Less than 25 gallons	Approved containers
Thinners/Solvents/Xylene/Methyl Ketone/Acetone (substations only)	Less than 25 gallons	1-gallon steel containers and 5-gallon steel containers, on pallets located inside secondary containment area.
Gasoline	Less than 50 gallons	5-gallon steel containers located inside secondary containment for chainsaws, pumps, etc. Mobile fueling truck w/ spill kit on board, no full time storage.
Diesel Fuel	Up to 500 gallons	Mobile fueling truck w/ spill kit on board, no full time storage.
Dry Materials (plaster, fertilizer, etc.)	Varies	Indoor storage, temporary shelters, storage trailers, tarpaulins, etc.
Solid Waste (litter and construction debris)	Varies	Covered dumpsters.
Sanitary Waste	Varies	Portable facilities.

5.2 Good Housekeeping Practices

Good housekeeping is a major component of the pollution prevention program for the LIRC Project. Litter, construction debris, oils and chemicals shall be prevented from exposure to stormwater and from becoming a pollutant source. All oils, hazardous materials, wastes and unused materials shall be removed from the work site at the completion of the job.

The Environmental Monitor shall conduct a daily walkover of active construction sites to identify exposure of potential pollutants to stormwater and ensure any problems identified are corrected. The storage, handling and disposal procedures to be enforced by the Environmental Monitor are described in the subsections below.

5.2.1 Solid Waste

The Construction Contractor shall comply with all required regulations governing the onsite management and off-site disposal of solid wastes generated during construction of the LIRC Project. A solid waste management program will be implemented that encourages and supports proper solid waste disposal and recycling practices through the placement of appropriate on-site containers. Solid waste and debris that cannot be recycled, reused or salvaged, shall be stored in on-site containers for off-site disposal. No loose materials shall be allowed at the jobsite and all trash must be disposed of in the covered dumpster. The prospective waste hauling/disposal contractors shall be required to provide documentation showing they have all necessary permits/licenses in place prior to being awarded the work.

5.2.2 Sanitary Waste

The Construction Contractor shall use portable sanitary facilities during construction. These facilities shall be maintained under contract with a local, licensed vendor.

5.2.3 Hazardous Waste

The Construction Contractor shall comply with all required regulations governing the onsite management and off-site disposal of hazardous wastes generated during construction of the LIRC Project. It is not anticipated that any hazardous wastes will be generated during the construction of the transmission facilities. Potential waste hauler/disposal contractors shall be

required to provide documentation showing that they have all necessary licenses in place prior to being awarded any work.

If hazardous waste is generated, the Construction Contractor shall implement all requirements of New York hazardous waste regulations including:

- Train and instruct employees and/or other handlers of hazardous waste on the proper reporting, storage, inspection and handling requirements;
- Separate hazardous waste from normal waste through segregation of storage areas and proper labeling of containers;
- Use appropriate storage and when necessary, DOT approved transportation containers, along with secondary containment measures where applicable;
- Verify that the hazardous waste transporters servicing the Project have all required licenses, registrations and/or USEPA identification number and that the waste is disposed of at an approved/licensed facility prior to shipping hazardous wastes;
- Transport all hazardous waste under a cradle-to-grave system of manifests;
- Follow accurate recordkeeping requirements as to the quantity and nature of hazardous wastes generated onsite, and shall maintain a file of Material Safety Data Sheets (MSDS) for all onsite chemicals; and
- Do not store hazardous wastes within 100 feet of a waterbody, wetland, well or other ecologically sensitive site or existing recreational area.

Should a fuel or oil spill occur during construction, the contaminated soil shall be removed from the worksite and disposed of in accordance with NYSDEC guidance.

5.2.4 Construction Materials

Construction materials shall be stored in a manner that minimizes exposure to precipitation and runoff, where appropriate, or otherwise to prevent the contamination of stormwater and the environment. For pollutant materials that must be kept dry (fertilizers, plaster, dry ingredients, etc.), indoor storage, temporary shelters, storage trailers, tarpaulins, and other means shall be employed to keep these materials from being exposed to stormwater. Building component materials that are normally exposed to precipitation while being stored shall be placed in upland areas away from all stormwater conveyances and shall be stored in a manner that shall not concentrate runoff. The Construction Contractor shall have only the minimal amount of material at each work site necessary to complete the work at that site. Excess concrete shall not be disposed of in the right-of-way. Concrete chute washout shall occur only at locations identified on the plan and profile drawings.

All construction materials stored onsite shall be stored in a neat, orderly manner in appropriate containers with appropriate labels. Products shall be kept in their original containers with the original manufacturer's label, unless the containers are not re-sealable and manufacturer's recommendations for proper use and disposal shall be followed. Original labels and Material Safety Data Sheets shall be retained for the period of time that the product is being utilized onsite in accordance with all applicable Occupational Safety and Health Administration (OSHA) regulations (29 CFR 1926.33). Containers shall not be stored on the ground, but shall be stored in cabinets or on a stable working surface such as a portable trailer bed or other secure decking. Containers shall be kept closed unless the material is being transferred. All transfer operations shall be monitored and not left unattended. The Construction Contractor shall not store, mix or load chemicals labeled toxic or petroleum products within 100 feet of a waterbody, wetland, well or other ecologically sensitive site or existing recreational area. This applies to storage and does not apply to normal operation or use of equipment in these areas. All employees and/or other handlers of hazardous materials shall be properly trained and instructed on the proper reporting and handling requirements.

5.2.5 Construction Equipment

All on-site construction vehicles including contractor employee vehicles shall be monitored for leaks and shall receive regular preventative maintenance to reduce the risk of leakage. Any equipment leaking oil, fuel or hydraulic fluid shall be repaired immediately or removed from the

site. Construction equipment and contractor personal vehicles shall be parked at least 100 feet from a waterbody, wetland, well or other ecologically sensitive site or existing recreational area at the end of the working day except where it is necessary to maintain continuity of construction. Petroleum products and hydraulic fluids that are not in vehicles shall be stored in tightly sealed containers that are clearly labeled. All gasoline and fuel storage vessels with greater than a 25-gallon capacity must have secondary containment constructed of an impervious material and be capable of holding 110% of the vessel capacity.

All equipment operating within 100 feet of a water body, wetland or rare plant or unique natural community shall have sufficient spill containment equipment on board to provide for prompt cleanup in the event of a release. All construction equipment shall be refueled at least 100 feet from a waterbody, wetland or rare plant or unique natural community and in an upland area away from conveyance channels. Refueling activities shall be performed under continual surveillance with extreme care. Where there is no reasonable alternative, refueling may occur within these setbacks, but only under the observation of the Environmental Monitor after proper precautions are taken to prevent an accidental spill. Drip pans shall be used and a supply of absorbent pads shall be available and utilized, as required. In the event of a release, the spill shall be promptly cleaned up in accordance with the spill response and clean up procedures.

The Construction Contractor shall not wash equipment or machinery in any waterbody, wetland or rare plant or unique natural community and shall not permit runoff resulting from washing operations directly enter any watercourses or wetlands.

Pumps used for trench dewatering or dam and pump crossings operating within 100 feet of a waterbody, wetland or rare plant or unique natural community shall be placed in properly sized and constructed secondary containment structures during their use.

5.3 Spill Response and Cleanup Procedures

The Construction Contractor shall comply with all federal, state and local laws, regulations and regulatory agreements pertaining to immediate and follow-up reporting of environmental spills or releases of petroleum products or hazardous substances. In the event that a spill has reached navigable waters in "harmful quatintities," in accordance with federal regulations (40 CFR Section 110.6), the Emergency Coodrinator or person with any knowledge of such conditions

must immediately notify the federal National Repsonse Center at 1-800-424-8802 (24 hours per day). When contacting the NRC, the following information should be provided:

- Time, location, and source of spill;
- Type and quantitiy of material spilled;
- Cause and circumstances of the spill;
- Hazards associated with the spill;
- Personal injuries;
- Corrective action taken or planned to be taken;
- Name and telephone number of individual reporting the spill; and
- Any additional pertinent information.

In addition, the Environmental Monitor shall immediately notify the Environmental Protection Agency, Region II at (732) 548-8730 in the event that a spill has reached navigable waters in "harmful quantities" in accordance with federal regulations (40 CFR Section 110.6).

5.3.1 New York Reporting Requirements

Under the New York State Navigation Law, the person responsible for the discharge of petroleum must report the incident to the NYSDEC within two hours of discovery. The law defines a discharge as any intentional or unintentional action resulting in the spill, release, pumping, etc., of petroleum to a waterway or to the lands from which it might flow into the waterways.

For spills of chemicals other than petroleum, the New York State Hazardous Substance regulations (6 NYCRR Part 595) apply. According to these regulations, a "release" is defined as "any unauthorized pumping, pouring, emitting, emptying, overfilling, spilling, leaking, leaching, or disposing, directly or indirectly, of a hazardous substance or any other substance which results in the formation of a hazardous substance upon release so that the substance or any related constituent thereof, or any degradation product of such a substance or of a related constituent thereof, may enter the environment." Under these regulations, a "spill" is defined as "any escape of a substance from the containers employed in the normal course of storage, transfer, processing, or use."

Within two hours of a discharge, the DEC shall be notified during working hours by telephoning the DEC Region 1 office at (631) 444-0320 or the DEC hotline at (800) 457-7362 after working hours. DPS staff shall also receive notification of any reportable spills.

5.3.2 Spill Response Plan

The Construction Contractor shall immediately mobilize the appropriate on-site personnel to control the source of the leak and contain the spill or release in as small an area as possible. Activities include stopping the leak, deployment of on-site spill supplies, construction of earthen berms, etc.

Appropriate equipment, supplies and materials for containment and cleanup of oil and hazardous substances shall be kept at the construction site(s) (i.e., substation site and right-of-way segments with ongoing construction activities) in the event of a spill. These materials include, but are not limited to, the following:

- Commercially available spill kits for construction equipment;
- Sorbents for containment and quick pick up of spilled liquids;
- Shovels, backhoes, etc. for excavation of contaminated materials;
- Drums, barrels, temporary storage bags for containment and transportation of contaminated materials;
- Absorbent pads, oil booms, mats, or equivalent; and
- Washable, reusable or disposable rags for cleaning up small lubricant leaks onto machinery.

It is the Owner's responsibility to ensure that spills are properly cleaned up. This will be done by having Owner personnel or its contractor clean up the spill, or having the Construction Contractor clean up the spill followed by verification of the clean up by the Owner or the

Environmental Monitor. It is the Construction Contractor's responsibility to properly dispose of spill cleanup wastes including soils. In general, the following procedures shall be followed:

- Contaminated soils and vegetation shall be cleaned up in accordance with standard procedures applicable to the spill material. The types and quantity of spill material as well as the method used for clean up shall be documented in writing by the personnel cleaning up the spill.

- All contaminated soil shall be collected and containerized as required by state and federal regulations. Contaminated materials shall be collected until no visible evidence of spilled material remains; and

- Testing may be required to determine the appropriate method of disposal. Analytical testing shall be completed and documented by a qualified person. Based upon the results of the analytical testing, the material may be taken to an approved solid waste landfill or an approved hazardous waste treatment facility. No disposal of materials at the substation sites, in the right-of-way or other work areas under the control of the Owners shall be permitted.

5.4 Unanticipated Encounters with Contaminated Soil

During upland trench excavation, the construction contractor will observe the excavation activities to determine the potential for contaminated soils. The contractor will determine the potential for contaminated soils through indicators such as presence of free product, stained soils, oil or chemical odors, and/or utilizing photo-ionization air monitoring equipment such as an organic vapor meter (OVM) or flame ionization devices such as the organic vapor analyzer (OVA). If it is determined by the contractor that contaminated soils may be present, the contractor will stop excavation activities in that area and notify LIPA's Environmental Health and Safety representatives who will coordinate soil testing in accordance with LIPA's standard procedures. Should the results of the testing determine that contaminated soils are in fact present; the contaminated soils excavated would be disposed of by a licensed contractor at a facility licensed to accept such material in accordance with applicable laws.

6 INSPECTION AND MAINTENANCE PLAN

The Owners have developed an environmental compliance process for the LIRC Project that will be used in conjunction with its Environmental, Health and Safety (E, H&S) Program to assure compliance with applicable environmental regulations during Project construction.

6.1 Responsibilities of Environmental Monitor

The Owners will be represented by an Environmental Monitor, whose primary responsibility will be to ensure that all Project construction activities, environmental mitigation measures and operations are conducted in strict compliance with federal, state and local environmental health and safety regulations and standards as well as the Owner's procedures and protocols. The Environmental Monitor will have sufficient knowledge and experience to manage the environmental compliance process described in the Plan, including the conduct and oversight of inspections and audits. The Environmental Monitor will perform pre-construction and quarterly site inspections to ensure the project is being conducted in accordance with all federal, state and local environmental health and safety regulations and standards as well as Owner's procedures and protocols.

6.2 Pre-Construction and Quarterly Inspections

Prior to the commencement of construction, the Environmental Monitor will perform a site inspection to ensure that the appropriate erosion and sediment controls described in the Plan are implemented and properly installed. The Environmental Monitor will certify in an inspection report that the erosion and sediment controls have been adequately installed and implemented. Following the commencement of construction, the Environmental Monitor will perform quarterly inspections to ensure that construction activities are in compliance with the States general permits (NY GP-02-01).

A Quarterly Inspection Report (QIR) and Compliance Audit Checklist will be developed for use by the Environmental Monitor in performing pre-construction and quarterly inspections. Appendix A provides a copy of a representative QIR and Compliance Audit Checklist. The preliminary audit checklist has been prepared to assist the Environmental Monitor in documenting that ongoing tasks/activities associated with the referenced construction activities

are being performed in a safe, timely manner and that compliance with regulatory permits/approvals/certificates is being monitored and/or tracked.

Completed QIRs will be kept on file by the Environmental Monitor. QIRs containing corrective actions will be reviewed by the Construction Manager for timely resolution. As a matter of policy, the Owners will maintain copies of each quarterly inspection report that will be logged in and recorded in a Master Log maintained by the Environmental Monitor. For each inspection report, the Environmental Monitor will record his/her name and the date of inspection; the nature of the inspection; the subject area of inspection; and whether the results of the inspection indicate no problems or satisfactory inspection; whether suggested actions and recommendations should be investigated; and whether the inspection revealed non-compliance. Copies of any inspection reports that require corrective actions to be taken on the part of the Contractor will be given to them.

6.3 Weekly and Storm Event Inspections

For construction activities within the cable corridor and substations, the Environmental Monitor shall perform inspections of all erosion and sediment control measures at least once every seven-calendar days or within 24 hours following a storm event that produces 0.5 inches of precipitation or more at the site. Inspections are to be performed on all disturbed areas that have not undergone final stabilization, on areas used for storage of materials that are exposed to precipitation, and on structural control measures. For areas that have undergone final stabilization, or where runoff is unlikely due to winter conditions, inspections are to be performed at least once every month by the Environmental Monitor. Material storage areas and disturbed areas shall also be inspected for evidence of, or the potential for, pollutants entering the drainage system. The erosion and sediment control measures shall be inspected to ensure that they are operating correctly. Vehicle construction entrances and exits shall be inspected for evidence of off-site sediment tracking.

Inspection reports shall be prepared for each inspection performed and retained as part of this SWPP Plan. Each inspection report shall provide the name(s), title(s) and qualifications of the personnel conducting the inspection, date(s) of the inspection and major observations of the inspection relating to the implementation of the SWPP Plan. Observations shall include the following:

- Locations of sediment or other pollutant discharges;
- Locations of BMPs requiring maintenance;
- Locations of BMPs failing to operate adequately or as designed;
- Locations where additional BMPs are required; and
- Descriptions of activities conducted in contravention to this SWPP Plan or otherwise contributing to storm water pollution.

The inspection report shall identify any incidents of non-compliance. For incidents of noncompliance, the inspection report shall also describe the modifications to the Project or control measures to be implemented to prevent further incidents of non-compliance. Inspection reports will be provided to the Construction Contractor, who will be required to begin implementation of any identified corrective actions needed within 24 hours of receipt of the inspection report. All required repairs shall be completed before the next anticipated storm event. The inspection reports shall be maintained at the construction field office during the course of the Project. The Owners shall also retain the inspection reports and SWPP Plan in the project files for a period of three years.

6.4 Maintenance Requirements

To ensure proper operation of the soil erosion and sediment controls, routine maintenance activities shall be conducted at the project site that includes, but are not limited to, the following:

- All structural controls receiving flows from areas that have not been permanently stabilized shall be inspected once each week or within 24 hours after a 0.5-inch rain event.
- Silt fences shall be inspected for depth of sediment, tears or sags in the fabric, and to see if the fabric is securely attached to the posts. Posts shall also be inspected to ensure that they are firmly set in the ground. Should the fabric on the silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be promptly replaced.

- Built-up sediment shall be removed from silt fences where accumulations reach one-third the height of any barrier and graded into the right-of-way or returned to the substation site.

- Hay/straw barriers shall be inspected for depth of sediment, broken strings and barrier integrity. Hay/straw bale barriers shall be replaced when the strings have broken. Two stakes shall be maintained in every bale. Firm contact shall be maintained between adjacent bales and between the bales and the ground.

- Built-up sediment shall be removed where accumulations reach one half the aboveground height of any straw bale barrier and graded into the right-of-way or returned to the substation site.

- Conveyance structures shall be maintained so as to operate in the design condition. When necessary, velocity-attenuating devices, such as riprap or other means, shall be used to accomplish the desired result. Foreign debris shall not be allowed to accumulate in swales or drainage ditches.

- Accumulated silt, broken branches and other debris that interferes with drainage or sediment collection shall be removed.

6.5 Record Keeping

Records regarding stormwater pollution prevention activities shall be maintained at the construction site. The records shall be retained for a period of three (3) years. Records to be retained shall include:

- The SWPP Plan and all revisions.

- All inspection reports (Attachment 5)

6.6 Revisions to SWPP Plan

The SWPP Plan must be amended whenever:

- There is a change in contractors or subcontractors at the site, or a change in design, construction, operation or maintenance which will have a significant effect on the potential for the discharge of pollutants;

- The SWPP Plan proves to be ineffective in eliminating or significantly minimizing pollutants in stormwater runoff; or

- It is proven to be ineffective in achieving the general objectives of controlling pollutants from the construction site's stormwater system.

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 1

Aerial Photograph

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 2

Development Activities Plan

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 3

SPDES Notice of Intent
(To be Provided under Separate Cover)

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 4

Erosion Control Notes

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 5

Example Inspection Records

Long Island Power Authority Long Island Replacement Cable Project	Date(s)	
Daily Inspection Report and Compliance Audit Checklist		

The following preliminary compliance audit checklist is provided as a template for the Environmental Inspector(s) to document that ongoing tasks/activities associated with the construction of the facility are being performed in a safe, timely manner and that compliance with regulatory permits, approvals, and certificates is being monitored and/or tracked. This preliminary checklist needs to be revised over time to reflect actual stages of construction and/or facility operation. Compliance acceptability will be noted by the Environmental Inspector(s) in the corrective action/compliance documentation and/or comments column.

Compliance Location/Subject Area	Date	Inspected/Reviewed (Yes/No)	Corrective Action/ Compliance Documentation	Comments
I. <u>General</u> • Ensure that a copy of the SWPP Plan and any permits required for construction are kept on-site at all times. • Are all required site plan drawings, reports, plans, etc., readily available and accessible at the site. • Ensure that all commitments by LIPA referenced in NYSDEC Permits or				

Compliance Location/Subject Area	Date	Inspected/Reviewed (Yes/No)	Corrective Action/ Compliance Documentation	Comments
Building Permits are complied with.				
II. Site Safety • Ensure that visiting contractors/vendors adhere to site safety requirements and parking locations.				
• Ensure MSDS sheets updated and available at specified locations.				
• Ensure regulatory agency representative(s) visiting site are escorted at all times by Construction Contractor and/or Con Edison representatives.				
• Review Site Specific Environmental Health and Safety Plan for prepared by Construction Contractor is being implemented.				

Compliance Location/Subject Area	Date	Inspected/Reviewed (Yes/No)	Corrective Action/ Compliance Documentation	Comments
• Verify Construction Contractor SPCC Plan prepared and implemented.				
• Confirm that all construction workers are aware of and knowledgeable of Environmental, Health and Safety Plan. • Ensure that Site Access, Safety and Construction Plans prepared for Work within County correctional facility are being implemented.				
III. <u>Water Supply/Stormwater Management</u> • Review EPC Contractor Water Management Plan and confirm proper implementation.				
IV. <u>Soils Management</u> • Verify Grading Plan is being implemented.				
• Verify Soil Erosion and Sediment Control Plan details properly implemented (e.g., hay bales located; gravel pads by roadways, etc.)				

Compliance Location/Subject Area	Date	Inspected/Reviewed (Yes/No)	Corrective Action/ Compliance Documentation	Comments
V. Hazardous Waste • Confirmation that LIPA and/or the Construction Contractor are knowledgeable of all hazardous chemicals handled, stored, etc., onsite.				
• Verify that MSDS sheets are available at facility and that MSDSs have been submitted to state and/or local emergency planning committees as required.				
• Confirm that Construction Contractor labels, tags or marks each container of hazardous chemicals.				
VI. Reactors/Transformers • Confirm the SPCC Plan has been modified to include additional equipment prior to filling any reactors and/or transformers.				
VII. Complaints • Does a Complaint Log form/master logbook exist?				

Compliance Location/Subject Area	Date	Inspected/Reviewed (Yes/No)	Corrective Action/ Compliance Documentation	Comments
• Is LIPA and/or the Construction Contractor documenting all complaints received and are they recorded in the master logbook?				
• Is LIPA and/or the Construction Contractor regularly reviewing the complaint logbook and undertaking corrective actions, if necessary?				

EXAMPLE

INSPECTION REPORT

Sheet ___ of ___

Project Name: _____

File No._____

Inspection Date: _____ Time: _____ Inspected by: _____

STAGE OF CONSTRUCTION

___ Pre-Construction Conference	___ Rough Grading	___ Finish Grading
___ Clearing and Grubbing	___ Building Construction	___ Final Stabilization

==========

INSPECTION CHECKLIST

Yes	No	NA	
[ ]	[ ]	[ ]	Have all denuded areas requiring temporary or permanent stabilization been stabilized?

Seeded? ڤ Yes ڤ No
Mulched? ڤ Yes ڤ No
Graveled? ڤ Yes ڤ No

[ ]	[ ]	[ ]	Are soil stock piles adequately stabilized with seeding and/or sediment trapping measures?
[ ]	[ ]	[ ]	Does permanent vegetation provide adequate stabilization?
[ ]	[ ]	[ ]	Have sediment trapping facilities been constructed as a first step in Soil Erosion and Sediment Control Plan?

[ ] [ ] [ ] For perimeter sediment trapping measures, are earthen structures stabilized?

[ ] [ ] [ ] Are finished cut and fill slopes adequately stabilized?

[ ] [ ] [ ] Are on-site channels and outlets adequately stabilized?

[ ] [ ] [ ] Do all operational storm sewer inlets have adequate inlet protection?

[ ] [ ] [ ] Are stormwater conveyance channels adequately stabilized with channel lining and/or outlet protection?

[ ] [ ] [ ] Are utility trenches stabilized properly?

[ ] [ ] [ ] Are soil and mud kept off public roadways at intersections with site access roads?

[ ] [ ] [ ] Have all temporary control structures that are no longer needed been removed?

[ ] [ ] [ ] Have all control structure repairs and sediment removal been performed?

[ ] [ ] [ ] Are properties and waterways downstream from development adequately protected from Erosion and sediment deposition due to increases in peak stormwater runoff?

==========

Comments: _____

_____

_____

_____

_____

_____

Verbal/Written notification given to: _____

Report by: _____ Date: _____

Long Island Power Authority

Long Island Replacement Cable Project

Appendix D

Navigation and Marine Operations Safety Plan

LONG ISLAND REPLACEMENT CABLE PROJECT
NAVIGATION AND MARINE OPERATIONS SAFETY PLAN

Table of Contents

List of Attachments

1 Overview

This Navigation and Marine Operations Safety Plan describes navigational safety aspects associated with the removal of the existing cables and the installation of the new cables. This Plan covers both the New York and the Connecticut portions of the LIRC Project.

2 Notice to Mariners

As part of the required notification process, the construction contractor will prepare and submit a request to the U.S. Coast Guard (USCG) First District for publication of a Local Notice to Mariners one (1) month prior to the start of the in-water work. This notice will include the contact names for the cable removal and installation vessels, channels of communication, and the duration of the work. Copies of all USCG communications will be provided to the Town of Huntington, the Huntington Harbormaster and the Norwalk Harbor Commission.

The construction contractor will update the Local Notice to Mariners as necessary during the cable removal and installation work.

3 No-Entry Safety Zone

During construction activities there will be a ½ mile radius no-entry safety zone established around all construction vessels that are restricted in their ability to maneuver (See Section 9). These zones will temporarily prohibit the crossings of other commercial and recreational vessels. The proposed no-entry and safety zone will be reviewed with the Huntington Harbormaster and USCG officials prior to finalization.

4 Communications

All work vessels will be required to monitor VHF channels 13 and 16 (general hailing channel) during operations. In this manner all work vessels will be available for contact during all operations. In addition "security calls" will be made every 15 minutes or as required by the USCG.

5 Vessel Security

Prior to the start of the cable removal, the construction contractor will provide the Owners with the name and contact information for each vessel's Security Officer. The vessel Security Officers will be versed in Homeland Security rules and regulations that may affect the operations.

The cable installation vessel *C/S Nexans Skagerrak* will be required to file a Notice of Arrival with the USCG National Vessel Movement Center as applicable to the vessel.

6 Vessel Safety

All vessels working on the Project will have all required safety equipment onboard and in working order throughout the duration of the Project. All vessel crews will adhere to the applicable worker safety and navigation safety rules and regulations.

The *C/S Nexans Skagerrak* complies with the requirements of SOLAS (International Convention for the Safety of Life at Sea). Compliance is ensured through the DNV classification certificates.

7 Piloting

As required by the U.S. Coast Guard for foreign-registered vessels, a local Pilot will be onboard the installation vessel *C/S Nexans Skagerrak.*

8 Planned number of vessels

For the cable removal portion of the Project, the plan is to utilize the following equipment:

3 – Tugs
2 – Spud Barges
1 – Disposal Transport Barge
1 – Landing Craft
2 – Assist Boats
1 – Crew Vessel

For the cable installation portion of the Project, the plan is to utilize the following equipment:

1 – Tug
1 – Lay Barge (Positioned by Anchors and operated in Norwalk Harbor only)
1 – Burial Barge (Positioned by Anchors and used in all waters less than 30' deep)
1 – Landing Craft
2 – Assist Boats
1– Cable Installation Vessel *C/S Nexans Skagerrak* with her 2-4 work boats (Will operate from Sheffield Island to Northport in waters more than 30' deep)
1 – Crew Vessel

Figures 1 through 3 (Attachment 1) at the end of this document provide photographs and typical diagrams for the various vessels that will be used for cable removal and installation. Attachment 2 to this document provides additional specifications regarding the *C/S Nexans Skagerrak.*

9 Vessel Relocation

The cable removal barge, the cable lay and burial barges and the cable lay and burial ship will all be considered "vessels restricted in their ability to maneuver" under the Inland Navigation Rules Act of 1980. This definition includes but is not limited to: "A vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipeline". This is a necessary distinction because the ability of these vessels to relocate to accommodate other vessel traffic is very unlikely. It would be very difficult to disengage from the cable removal or installation activities. However, the footprint of the work area should allow for the passage of vessel traffic around the vessels in all areas. It will be the responsibility of the captains of the respective vessels to solve these issues in a safe and professional manner, as the cases require.

10 Expected Durations

The expected duration of the cable removal is from September 10 to December 31st 2007. The cable installation would follow this activity from January 1st to April 30th 2008. However, these activities may overlap to accommodate weather or other site-specific conditions, recognizing the geographic scope of the project area.

11 Anchorage Plan

Anchors will be used to move and position barges during cable burial but will be on station for lay operations as well. This anchor set up will be utilized by the cable burial spread in waters less than 32 feet deep. The deepwater lay vessel uses other methods of controlling position.

Spuds will be used when the burial spread is to remain stationary. This will occur when the anchor cables are being transferred to the next set of anchors, and during any emergency that requires a suspension of operations.

Anchors were chosen as a method for positioning in the shallow water regions for several reasons:

- They are a proven method with which the construction contractor has considerable experience.
- They are a positive method of moving a barge where tension on the cables can equate to the force provided by very powerful motor driven propellers.
- In shallow waters the cables will create very little turbidity.
- There is little risk of an environmentally caused equipment failure.
- In the unexpected case of equipment failure, a barge attached to anchors will remain stationary.
- Movement by anchor spread is typically controlled by a single professional at mechanical controls.

11.1 Equipment

Each anchor consists of three main components. The first component is the anchor itself, which will weigh approximately 3,000 pounds. Three thousand pounds is fully sufficient for the purposes of this project, but quantities may dictate some variance in equipment size. A length of cable (pendant wire), which has a loop on it for attaching to the barge-mounted cable (winch cable) is then attached to the anchor. The last item is a steel buoy, which is attached to the pendant wire near the loop to keep the wire above water for connecting and disconnecting the winch cables.

On board the barge are two double drum winches, which are capable of turning each drum independent of the other. The winch cable used to attach to the pendant wire is run through a series of fairleads to direct them to the barge corners. There will be approximately 2,000 feet of cable on each drum. The controls of the winch are positioned such that the operator can see most of the barge including the other operations and his own winches. Global positioning equipment, marine radios, current weather predictions and at least one member of the lay crew can communicate operational needs directly to the winch operator.

11.2 Method

Anchors will be set in pairs to predetermined locations (see Attachment 3). One anchor will be placed on each side of the cable centerline, longitudinally every 1,500 to 2,000 feet along the cable route. The anchors will be set far enough from the centerline such that no portion of the anchor will conflict with any of the new electric cables. These anchors will be set using a barge mounted crane and positioned to coordinates provided by the on-board global positioning equipment.

11.3 Sea Conditions

The Captain of the vessel will have final authority on sea conditions that preclude safe operations, under anchoring and all other procedures. Responsible individuals will monitor the weather nearly continuously to be aware of building sea conditions. A professional weather service will be contracted to provide continuous site specific information. When adverse weather is expected the marine equipment will be moved to sheltered areas within nearby harbors. The anchors and buoys will stay on station.

The *C/S Nexans Skagerrak* is equipped with a fully redundant dynamic positioning system. If the cable laying operation will have to be paused due to bad weather, the vessel will stay in position, turning against the weather.

Long Island Power Authority

Long Island Replacement Cable Project

Attachment 1

Figures

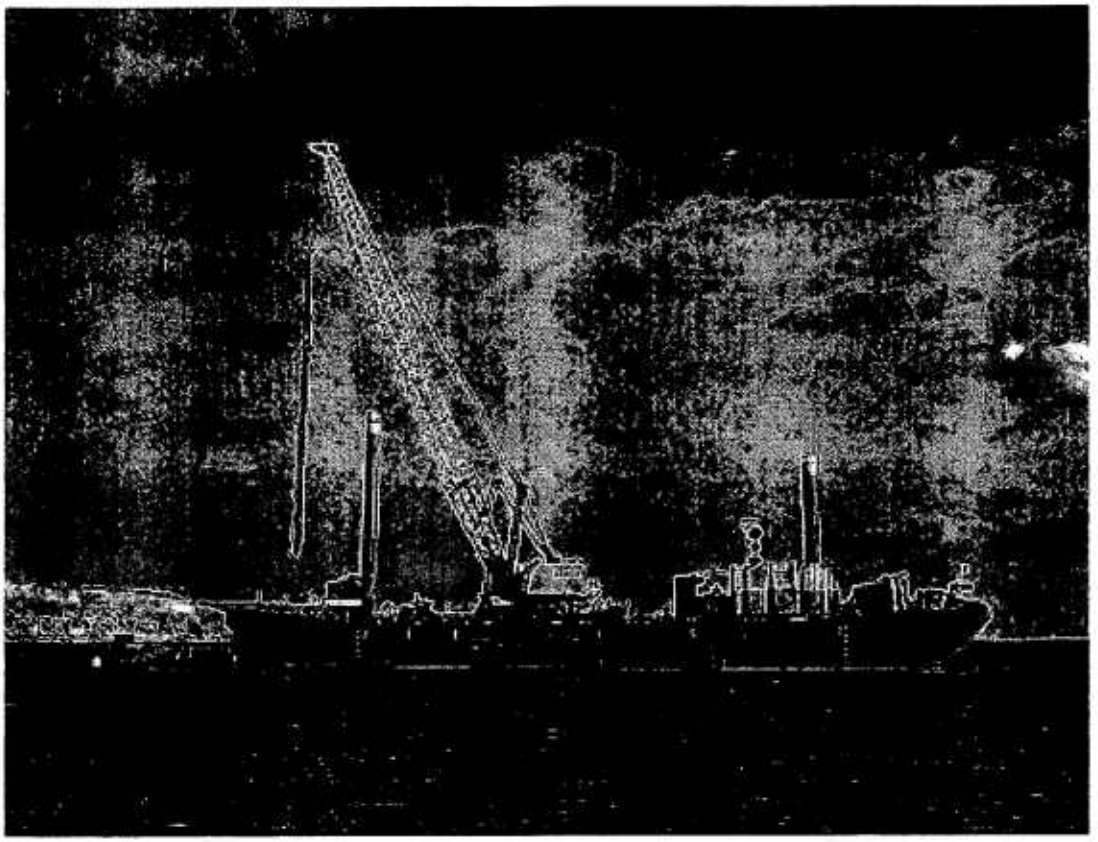
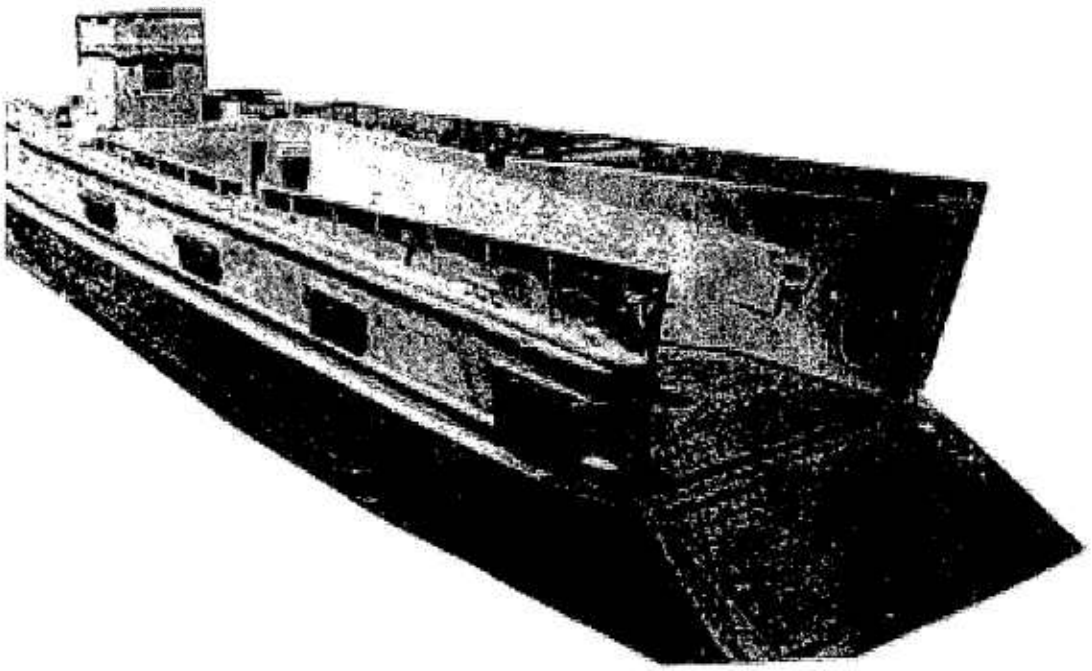


Figure 1. Photograph of Typical Spud Barge
(The above spud barge is representative of all barges that will be utilized.)



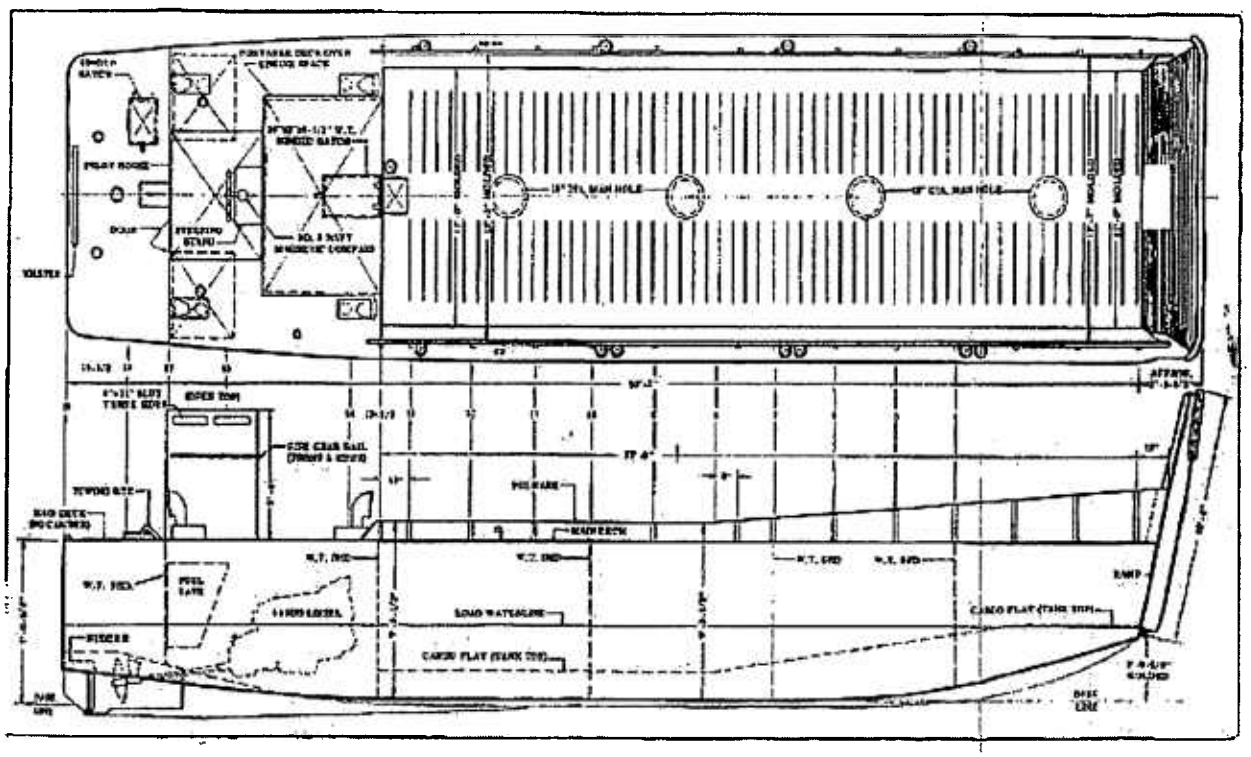


Figure 2. Photograph and Diagram of Typical Landing Craft
For possible use for landing equipment on Sheffield Island

Figure 3. Photographs of Typical Work Assist Boat and Tug

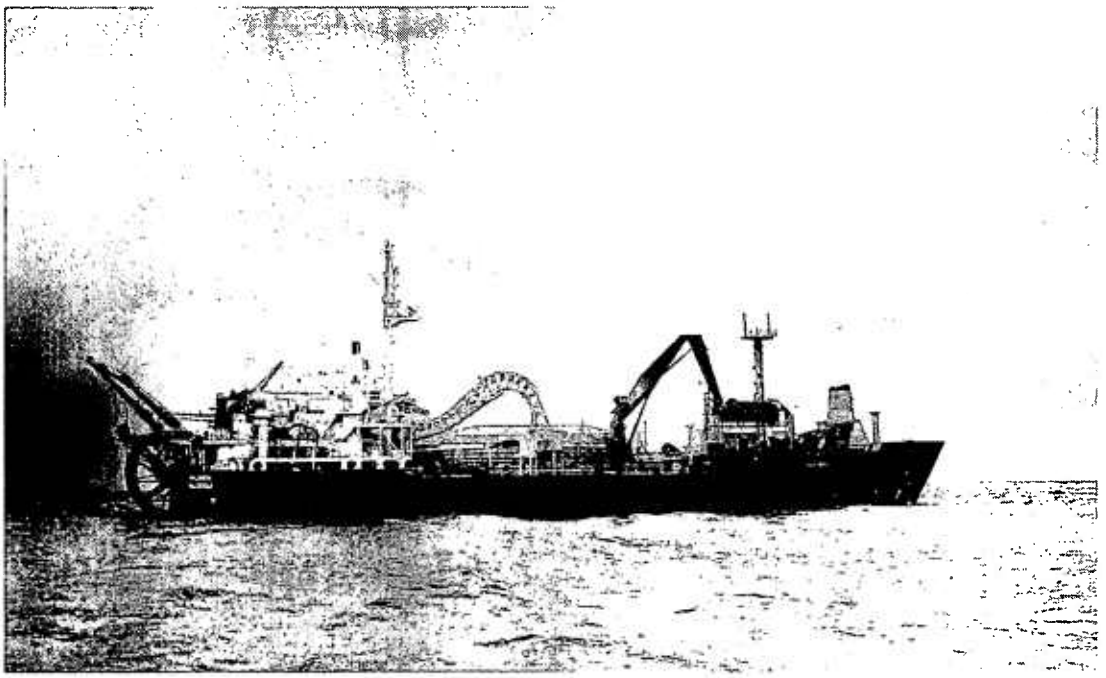
Long Island Power Authority

Long Island Replacement Cable Project

Attachment 2

C/S Nexans Skagerrak Specifications

Nexans



C/S NEXANS SKAGERRAK

OWNER: NEXANS NORWAY AS

GENERAL

C/S NEXANS SKAGERRAK is specially built for laying and repair of heavy submarine power cables. The main features are the 6600 tonnes and 29 m diameter turntable and purpose designed cable laying gear based on a cable capstan and linear engine combination with a 5 m cable radius throughout.

The fully redundant dynamic positioning system allows C/S NEXANS SKAGERRAK to operate close to offshore structures and perform accurate cable laying operations.

Nexans

THE VESSEL

GENERAL

IMO NO:	7619458
Call sign	LCEK

CLASSIFICATION

Classification society:	DNV
Class	✠1A1 MW. EO. Cable Laying Vessel DYNPOS AUTR. Unrestricted trade
DNV ERN	99.99.99
Flag	Norwegian (NOR)

THE HULL

Gross Tons (GT):	7382	(ITC 69)
Net Tons (NT):	2214	(ITC 69)
DWT:	7150	
Length of hull:		
- over all length:	99.75 m	(327.3 ft.)
- incl. laying sheave:	106.00 m	(347.8 ft.)
Total width:	32.15 m	(105.5 ft.)
Depth moulded:	8.00 m	(26.2 ft)
Draft at 7150 DWT.:	5.42 m	(17.8 ft.)
- incl. stern propellers:	6.17 m	(20.2 ft.)
- bow propeller lowered	8.13 m	(26.7 ft.)
Deck load:	10 tonnes/m^2	
Ballast capacity:	5060 m^3	
Speed, approx.:	10 knots	

PROPULSION MACHINERY

Stern thrusters:		
- steerable, port side:	1943 kW	(2640 HP)
- steerable, starb. side:	1943 kW	(2640 HP)
- steerable, center:	1000 kW	(1360 HP)
Bow thrusters:		
- steerable, center:	1820 kW	(2475 HP)
- tunnel:	957 kW	(1300 HP)

AUXILIARY ENGINES

Motor generators:	380 V, 50 Hz
Number of generators:	5
Capacity:	4 x 500 kVA 1 x 600 kVA

ACCOMMODATION FACILITIES

Single berth cabins:	49
Double berth hospital:	1
Accommodation container(s):	Option

ELECTRONIC EQUIPMENT

NAVIGATION EQUIPMENT

Radar, 3 cm and 10 cm.
Gyros
Echo sounding equipment.
Satellite navigation.
Doppler log.
Autopilot.

SURFACE REFERENCE SYSTEMS

Differential GPS
Differential GPS/GLONASS
IALA
UHF
Fanbeam

UNDERWATER POSITION REFERENCE SYSTEM

Kongsberg Simrad HIPAP 500

DYNAMIC POSITIONING EQUIPMENT

Kongsberg Simrad SDP 521

NAVIGATION BACK-UP AND DATA LOGGING SYSTEM

Fugro software.

COMMUNICATION EQUIPMENT

Marine Radio System.

VHF-stations.

Mobile VHF and UHF stations
for the cable operations.

Closed circuit TV-system.

CABLE LAYING MACHINERY

ELECTRICALLY DRIVEN TURNTABLE

Outer diameter:	29 m
Inner diameter:	12 m
Load capacity:	6600 tonnes
Max. speed:	1.2 r.p.m.

PICK-UP ARM

Min. bending diameter:	9 m
Max. opening	400 mm

PRETENSIONER

Duplex belt caterpillar

Number of units:	1
Pulling/braking force:	max. 2 tonnes
Pick-up/pay-out speed:	max. 70 m/min.
Belt squeezing force:	0 - 4 tonnes
Belt opening:	30 - 350 mm
Contact length:	1000 mm

CABLE CAPSTAN

Drum diameter:	10 m
Pulling/braking force:	max. 47 tonnes
Laying speed:	max. 60 m/min.
Heaving speed:	20 m/min. at max. cable tension.

LINEAR CABLE ENGINE

Number of wheel-pairs:	12
Wheel dimensions:	18" x 7"
Pulling/braking force:	max. 8.5 tonnes
Breaking force, intermittent	max. 10.0 tonnes
Laying speed:	max. 50 m/min.

Heaving speed:	max. 25 m/min.

LAYING SHEAVES

Starboard, outer diameter:	10 m
Port, outer diameter:	5 m

CABLE REPAIR WINCH

Low pressure hydraulic winches with separate wire drums, for cable repair.

Number of units:	2
Wire dimension:	38 mm
Wire length:	3000 m
Pulling force:	max. SWL 30 tonnes

MOORING CAPSTANS

Two speed electrically operated capstans.

Number of units:	4
Pulling force:	max. 10 tonnes each

Low pressure hydraulic capstans on forecastle.

Number of units:	2
Pulling force:	12 tonnes
Speed:	max. 42 m/min.

MAIN ANCHOR WINCHES

Number of units:	2
Pulling force:	12/20 tonnes each
Length of chain:	550 m
Anchor weight:	4.59 tonnes each

CRANES

HYDRAULIC CRANES ON CABLE REPAIR DECK

Number of units:	3
Boom length:	16 m
Lifting capacity:	SWL 5 tonnes each

Nexans

A-FRAME

Lifting capacity:	SWL 40 tonnes

OTHER CRANES

Lifting capacity:	20 tonnes on 16 metres

MISCELLANEOUS

AUXILIARY EQUIPMENT

For a cable laying or a cable repair operation, C/S NEXANS SKAGERRAK can be equipped with the following auxiliary equipment:

- work boats.
- Subsea cable cutting and retrieving equipment
- Equipment for the cable testing and splicing operations.

The vessel has her own stores of equipment needed for laying or recovery operations and a mechanical work-shop equipped for various types of metal processing and repair work.

ROV

The vessel is equipped with a Remote Operated Vehicle (ROV) of type ARGUS Mariner XL as standard, in order to monitor the cable touch down point on the seabed, perform subsea intervention tasks or execute pre- and post-lay surveys.

TRENCHING

The vessel can be used as support vessel for various subsea tasks including cable and flowline trenching operations using the CAPJET waterjet based trenching systems developed by Nexans Norway.

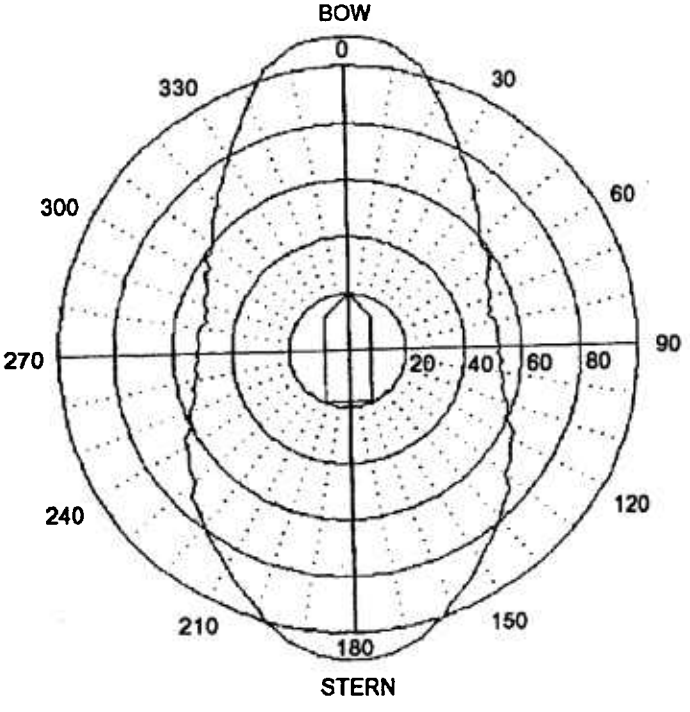
VESSEL CAPABILITY PLOT

A vessel capability plot shows the extreme weather conditions during which the vessel has enough thrusters force to maintain position. A capability plot for C/S NEXANS SKAGERRAK is presented below with the following conditions:

Current: 2 knots
Thruster force:

Thruster No	Positive Force (tonnes)	Negative Force (tonnes)
1	16.0	16.0
2	27.5	12.0
3	34.0	16.0
4	34.0	16.0
5	19.0	12.0

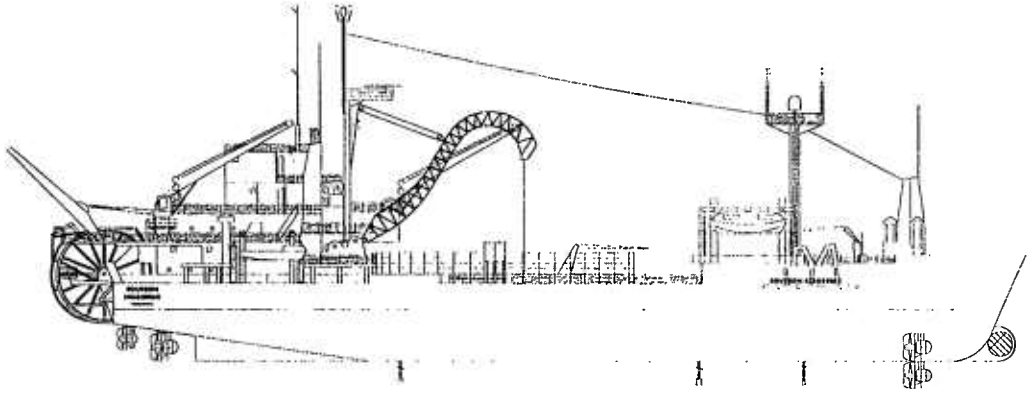
Environmental incident angle of wind, wave and current

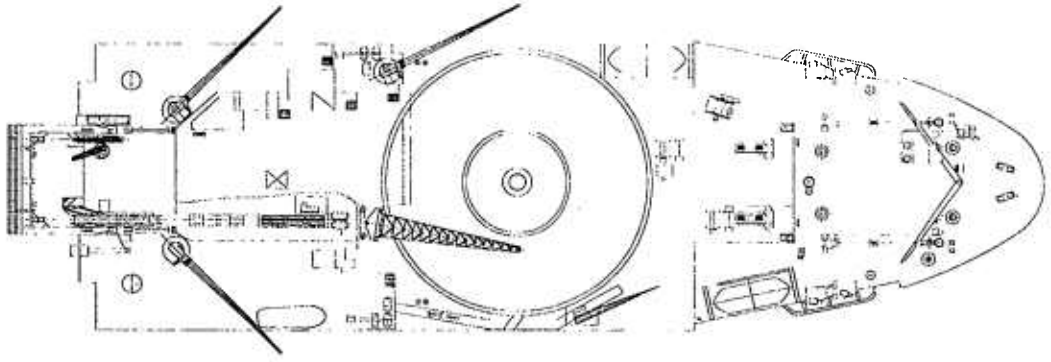


Circles are wind speed in knots

Nexans

GENERAL ARRANGEMENT





Long Island Power Authority

Long Island Replacement Cable Project

Attachment 3

Anchoring Plan

Long Island Power Authority

Long Island Replacement Cable Project

Appendix E

Compliance Matrices to NYSDPS Certificate Conditions and EM&CP Guidelines

Northeast Utilities and Long Island Power Authority
Long Island Replacement Cable Project
New York Certificate of Environmental Compatibility and Public Need - Compliance Matrix

Certificate Condition	Requirement	Comments	EM&CP Reference
1	Subject to the conditions set forth in this Opinion and Order, Long Island Power Authority (LIPA) is granted a Certificate of Environmental Compatibility and Public Need (Certificate) authorizing construction and operation of three 138 kV electric transmission cables and related substation facilities (Facility) extending from the LIPA switch yard on the site of the Northport Power Station in the Town of Huntington, Suffolk County, and running beneath Long Island Sound along the route detailed herein. All conditions in the Certificate shall apply as well to the decommissioning and removal of the existing 1385 Cable System.	No response required	
2	LIPA shall, within 30 days after the issuance of the Certificate, submit to the Commission either a petition for rehearing or a verified statement that it accepts and will comply with the Certificate. Failure to comply with this Ordering Clause shall invalidate the Certificate.	LIPA will comply	
3	If construction of the Facility hereby certified is not commenced within 18 months, the Certificate may be vacated with notice to LIPA	Construction is anticipated to begin in September 2007	
4	LIPA will submit an application to the New York State Office of General Services (OGS) to revise and update the existing 1385 Cable System and install and operate that portion of the Facility underneath Long Island Sound that is within the territorial boundaries of the State of New York. LIPA shall not begin site preparation or construction with respect to any portion of the Facility (except for surveying, soils testing and such other related activities as are necessary to prepare final design plans) before it has received such authorizations from OGS.	LIPA will comply	
5	Construction of the Facility shall not commence until the Connecticut portion of the cable has received such permits and approvals as are necessary for it to be constructed pursuant to any Federal and State permit or licensing requirements applicable within the territorial boundaries of the State of Connecticut.	LIPA will comply	
6	LIPA shall integrate and coordinate maintenance of the certified Facility with that of adjacent utility facilities.	LIPA will comply	
7	LIPA shall promptly notify the Commission in writing should it decide not to complete construction of all or any portions of this project and shall serve a copy of such notice upon all parties.	LIPA will comply	
Description of Route			

Northeast Utilities and Long Island Power Authority
Long Island Replacement Cable Project
New York Certificate of Environmental Compatibility and Public Need - Compliance Matrix

Certificate Condition	Requirement	Comments	EM&CP Reference
8	The proposed location of the Facility is approved as follows: The Facility begins at the switch yard on the side of the Northport Power Station in the Town of Huntington, Suffolk County, and travels underground out of the switchyard in a northerly direction a distance of approximately 520 feet to a fence; thence underground in a northerly direction a distance of approximately 80 feet under a grassy upland area to a beach; thence underground in a northerly direction a distance of 150 feet under the beach to the seabed of Long Island Sound; thence underground in a northwesterly direction a distance of approximately 5.4 miles under the seabed of Long Island Sound to the boundary between the States of New York and Connecticut along a route designed by LIPA as the "East Route Corridor"		Appendix A
Laws and Regulations			
9(a)	a) LIPA's motion for a waiver of the application requirements of 16 NYCRR Sections 86.3(a) (1) (i) & (iii), 86.3(a) (2) and 86.3(b) (1) & (2) regarding mapping requirements and aerial photographs is granted in the manner requested in the motion. LIPA's motion for a waiver of the application requirements of 16 NYCRR Section 88.4(a)(4) regarding electric system studies is granted as such studies are unnecessary because the Facility is designed as a "like-for-like" replacement	No response required	
9(b)	Each substantive Federal, State and local law, regulation, code and ordinance applicable to the Facility authorized by the Certificate shall apply, except any substantive local law or regulation which the Public Service Commission (Commission) has refused to apply as being unreasonably restrictive as discussed herein.	LIPA will comply	
9(c)	No provisions of the Codes of the County of Suffolk have been found to be unreasonably restrictive other than those that have been waived by the Commission.	No response required	
9(d)	No provisions of the Town of Huntington have been found to be unreasonably restrictive, except Chapter 141 which is unreasonable restrictive as applied to the Facility in view of existing technology as it restricts noise associated with building construction activities to between the hours of 7:00 A.M. and 6:00 P.M. on weekdays, except under emergency conditions, and certain other heavy	No response required	

Certificate Condition	Requirement	Comments	EM&CP Reference
	construction activities to between the hours of 7:00 A.M. and 10:00 P.M., whereas the termination installation and any attendant noise, once commenced, must be performed on a continuous 24-hour basis until completed because of the complexity of the work and the need to maintain atmospheric conditions during work which are critical to the electrical integrity of the termination. Accordingly, with respect to termination installation work within the Northport substation, the Commission has refused to apply Chapter 141 of the Code of the Town of Huntington.		
9(e)	No State or local legal provision purporting to require any approval, consent, permit, certificate or other condition for the construction or operation of the Facility authorized by the Certificate shall apply, except (i) those of the Public Service Law and regulations and orders adopted thereunder, (ii) those provided by otherwise applicable State law for the protection of employees engaged in the construction and operation of the facilities, (iii) those permits issued under a federally delegated environmental permitting program, and (iv) those referenced in Condition 10 below.	No response required	
9(f)	LIPA shall construct the Facility in a manner that conforms to all standards of the American National Standards Institute (ANSI) including, without limitation, the National Electric Safety Code (NESC) [including Institute of Electrical and Electronics Engineers (IEEE) Standard IEEE C2-2002] and any stricter standards adopted by LIPA.	LIPA will comply	
9(g)	LIPA shall construct the Facility in a manner that conforms to all applicable requirements of the New York State Uniform Fire Prevention and Building Code.	LIPA will comply	
10	Nothing herein shall preclude LIPA from voluntarily subjecting itself to any State or local approval, consent, permit, certificate or other condition for the construction or operation of the Facility.	No response required	
10(a)	As stated in the Joint Proposal, LIPA shall subject itself to building plan review and obtain building permits, inspections, and certificates of occupancy, if required, upon the inspection and completion of construction from the New York State Office of General Services to the degree that the subject matter of the New York State Uniform Fire Prevention and Building Code applies to the Facility, subject to the Commission's ongoing jurisdiction.	LIPA will comply	

Certificate Condition	Requirement	Comments	EM&CP Reference
10(b)	To the extent required in connection with the delivery of oversized components, LIPA or its suppliers shall obtain any necessary permits from the local or State agencies.	LIPA will comply	
10(c)	LIPA shall comply with the requirements for the protection of underground facilities set forth in 16 NYCRR Part 753 "Duties of Excavators".	LIPA will comply	Section 4.5
10(d)	A copy of each permit or approval received from the issuing agencies shall be provided to Staff of the Department of Public Service (DPS Staff) by LIPA promptly after receipt by LIPA of such permit or approval and before commencement of construction across the affected area.	Any applicable permit or approval received shall be supplied to DPS staff prior to construction in that area.	
10(e)	If LIPA believes that any action taken, or determination made, by a State or local agency in furtherance of such agency's review of the permits and approvals referenced herein, is unreasonable or unreasonably delayed, LIPA may petition the Commission, upon reasonable notice to that agency, to seek a resolution of any such unreasonable or unreasonably delayed requirement. The permitting agency may respond to the petition, within three business days, to address the reasonableness of any requirement or delay.	LIPA will comply	
10(f)	LIPA shall operate the Facility in conformance with approvals and authorizations of the NYISO and ISO-NE regarding operation of the Facility.	LIPA will comply	
10(g)	If applicable, LIPA shall submit a Notice of Intent to exercise authority under the general stormwater State Pollutant Discharge Elimination System permit of construction and industrial activities.		Appendix C
Environmental Management and Construction Plan			
11	LIPA shall not begin site preparation or construction with respect to any portion of the Facility (except for surveying, soils testing and such other related activities as are necessary to prepare final design plans) before it has submitted to the Commission and the parties, and the Commission has approved, an Environmental Management and Construction Plan ("EM&CP") for the relevant portion of the project.	LIPA will comply	
12	The EM&CP shall be prepared in accordance with the EM&CP guidelines attached as Appendix E to the Joint Proposal.	LIPA will comply	
13	Except where this Certificate requires otherwise, the terms of the Joint Proposal (to the extent not superceded in this Certificate) and the environmental	LIPA will comply	

Certificate Condition	Requirement	Comments	EM&CP Reference
	protection measures contained in the Supplement to Application and 401 Water Quality Certification shall be incorporated into the EM&CP. These measures shall be applied during construction, operation and maintenance of the certified Facility.		
14	Deviation from the certified centerline, as reasonably necessary, shall be allowed for appropriate environmental or engineering reasons, except where a conflict with a provision of the Joint Proposal or the Order would be created.	LIPA will comply	Appendix A
15	Deviation from the design height and location of structures shall be allowed for appropriate environmental or engineering reasons, except where a conflict with a provision of the Order would be created.	LIPA will comply	Appendix A
16	Before completing the final design plan (site plan) for the upland portion of the Facility, LIPA shall have presented a draft plan to the Town of Huntington, subject to the Commission's ongoing jurisdiction, and the Town of Huntington shall have an opportunity to comment on the final design plan	LIPA will comply	Appendix A
17	Before completing the final marine operations safety plan, LIPA shall have presented a draft plan to the Town of Huntington, subject to the Commission's ongoing jurisdiction, and the Town of Huntington shall have an opportunity to comment on the final marine operations safety plan.	LIPA will comply	Appendix D
18	LIPA shall have presented a draft Turbidity Monitoring Plan for New York Waters to the Town of Huntington and DEC Staff at least sixty (60) days prior to filing an EM&CP for the in-water portion of the Facility. Any comments made by the Town of Huntington made within 30 days of receiving the draft Turbidity Monitoring Plan for New York Waters will be responded to in the final Turbidity Monitoring Plan for New York Waters. Any comments of the DEC Staff made within 30 days of receiving the draft Turbidity Monitoring Plan for New York Waters will be incorporated in the final Turbidity Monitoring Plan for New York Waters.		Appendix B
EM&CP Contents			
19	LIPA shall provide, as a part of the EM&CP:	LIPA will comply	
19(a)	A final design plan that reflects conformance of the Facility design with this Certificate, applicable Federal, State, and local requirements (including, but not limited to, applicable regulations, including those of the Department of Environmental Conservation, the Bureau of Alcohol, Tobacco and Firearms,		Appendix A

Certificate Condition	Requirement	Comments	EM&CP Reference
	Occupational Safety and Health Administration, NYS Department of Labor, the Uniform New York State Fire Prevention and Building Code, chemical and waste-storage use and handling regulations).		
19(b)	A discussion of the status of efforts by LIPA to obtain permits necessary for project construction from State and local agencies, Federal agencies (USACE, et al.).		Section 2.3
19(c)	A summary of and response to any comments made by the Town of Huntington regarding the draft site plan.		Appendix A
19(d)	A summary of and response to any comments made by the Town of Huntington regarding a draft marine operations safety plan.		Appendix D
19(e)	A summary of and response to any comments made by DEC and the Town of Huntington (including an explanation demonstrating incorporation of the comments of DEC Staff) regarding a draft turbidity monitoring plan for the in-water portion of the Facility.		Appendix B
19(f)	An explanation for any proposed deviation from the certified centerline shall be provided with supporting documentation in the EM&CP.		Appendix A
19(g)	An explanation for any proposed deviation from the design height and location of structures shall be provided with supporting documentation in the EM&CP.		Appendix A
19(h)	Details of nearby electric, gas, telecommunication, water, sewer, and related facilities and measures to protect the integrity, operation, and maintenance of those facilities.		Appendix A
19(i)	A plan indicating the details and design of measures to protect the cathodic protection system and physical conditions of nearby facilities and structures, including any underground facilities. The plan shall include appropriate mitigation measures such as grounding and upgrade of existing protection devices or other facilities as appropriate for and identified in cooperation with owners or operators of adjacent or nearby structures, pipelines, tanks, fences, etc.	Not applicable	
19(j)	Details of the construction schedule.		Section 2.4
19(k)	Facility construction worker parking areas shall be designated.		Appendix A
19(l)	The specification of noise mitigation procedures.		Section 3.4
19(m)	The delineation of certified right-of-way and additional work areas to which		Section 4.2;

Northeast Utilities and Long Island Power Authority
Long Island Replacement Cable Project
New York Certificate of Environmental Compatibility and Public Need - Compliance Matrix

Certificate Condition	Requirement	Comments	EM&CP Reference
	LIPA shall confine construction and subsequent maintenance activities.		Appendix A
19(n)	A plan for removal, reuse, recycling and disposal of equipment.		Section 5; Section 6
19(o)	Detailed soil handling and erosion control plans including details on the installation of sedimentation/erosion control devices around areas to be disturbed and any stockpiled soils to prevent sedimentation into tidal wetlands during construction.		Appendix C
19(p)	Drawings detailing a grading plan, lighting plans, conceptual planting plan and proposed grade improvements, if any, for the modification of the switchyard.		Appendix A
19(q)	Tidal wetland and adjacent area locations shall be indicated on the drawings for the certified Facility, the right-of-way, and any off-right-of-way access roads or staging areas.		Appendix A
19(r)	Detailed methods of construction for tidal wetland impact minimization for construction through tidal wetlands or adjacent areas.		Appendix 3.3
19(s)	A detailed drawing that reflects a 500-foot buffer from protected species habitat.		Appendix A
19(t)	Clearing and vegetation treatment plans, including a plan for initial vegetative clearing in areas near tidal wetlands and any replanting in or near tidal wetlands.		Section 4.3; Section 8.2; Appendix A
19(u)	Fuel and chemical handling procedures, and a spill response and route emergency plan. This plan shall provide proposed methods of handling spills of petroleum products, storage and disposal of dielectric fluid and any hazardous or controlled substance which may be stored or utilized during construction, operation or maintenance of the Facility.		Appendix C
19(v)	A final Turbidity Monitoring Plan for New York Waters, incorporating the comments of DEC Staff and responding to the comments of the Town of Huntington.		Appendix B
19(w)	As part of the Facility specific Turbidity Monitoring Plan there will be a conceptual monitoring plan for turbidity that may include, but are not limited to: (i) sampling; (ii) determining of extent of plume; and (iii) determining an action threshold(s) (i.e., allowable limits of turbidity) and what measures would be implemented to address turbidity in excess of such threshold(s),		Appendix B

Certificate Condition	Requirement	Comments	EM&CP Reference
19(x)	A discussion of the environmental protection measures that will be taken in the field to minimize the suspension of in-situ sediments including, but not limited to, adjusting the rate of removal of the existing cable, changing the rate of advancement of the jet plow, and modifying hydraulic jetting pressures.		Section 7.3.2; Appendix B
EM&CP Process			
20	LIPA shall submit four copies of the EM&CP to the Commission, serve two copies on the Staff of the DEC, one copy on the Region 1 office of the DEC, one copy on the Commissioner of the New York State Office of Parks, Recreation and Historic Preservation ("OPRHP"); one copy on any other New York State agency (and its relevant regional offices) which requests the document; and one copy on active parties on the service list who request the document. LIPA shall also place copies for inspection by the public in at least one public library or other convenient location in each municipality in which construction will take place. Contemporaneously with the submission and service of the EM&CP, LIPA shall provide notice, in the manner specified below, that the EM&CP has been filed.	LIPA will comply	
21	LIPA shall serve written notice(s) of filing the EM&CP on all active parties to this proceeding, on each person on the Commission's service list considered potentially affected by the subject matter in the EM&CP, and on all statutory parties to this proceeding, and shall attach a copy of the notice to each copy of the EM&CP. Further, LIPA shall publish the notice(s) in a newspaper or newspapers of general circulation in the vicinity of the Facility.	LIPA will comply	Section 2.5
22(a)	The written notice(s) and the newspaper notice(s) shall contain, at a minimum, the following: (i) a statement that the EM&CP has been filed; (ii) a general description of the Facility, the need for the Facility, the alternatives considered and the EM&CP; (iii) a listing of the locations where the EM&CP is available for public inspection; (iv) a statement that any person desiring additional information about a specific geographical location or specific subject may request it from	LIPA will comply	Section 2.5

Certificate Condition	Requirement	Comments	EM&CP Reference
	LIPA; (v) the name, address, and telephone numbers of LIPA's representative; (vi) the address of the Commission; and (vii) a statement that any person may be heard by the Commission on any matter or objection regarding the EM&CP by filing written comments with the Commission and LIPA within 45 days of the filing date with the Commission of the EM&CP (or within 30 days of the date of the newspapers notice, whichever is later).		
22(b)	A certificate of service indicating upon whom all EM&CP notices and documents were served and a copy of the written notice shall be submitted to the Commission at the time the EM&CP is filed, and shall be a condition precedent to approval of the EM&CP.	LIPA will comply	
23(a)	LIPA shall report any proposed changes to the EM&CP to DPS Staff and DEC staff. DPS Staff will refer to the Secretary of the Commission (or a designee) reports of any proposed changes that do not cause substantial change in environmental impact or are not related to contested issues decided during the proceeding. DPS Staff will refer all other proposed changes, such as any change that conflicts directly with any obligation imposed by any ordering clause or certificate condition specified in this Order, in the EM&CP to the Commission for approval.	LIPA will comply	Section 9.7
23(b)	Upon being advised that DPS Staff will refer a proposed change to the Commission, LIPA shall notify all active parties that have requested (before the approval of the EM&CP) to be so notified, as well as property owners or lessees whose property is affected by the proposed change. The notice shall: (i) describe the original conditions and the requested change; (ii) state that documents supporting the request are available for inspection at specified locations, and (iii) state that persons may comment by writing or calling (followed by written confirmation) to the Commission within 15 days of the notification date. Any delay in receipt of written confirmation will not delay Commission action on the proposed change.	LIPA will comply	Section 9.7
23(c)	LIPA shall not execute any proposed change until it receives oral or written approval, except in emergency situations threatening personal injury, property	LIPA will comply	Section 9.7

Certificate Condition	Requirement	Comments	EM&CP Reference
	damage or severe adverse environmental impact, or as specified in the EM&CP.		
Notices, Reports and Consultations			
24(a)	LIPA shall make available to the public a toll free or local phone number of an agent or employee where complaints may be received during the construction of the certified facilities. In addition, the phone number of the Secretary, and the phone number of the Commission's Environmental Compliance Section, shall also be provided.	LIPA will comply	Section 9.8
24(b)	LIPA shall report to DPS Staff every complaint that cannot be resolved after reasonable attempts to do so, or within 30 days after receipt of the complaint (whichever comes first).	LIPA will comply	Section 9.8
25(a)	No less than thirty (30) days notice before commencing site preparation, LIPA shall: (i) provide notice to local officials and emergency personnel; (ii) provide such notice for dissemination to local media and display in public places (such as general stores, post offices, community centers and conspicuous community bulletin boards).	LIPA will comply	Section 9.9
25(b)	The notice shall contain: (i) a map and a description of the Facility in the local area; (ii) the anticipated date for start of construction; (iii) the name, address and local or toll- free telephone number of an employee or agent of LIPA; (iv) a statement that the project is under the jurisdiction of the New York State Public Service Commission, which is responsible for enforcing compliance with environmental and construction conditions, and which may be contacted at an address and telephone number to be provided in the notice; (v) the notice will be written in language reasonably understandable to the average person.		Section 9.9
25(c)	Upon distribution, a copy shall be submitted to the Secretary of the Commission, and to DEC Staff.		Section 9.9

Certificate Condition	Requirement	Comments	EM&CP Reference
26	LIPA shall provide construction contractors with complete copies of the Certificate, approved EM&CP, updated construction drawings, any site specific plans, any permit issued pursuant to § 404 of the Federal Clean Water Act, and the § 401 Water Quality Certification. To the extent that the listed documents are available before contracts for construction services are executed, such copies shall be provided to the contractors prior to execution of such contracts.	LIPA will comply	Section 9.2
27	LIPA shall notify all construction contractors that the Commission may seek to recover penalties for violation of the Certificate, not only from LIPA, but also from its construction contractors, and that construction contractors may also be liable for other fines, penalties and environmental damage.	LIPA will comply	
28(a)	At least two weeks prior to the start of construction, LIPA shall hold a preconstruction meeting. An agenda, location and attendee list shall be agreed upon between DPS Staff, Town of Huntington and LIPA.	LIPA will comply	Section 9.9
28(b)	LIPA shall supply draft minutes from this meeting to all attendees, the attendees may offer corrections or comments and LIPA shall issue the finalized meeting minutes to all attendees.		Section 9.9
28(c)	If, for any reason, the construction contractor cannot finish the construction of this project, and a new construction contractor is needed, there will be another preconstruction meeting with the same format as outlined above.		Section 9.9
29	LIPA shall inform the Secretary and the Staff of the DPS and DEC at least five days before commencing construction or clearing on this project.	LIPA will comply	Section 9.9
30	LIPA shall provide DPS Staff, and DEC Staff with weekly status reports summarizing construction, and indicating construction activities and locations scheduled for the next two weeks.	LIPA will comply	Section 9.9
31	Within ten days after the Facility is in service, LIPA shall notify the Commission of that fact.	LIPA will comply	Section 9.9
32	Within ten days of the completion of final restoration, LIPA shall notify the Commission that all restoration has been completed in compliance with this Certificate and the EM&CP.	LIPA will comply	Section 9.9
33	LIPA shall periodically consult with State and local highway transportation agencies about traffic conditions near the project site.	LIPA will comply	Section 9.9
34	LIPA shall keep local fire department and emergency management teams	LIPA will comply	Section 9.9;

Certificate Condition	Requirement	Comments	EM&CP Reference
	apprised of chemicals and waste on site.		Appendix C
35	LIPA shall immediately notify DEC of any fuel or chemical spills.	LIPA will comply	Section 9.9; Appendix C
Public Health and Safety			
36	Except as to the termination installation work within the Northport substation, construction work on buildings and structures shall only take place between 7:00 A.M. and 6:00 P.M. on weekdays. Other heavy construction work (excavation, grading, etc.) shall only take place between 7:00 A.M. and 6:00 P.M. with no day restriction. Nothing herein shall preclude LIPA from making the necessary arrangements for the extension of work hours and days with appropriate local agencies in compliance with local ordinances. DPS Staff and the Town of Huntington Supervisor's Office, Town of Huntington Department of Maritime Services and Town of Huntington Department of Engineering shall be notified at least 24 hours in advance if planned weekend, evening or holiday construction becomes necessary.		Section 3.4
36(a)	The termination installation work at the Northport substation, once commenced, may be performed on a continuous 24 hour basis until completed; provided, however, that the Town of Huntington Supervisor's Office, Town of Huntington Department of Maritime Services and Town of Huntington Department of Engineering shall be notified at least 24 hours in advance of the start of the termination installation work within the Northport substation.		Section 3.4
37	All chemicals and waste shall be secured in a locked and controlled area.		Appendix C
38	LIPA shall take appropriate measures to minimize fugitive dust and airborne debris from construction activity.		Appendix C
39	LIPA shall make good faith efforts to minimize the impact of the construction of the Facility on local traffic circulation.		Section 4.4
40	LIPA shall engineer and construct the Facility to be fully compatible with the operation and maintenance of nearby electric, gas, telecommunication, water, sewer, and related facilities.		Appendix A
41	The Facility shall be designed and constructed to avoid adverse effects on the cathodic protection system and physical conditions of existing structures and facilities, including any underground facilities.	Not applicable	

Certificate Condition	Requirement	Comments	EM&CP Reference
42	Facility construction worker parking shall be in designated areas which do not interfere with normal traffic, cause a safety hazard or interfere with existing land uses. Facility construction worker parking will be prohibited at the Soundview Beach parking lot. However, such parking is permitted at the Northport Power Plant.		Appendix A
43	LIPA shall design, engineer and construct the Facility such that its operation shall comply with the electromagnetic field ("EMF") standards established by the Commission in *Opinion No. 78-13* (issued on June 19, 1978) and the *Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities* (issued September 11, 1990), respectively.	LIPA will comply	
Waterbodies, Wetlands and Coastal Resources			
44	LIPA shall minimize disruption to tidal wetlands during Facility construction, operation and maintenance.		Section 3.3
44(a)	Tidal wetland locations shall be delineated in the field.		Section 3.3; Section 4.2
44(b)	Any activities which may affect tidal wetlands shall be designed and controlled to minimize adverse impacts, giving due consideration to the environmental features and functions of the tidal wetlands and the adjacent area.		Section 3.3
44(c)	Construction through tidal wetlands or adjacent areas shall be carried out using methods of construction for tidal wetland impact minimization, including measures to assure that: (i) pre-disturbance flow regimes shall be maintained; (ii) the vegetative mat and wetland soil horizons shall be separated during excavation and replaced to as near the original position as possible during backfilling and restoration.		Section 3.3
45	LIPA shall not wash equipment or machinery in any tidal wetland and shall not permit run-off resulting from washing operations to directly enter any tidal wetland.		Section 3.3
46	LIPA shall not store, mix, handle open containers or load pesticides, chemicals labeled toxic, or petroleum products or refuel equipment within 100 feet of a		Appendix C

Certificate Condition	Requirement	Comments	EM&CP Reference
	tidal wetland or adjacent area.		
47	LIPA shall comply with any conditions contained in the § 401 Water Quality Certification.	LIPA will comply	
48	No mechanical dredging or mechanical excavation is authorized by this Certificate of may be performed in connection with construction or installation of the Facility. With the prior written consent of DEC, however, LIPA may petition the Commission for explicit approval to perform mechanical dredging or mechanical excavation in connection with construction or installation of the Facility, provided copies of the petition are served on all parties to this proceeding.		Section 6.3
49	The Facility cables must be installed no less than ten (10) feet below the seabed in the "Nearshore Cable Installation" work area, defined as the area between the New York landfall (at the mean high water contour) and a point 1,000 feet seaward of the northernmost mean lower water contour depicted on "Comparison of Proposed Burial Depths" Drawing No. 1, dated November 3, 2005, [Exhibit 37].		Section 7.3.3
49(a)	LIPA must provide a minimum of 48 hours notice prior to the DEC Region 1 Staff before performing Nearshore Cable Installation Work.		Section 7.3.3; Section 9.9
49(b)	LIPA shall obtain the services of a marine construction expert, independent from LIPA and all contractors and professionals working on either the design of construction of the Facility, to act as an independent "Jet Plow Monitor" during the performance of Nearshore Cable Installation work. The individual chosen must be acceptable to DPS Staff. The qualifications of the individual shall be presented to DPS Staff for approval in conjunction with the submission of a proposed EM&CP for the relevant segment. Any decision made by DPS Staff will be subject to review by the Commission, on its own motion or upon the petition of any entity.		Section 7.3.2
49(c)	The Jet Plow Monitor must be present during the performance of all Nearshore Cable Installation work and shall oversee all jet plow passes and shall ensure that appropriate measures are taken to minimize turbidity and environmental impact.		Section 7.3.2
49(d)	For the Nearshore Cable Installation, if, during the initial attempt at Nearshore Cable Installation using the jet plow, there is a failure to bury the Facility cables		Section 7.3.3

Certificate Condition	Requirement	Comments	EM&CP Reference
	no less than ten (10) feet below the seabed, LIPA may make three additional passes of the jet plow, to achieve the maximum burial depth achievable. In such case, LIPA may also make jet plow equipment changes or adjustments which could better allow for trench formation, but in no case is dredging or side casting of materials allowed, nor is a geotextile cover or are concrete mats allowed to be placed over the Facility cables.		
49(e)	If, after these efforts, the Facility cables are buried less than ten (10) feet below the seabed, DPS Staff will make a written decision, after consultation with the Jet Plow Monitor and DEC Staff, whether best efforts have been made and the actual burial depth is adequate. Any decision made by DPS Staff will be subject to review by the Commission, on its own motion or upon the petition of any entity. The DPS Staff decision will be made before completion of the Nearshore Cable Installation work, and the required as-built drawings described below.		Section 7.3.3
50	All laboratory analysis of water quality samples shall be conducted by a laboratory certified by the New York State Department of Health.		Appendix B
51	All turbidity/total suspended solids (TSS) data shall be submitted to DEC staff and the Town of Huntington Department of Maritime Services within 30 days following installation or receipt of results from laboratory, whichever is later.		Appendix B
52	During construction, LIPA shall implement the final, approved Conceptual Monitoring Plan which shall detail the location and frequency of total suspended solids sampling and acoustic doppler current profile/optical back scatter correlation sampling to fully define the sediment plume created during construction.		Appendix B
53	During construction, LIPA shall implement mitigation measures such as changing the fluid pressure or decreasing the rate of advancement of the jet plow, and follow procedures for monitoring and mitigation as prescribed in the Turbidity Monitoring Plan.		Section 7.3.2; Appendix B
Protected Species and Habitat			
54	To protect state and federal listed species and habitat, no onshore construction work shall take place within 500 feet of piping plover breeding areas from April 1 to September 1 of any year except at terminations. With the prior written consent of DEC, LIPA may petition the Commission for an extension of the construction window, provided however, that LIPA utilizes a certified piping		Section 3.1

Certificate Condition	Requirement	Comments	EM&CP Reference
	plover monitor for any work approved after April 1st.		
55	To prevent destruction of habitat, protected areas on the beach and bluff shall be marked with snow fencing prior to construction. The placement of snow fencing shall be done in consultation with DEC staff.		Section 3.1; Section 4.2
Other Conditions			
56	Disturbed areas, ruts, and rills in upland and beach areas will be restored to original grades and conditions with permanent re-vegetation and erosion controls appropriate for those locations. Disturbed pavement, curbs and sidewalks shall be restored to their original preconstruction condition or improved.		Section 8.2
57	LIPA shall install sedimentation/erosion control devices around areas of land to be disturbed and any stockpiled soils to prevent sedimentation into tidal wetlands during construction. These erosion control devices shall be installed prior to construction and shall be maintained in place while working within 100 feet of the wetland and until the right-of-way on land has been revegetated and/or stabilized in accordance with pre-existing conditions.		Section 8.2; Appendix C
58	LIPA shall, on completion of the Facility:	LIPA will comply	
58(a)	provide an assessment of the need for landscape improvements, including vegetation planting earthwork or installed features to screen or landscape the Facility with respect to the substation;		Section 8.2
58(b)	prepare plans for any visual mitigation found necessary; removal, rearrangement and supplementation of existing landscape improvements or plantings should be considered, as appropriate;		Section 8.2
58(c)	consult with DPS Staff on the content and execution of its assessment, resultant landscaping plan specifications and materials list; details shall include measures for controlling maintenance , third party or wildlife damage to any landscape and vegetation plantings; and		Section 8.2
58(d)	Present assessments and plans shall be presented for DPS Staff review within one year of the date the Facility is placed in service.		Section 8.2.5
58(e)	provide a copy of "as built" drawings to DPS staff and DEC staff depicting final burial depth and location of the Facility;	LIPA will comply	

Certificate Condition	Requirement	Comments	EM&CP Reference
58(f)	provide a post-installation inspection schedule and a method for determining actual cable location and depth below seabed and whether post-construction maintenance is required.		Section 7.3.1
58(g)	indicate, if applicable, where the desired cable depth was not achieved and a plan for either achieving desired burial depths or mitigating potential environmental health and safety impacts.		Section 7.3.3
59	Existing transmission facility components replaced as part of construction of this Facility shall be removed from the LIPA right-of-way to appropriate destinations and handled appropriately for re-use as available based on conditions (wood poles, conductors, etc.).		Section 7.1
60	No herbicides will be used for construction or maintenance of the Facility except at the substation; only appropriate non-chemical techniques will be used to remove or control vegetation.		Section 8.2.5
61	Applicable provisions of the Certificate, EM&CP, and orders approving the EM&CP shall be accommodated in any design, construction, ownership or maintenance contracts associated with the Facility.	LIPA will comply	
62	LIPA shall not store heavy machinery or equipment in any beach area or in or near any nesting and foraging areas of the piping plover and least tern, except that such machinery may be stored upon any improved parking surface at the Northport Power Station giving first utilization to such areas that are farthest from any nesting and foraging areas of the piping plover and least tern.		Section 3.1; Appendix A
63	To ensure that there is no alteration of flood storage, no filling or enclosed structures upland of the high water mark is allowed and any footing/foundation construction in the substation will occur below the ground surface. Following cable decommissioning and installation of the new Facility, the beach and upland area along the cable route will be returned to pre-existing elevations.		Section 4.2; Section 8.2.1
64	LIPA shall use the jet plow embedment technique for the seabed installation of the proposed Facility.		Section 7.3.1

Certificate Condition	Requirement	Comments	EM&CP Reference
65	The Town of Huntington, the Town of Huntington Board of Trustees, and the Huntington Town Board shall be named as an additional insured by endorsement. This requirement should apply to contractors, contractor vendees, subcontractors, agents and other responsible parties. Additionally, contractors, contractor vendees, subcontractors, agents and other responsible parties shall execute a hold harmless and indemnity agreement with the Town of Huntington with respect to the work authorized by the New York State Public Service Commission.	LIPA will comply	
66	LIPA shall provide an on-water and turbidity monitor to supervise all in-water decommissioning and construction activity. The monitor may be the same person designated as the Jet Plow Monitor. The monitor shall be independent of all contractors or subcontractors performing any decommissioning and construction activity and shall report directly to a LIPA official with stop-work authority.		Appendix B
67	All dielectric fluid in the existing cables will be flushed from an onshore location prior to removal of the cables from the seabed. No on-water transfer of dielectric fluid shall be permitted.		Section 5
68	All cables and conduits of the existing 1385 Cable System will be removed in their entirety from the seabed and no cutting and abandonment of any portion of the cables and conduits of the existing 1385 Cables System will be permitted.		Section 6.3.3
69	A plan for the flushing of the dielectric fluid from the cables, storage of the dielectric fluid and the disposal or recycling of the cables shall be included in the EM&CP.		Section 5; Section 6.4
70	The clearing and vegetation treatment plans, including the plan for initial vegetative clearing in areas near tidal wetlands, shall minimize the clearing of vegetation to that necessary to allow construction and operation of the Facility.		Section 4.3
Environmental Supervision			
71	LIPA shall designate a full-time supervisor, inspector and environmental monitor with stop work authority over all aspects of this project; the supervisor shall be on site during all phases of construction and restoration. The		Section 9.1

Certificate Condition	Requirement	Comments	EM&CP Reference
	environmental monitor(s) and construction inspector(s) shall be equipped with sufficient documentation, transportation and communication equipment to effectively monitor contractor compliance with the provisions of this Order, applicable sections of the Public Service Law, § 401 Water Quality Certification, and the EM&CP. The name and qualifications of the supervisor, inspectors and environmental monitor(s) shall be submitted to DPS Staff at least two weeks prior to the start of construction.		
72	The authority granted in the Certificate and any subsequent order(s) in this proceeding is subject to the following conditions necessary to ensure compliance with such order(s):		
72(a)	LIPA shall regard DPS Staff representatives (certified pursuant to Public Service Law Section 8) as the Commission's designated representatives in the field; in the event of any emergency resulting from the specific construction or maintenance activities that violate or may violate the terms of the Certificate or any other order in this proceeding, such DPS Staff representatives may issue a stop-work order for that location or activity;		Section 9.1
72(b)	A stop-work order shall expire in 24 hours unless confirmed by a single Commissioner; If a stop-work order is confirmed, LIPA may seek reconsideration from the confirming Commissioner or the whole Commission; If the emergency prompting the issuance of a stop-work order is resolved to the satisfaction of the Commissioner or the Commission, the stop-work order will be lifted. If the emergency has not been satisfactorily resolved, the stop-work order will remain in effect.		Section 9.4
72(c)	Stop-work authority shall be exercised sparingly and with due regard to the potential economic costs involved and possible impact on construction activities; before exercising such authority, DPS Staff representatives shall consult (wherever practicable) with LIPA representatives possessing comparable authority; within reasonable time constraints, all attempts shall be made to address any issue and resolve any dispute in the field; In the event the dispute cannot be resolved, the matter shall be immediately brought to the attention of LIPA, Project Manager and the Department of Public Service Chief, Energy Resources and the Environment; in the event that a DPS Staff representative issues a stop work order, neither LIPA nor the contractor will be prevented from		Section 9.4

Certificate Condition	Requirement	Comments	EM&CP Reference
	undertaking any such safety-related activities as they deem necessary and appropriate under the circumstances; stop work or implementation of measures, as described below, may be directed at the sole discretion of the DPS Staff representative during these discussions;		
72(d)	If a DPS Staff representative discovers a specific activity that is a significant environmental threat that is or may immediately become a violation of the Certificate or any other Order in this proceeding, the Staff representative may - - in the absence of responsible LIPA supervisory personnel or the presence of such personnel who, after consultation with the Staff representative, refuse to take appropriate action - - direct the field crews to stop the specific environmentally harmful activity immediately; If responsible LIPA personnel are not on site the Staff representative shall immediately thereafter inform the Construction Supervisor and/or Environmental Coordinator of the action taken; The stop-work directive may be lifted by the Staff Representative if the situation prompting its issuance is resolved;		Section 9.4
72(e)	If the DPS Staff representative determines that a significant threat exists such that protection of the public or the environment at a particular location requires the immediate implementation of specific measures, the Staff representative may, in the absence of responsible LIPA supervisory personnel, or in the presence of such personnel who, after consultation with the Staff representative, refuse to take appropriate action, direct LIPA or its contractors to implement the corrective measures identified in the EM&CP; The field crews shall comply with the DPS Staff representative directive immediately. The DPS Staff representative shall immediately thereafter inform LIPA's construction supervisor and/or environmental monitor of the action taken.		Section 9.4
73	LIPA shall organize and conduct site compliance audit inspections for DPS Staff as needed, but not less frequently than once per month during the site preparation, construction, and restoration phases of the Project, and at least annually for two years after the Facility is operational.		Section 9.5
73(a)	The monthly inspection shall include a review of the status of compliance with all certification conditions, requirements, and commitments, as well as a field review of the Facility site, if necessary. The inspection may also include: (i) review of all complaints received, and their proposed or actual		Section 9.5

Certificate Condition	Requirement	Comments	EM&CP Reference
	resolutions; (ii) review of any significant comments, concerns or suggestions made by the public, local governments, or other agencies; (iii) review of the status of the project in relation to the overall schedule established prior to the commencement of construction; and (iv) other items LIPA or DPS Staff consider appropriate.		
73(b)	LIPA shall provide a written record of the results of the inspection, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit.		Section 9.5
74	To protect sensitive life stages of protected species, and to avoid any conflict with major recreational use of the Long Island Sound, no in-water construction work in connection with construction or installation of the Facility shall occur on or between April 30th and Labor Day in any calendar year. In case of hardship and with prior written consent of DEC, however, LIPA may petition the Commission for explicit approval to perform in-water construction work in connection with construction or installation of the Facility on and between April 30th and Labor Day in any calendar year provided copies of the petition are served on all parties to this proceeding including the Town of Huntington which should receive notice by express mail or overnight delivery. In case of hardship, DEC's consent will not be unreasonably withheld.		Section 3.1
75	The Turbidity Monitoring Plan will be carried out regarding installation of the Facility focusing on defining the extent of the suspended sediment plume and on measuring water column concentrations of suspended sediment associated with cable-laying sediment disturbance in accordance with the Conceptual Monitoring Plan for New York Waters (Joint Proposal, Appendix G). The final Turbidity Monitoring Plan will be presented to the Commission for approval as part of an EM&CP.		Appendix B
76	During removal of the existing 1385 Cable System and installation of the Facility underneath Long Island Sound, a no-entry safety zone will be established within approximately a ½ mile radius from the center point of construction. This will result in a localized area within which navigational access will be temporarily prohibited for other vessels such that other commercial and recreational vessels will have adequate water area to navigate		Appendix D

Certificate Condition	Requirement	Comments	EM&CP Reference
	around the work area. The proposed no-entry and safety zone will be reviewed with the Huntington Harbor and Coast Guard officials prior to finalization.		
77	A marine operations safety plan will be adhered to regarding removal of the existing 1385 Cable System and installation of the Facility underneath Long Island Sound in a manner that protects navigational safety in and around the work areas in accordance with the Preliminary Marine Operations Safety Plan (Joint Proposal, Appendix H) and including, among other things, an anchoring performance capability report and plan, procedures for the cessation of anchoring and securing of vessels during severe weather conditions, and procedures for periodic consultation with the Town of Huntington and Coast Guard officials. "The final marine operations safety plan shall be presented to the Commission for approval as part of an EM&CP. If anchoring of work vessels is involved in the removal of the existing 1385 Cable System and installation of the Facility underneath Long Island Sound, LIPA shall provide the Town of Huntington a copy of the anchoring plan and permit the Town of Huntington to suggest final procedures for cessation of anchoring during severe weather conditions. The final procedures for the anchoring plan are to be developed by LIPA in consultation with the Town of Huntington in consultation with the Department of Maritime Services and Coast Guard Services.		Appendix D
78	It is expected that construction activities will be completed at the Northport landfall so as to avoid the plover nesting season. In the event that construction (including decommissioning) activities extend past April 1st, LIPA shall provide a certified piping plover "watcher" to supervise all beach and upland decommissioning and construction activity outside of the substation. The watcher shall be appropriately qualified and the designation of each individual to serve in that capacity by LIPA shall be subject to the review and approval of DEC, subject to the Commission's ongoing jurisdiction.		Section 3.1
79	DEC Staff field representatives shall be permitted on the Facility site. DEC Staff field representatives will notify the DPS Staff representative and LIPA representative of any activities that violate or may violate either the terms of the Certificate or the Environmental Conservation Law. The DPS and DEC Staff field representatives will cooperate in assessing site conditions and determining whether stop work authority should be exercised, or whether directing LIPA	LIPA will comply	

Certificate Condition	Requirement	Comments	EM&CP Reference
	action to further minimize impacts to tidal wetlands is appropriate.		
Cultural Resources			
80	Should archeological materials be encountered during construction, LIPA shall stabilize the area and cease construction activities in the immediate vicinity of the find and protect the same from further damage. Within twenty-four hours of such discovery, LIPA shall notify DPS Staff and OPRHP Field Services Bureau to determine the best course of action. No construction activities shall be permitted in the vicinity of the find until such time as the significance of the resource has been evaluated and the need for and scope of impact mitigation has been determined.		Section 3.2
81	Should human remains or evidence of human burials be encountered during the conduct of archeological data recovery fieldwork or during construction, all work in the vicinity of the find shall be immediately halted and the remains shall be protected from further damage. Within twenty-four hours of any such discovery, LIPA shall notify the DPS Staff and OPRHP Field Services Bureau. All archaeological or burial encounters and their handling shall be reported in the status reports summarizing construction activities and reviewed in the site compliance audit inspections.		Section 3.2

Northeast Utilities and Long Island Power Authority
Long Island Replacement Cable Project
Environmental Management and Construction Plan - Compliance Matrix

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
A. Plan and Profile Details. A Line Profile [1] (at an appropriate scale) and plan drawings (scale 1 inch= 200 feet minimum) [2] showing:			
[1] The lowest conductor should be shown in relation to ground at the maximum permissible conductor temperature for which the line is designed to operate, I.E., normally the short-time emergency loading temperature specified by the New York Independent System Operator (NYISO). If a lesser conductor temperature is used for the line profile, the maximum sag increase between the conductor temperature used for the line profile and the maximum permissible conductor temperature shall be indicated for each ruling span.			Appendix A
[2] Contour lines (preferably at 5-foot intervals) are desirable on the photostrip map if they can be added without obscuring the required information.			Appendix A
1. Facility Location			
1(a)	The boundaries of any new, existing and/or expanded right-of-way (ROW)[1] or road boundaries if cables are to be constructed underground in streets; plus areas contiguous to the ROW or street within which the applicant will obtain additional rights; and an explanation of the need for those additional rights. [3] The term "right-of-way" in these guidelines includes property to be used for substations, transmission lines, disposal sites, underground terminals, storage yards, and other associated facilities. Where such properties cannot reasonably be shown on the same photostrip, maps or plan drawings used for the transmission line, additional maps or drawings at convenient scales may be used.		Appendix A
1(b)	The location of each facility structure (showing its size, material and type and indicating the GSA—595A Federal standard color designation or manufacturers color specification to be used for painted structures), structural foundation, fence, gate, down-guy anchor, and any counterpoise (typical counterpoise drawings will suffice) required for the proposed facility; conductors, insulators and static wires and other components attached to facility structures.		Appendix A

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1(c)	Existing utility or non-utility structures on the ROW, and indicate those to be removed or relocated (include circuit arrangements where new structures will accommodate existing circuits, indicate methods of removal of existing facilities, and show the new locations, types and configurations of relocated facilities).		Appendix A
1(d)	Any relocated or underground facility.		Appendix A
1(e)	The relationship of the proposed facility to nearby fence lines, roads, railways, airfields, property lines, hedgerows, waterbodies, associated facilities, flowing water springs, nearby buildings or structures, major antennas, oil or gas wells, and pipelines or blowdown valves. State any objections raised by Federal, State or local transportation (highways, waterways, or aviation) officials to the final location or manner of installation of, or access to, the Certified facilities.		Appendix A
1(f)	The location of any proposed new or expanded switching station, substation, or other terminal or associated facility (attach plan[2] - plot, grading, drainage, and electrical - and elevation views with architectural details at appropriate scales). Indicate the type and expected impact of outdoor lighting, including design features to avoid off-site illumination and minimize glare; the color and finish of all structures; the locations of temporary or permanent access roads, parking areas, construction contract limit lines, property lines, designated floodways and flood-hazard area limits, buildings, sheds, relocated structures, and any plans for water service and sewage and waste disposal. [1] Preferably 1" = 50' scale with 2-foot contour lines.		Appendix A
1(g)	The location and boundaries of any areas whether located on- or off- ROW proposed to be used for fabrication, designated equipment parking, staging, lay-down and conductor pulling. Indicate also any planned fencing or screening of storage and staging areas.		Appendix A
1(h)	The location and boundaries of any areas on or off the right-of-way proposed to be used for fabrication, designated equipment parking, staging,		Appendix A

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
	lay-down, and conductor pulling. Indicate also any planned fencing or screening of storage and staging areas.		
2. Right-of-Way Clearing			
2(a)	The locations of sites, if any, requiring trimming or clearing of vegetation and the geographic limits of such trimming or clearing. Indicate in text and on the drawings the specific methods for the type and manner of cutting and disposition or disposal method for cut vegetation (i.e., chip; cut and pile; salvage merchantable timber, etc.). Designate methods for management of vegetation to be cut or removed at each site, indicating the rationale for the method designated. Sites should be based on an initial ROW vegetation inventory conducted prior to clearing and access road construction, and should be distinguished by criteria such as: (1) any geographical area bounded by distinctly different cover types requiring different cut-vegetation management methods, or (2) any geographical area bounded at each end by areas requiring distinctly different cut-vegetation methods due to site conditions such as land use differences, population density, habitat or site protection, soil or terrain conditions, fire hazards or other factors. (3) different property-owners requesting specific vegetation treatment or disposal methods. (4) delineation and protection of desirable vegetation species. (5) indication of areas requiring (off-ROW) danger tree removal.		Section 4.2; Section 4.3; Appendix A
2(b)	The location of any areas where specific tree protection measures will be employed to avoid damage to specimen trees, stands of desirable species, important screening trees or hedgerows. Details of specific measures should be specified in text and site plans.		Section 4.2; Appendix A

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EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
3. Building Removals			
	Indicate the locations of any buildings or structures to be acquired, demolished, moved or removed. In text, provide the rationale for the acquisition and removal of buildings or structures.	Not applicable	
4. Waterbodies			
4(a)	Indicate the name, water quality classification and location of all rivers and streams (whether perennial and intermittent) within 100 feet of, or crossed by, the proposed ROW or any off-ROW access road constructed, improved or maintained for this facility. Indicate the procedures that were followed to inventory such resources and provide copies of any resulting data sheets and summary reports. Describe the measures to be taken in each location to protect streambank stability, stream habitat, and water quality including, but not limited to: crossing technique; crossing structure type; timing restriction; and other site-specific measures appropriate to the location for impact minimization, resource protection, and facility construction management. On the plan maps, indicate: (1) stream crossing method and delineate any designated streamside "protective or buffer zone" in which construction activities will be restricted to the extent necessary to minimize impacts on rivers and streams; (2) the activities to be restricted in such zones; (3) delineate any designated floodways or flood hazard areas to be traversed by the proposed facility or access roads, or otherwise used for facility construction or the site of associated facilities.	Long Island Sound is the only waterbody crossed by the LIRC Project	Section 3.3; Appendix C
4(b)	Show the location of all potable water sources including springs and wells on the ROW or within 100 feet of the ROW or access roads indicating on a site-by-site basis, precautionary measures to be taken to protect each water source.	Not applicable	

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
5. Wetlands			
	Indicate the location and type of any wetland (e.g., marsh, meadow, bog, or scrub-shrub or forested swamp) within or adjoining the ROW or any access road, as determined by site investigation and delineation. Indicate in text, and on plans as appropriate, on a site-by-site basis the precautions or measures to be take to protect such wetlands, associated drainage patterns, and wetland functions.		Section 3.3; Appendix A; Appendix C
6. Landscaping			
	Show locations of existing or proposed vegetative plantings, earthwork, or installed features to screen or landscape substations or other facility components. Describe in text and on detailed drawings, any screening or landscaping plans proposed.		Section 8.2; Appendix A
7. Noise Sensitive Areas			
	Show the locations of noise-sensitive areas along the proposed ROW and the specific procedures to be followed to minimize noise impacts related to ROW clearing, facility construction, and operation. Indicate the types of major equipment to be used in construction or facility operation; sound levels at which that equipment operates; days of the week and hours of the day during which that equipment will normally be operated; any exceptions to these schedules; and any measures to be taken to reduce audible noise levels caused by either construction equipment or facility operation.		Section 3.4
8. Other Environmental Sensitive Areas			
8(a)	Indicate the general locations of any known ecologically and environmentally sensitive sites (including rare and endangered species or habitats, deer winter yards, and archaeological sites), within or nearby the proposed ROW or along the general alignment of any access roads to be constructed, improved or maintained for this facility. Indicate the procedures that were followed to identify such resources and specify the measures that will be taken to protect or preserve these resources. Reports prepared to identify and analyze such sites shall be made available to Staff upon request.		Section 3.2

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
8(b)	Indicate the location and identification of sensitive land uses and resources that may be affected by construction of the facilities or by construction-related traffic (i.e., hospitals, emergency services, sanctuaries, schools, residential areas, etc.). Specify measures to minimize impacts on these resources.		Section 3.5
9. Recreational Areas			
	Indicate the locations where existing or planned recreational uses, if known to the applicant at the time of the submission of the EM&CP, would affect or be affected by facility location, construction or other ROW preparation. Explain in text how these recreational uses or plans were (or can be) accommodated in facility construction operation and maintenance.		Appendix A
10. Agricultural Areas			
10	Indicate the locations of prime, unique and significant agricultural lands, vulnerable soils, and underground drainage systems and the locations of sites under cultivation or in active agricultural use, where structures, access roads, counterpoise wires, lay-down areas or wire stringing operations will be located. Designate the site-specific techniques to be implemented to minimize or avoid construction-related impacts to agricultural resources.	Not applicable	
B. Statements of Objectives, Techniques, Procedures and Requirements			
1. Erosion and Control			
1(a)	Describe the temporary and permanent measures to be taken during all construction phases to stabilize and restore soils, control erosion, and preserve natural drainage patterns in areas where significant soil disturbances (including removal of vegetative cover, grading or excavation) are proposed. Include standards, practices, erosion control measures and techniques to address construction management, communications, planning, monitoring and reporting requirements as appropriate for conformance with Storm Water Pollution Prevention Plan details.		Appendix C

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
1(b)	In areas of Coastal erosion hazard, include plans to demonstrate compliance with the standards for coastal erosion hazard protection as required by 6 NYCRR Part 505.		Appendix C
2. Fuel and Chemical Handling Procedures			
	Describe precautions and measures to be followed during clearing, construction and site restoration:		Appendix C
2(a)	to control the storage, handling, transporting and disposal of fuels, oil, chemicals, and other potentially harmful substances; and		Appendix C
2(b)	to avoid spills and improper storage or application in the vicinity of any wetland, river, creek, stream, lake, reservoir, spring, well or other ecologically sensitive site, or existing recreational area along the facility ROW and access roads.		Appendix C
3. Environmental Supervision			
3(a)	Describe protocols for supervising demolition, vegetation clearing (including any use of herbicides), construction and site restoration activities to ensure minimization of environmental impact and compliance with the environmental protection provisions specified by the Certificate.		Section 8
3(b)	Specify the titles and qualifications of personnel proposed to be responsible for ensuring minimization of environmental impact throughout the demolition, clearing, construction and restoration phases, and for enforcing compliance with environmental protection provisions of the Certificate and the *EM&CP*. Indicate the amount of time each supervisor is expected to devote to the project.		Section 9
3(c)	Explain how all environmental protection provisions will be incorporated into contractual specifications, and communicated to those employees or contractors engaged in demolition, clearing, construction, and restoration.		Section 9
3(d)	Describe the procedures to "stop work" in the event of a certificate violation. Identify the company's designated contact including phone number, for assuring overall compliance with certificate conditions.		Section 9.4
4. Clean-up and Restoration			

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
	Describe the applicant's program for ROW clean-up and restoration, including:		Section 8
4(a)	the removal of any temporary roads; restoration of lay-down or staging areas; the finish grading of any scarified or rutted areas; the removal of waste, scrap metals, surplus or extraneous materials or equipment used;		Section 8
4(b)	plans, standards and a schedule for the restoration of vegetative cover; include specifications to address: (1) design standards for ground cover: (a) species mixes and application rates by site; (b) site preparation requirements (soil amendments, stone removal, subsoil treatment or drainage measures); (c) acceptable final cover % by cover type; (2) planting installation specifications and follow-up responsibilities; (3) a schedule or projected dates of any seeding and/or planting.		Section 8
5. Herbicides			
5(a)	Specify the locations where herbicides are to be applied. Provide a general discussion of the site conditions (e.g., land use, target and non-target vegetation species composition, height and density) and the choice of herbicide, formulation, application method and timing.	Not applicable	
5(b)	Provide a general comparative analysis of any proposed herbicide applications using the following selection criteria: selectivity, efficacy, toxicity, persistence, and cost-effectiveness.	Not applicable	
5(c)	Describe the procedures that will be followed during application to protect non-target vegetation, streams, wetlands, potable waters and other	Not applicable	

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
	waterbodies, and residential areas and recreational users on or near the ROW.		
5(d)	The ROW and adjoining properties shall be posted and notified by using the DEC-approved format (ECL Part 33 and 6 NYCRR Part 325); or as may be implemented subject to interim utility guidance, if issued.	Not applicable	
6. Agricultural Areas			
6(a)	Describe the program, policies and procedures to mitigate agricultural impacts, and explain how construction plans avoid or minimize soil compaction, crop production losses, and potentially wet agricultural soils. Also, list locations where such procedures have been and will be followed in facility construction and restoration.	Not applicable	
6(b)	Indicate specific techniques and references to appropriate Agricultural Protection Measures recommended by the NYS Department of Agriculture and Markets, as available.	Not applicable	
7. Access Roads			
7(a)	Discuss the necessity for access to the ROW, including the areas where temporary or permanent access is required; and the nature of access improvements based on natural features, equipment constraints and vehicles to be used for construction and maintenance, and the duration of access needs through restoration and the maintenance of the facility.		Section 4.4
7(b)	Identify the types of access which will he used and the rationale for employing that type of access including consideration of: (1) temporary installations (i.e., over-land provisions, corduroy, mat and fill, earthen road, geotextile underlayment, gravel surface, etc.); (2) permanent installations (i.e., cut and fill earthen road, geotextile under-layment, gravel surface, paved surface, etc.);		Section 4.4

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
	(3) use of roads, driveways, farm lanes , rail beds, etc.; (4) other access, such as helicopter or barge placement. For each temporary and permanent access type provide a figure or diagram showing a typical installation (include top view, cross section and side view with appropriate distances and dimension). Where existing access ways will be used, indicate provisions for upgrading to meet appropriate standards.		
7(c)	Indicate the associated drainage and erosion control features to be used for access road construction and maintenance. Provide diagrams and specifications (include plan and side views with appropriate typical dimensions) for each erosion control feature to be used, such as: (1) staked hay bale or check dam (for ditches or stabilization of topsoil); (2) broad-based dip or berm (for water diversion across the access road); (3) roadside ditch with turnout and sediment trap; (4) French drain; (5) diversion ditch (water bar); (6) culvert (including headwalls, aprons, etc.); (7) sediment retention basin (for diverting out-fall of culvert or side ditch); (8) silt fencing.		Appendix C

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
7(d)	Indicate the type of stream crossing method to be used in conjunction with access road construction. Provide diagrams and specifications (include plan and side view with appropriate dimensions) for each crossing device and rationale for their use. Stream crossing devices may include but not be limited to: (1) ford (with or without gravel); (2) ford with sill; (3) timber mat; (4) culverts including headwalls; (5) bridges (either temporary or permanent). All diagrams and specifications should include type and size of material to be placed in stream and on stream approaches	Not applicable	
8. ROW Management Plans			
8(a)	Describe the interim ROW vegetation management plan to be used for the proposed facility from the beginning of vegetative clearing until the comprehensive site-specific long-range ROW management plan is submitted. Include a description of the initial and follow-up vegetation treatment techniques; and the proposed contents of any post-construction and long-range ROW management plans. Such plans, when submitted, shall describe the goals and objectives and include supporting inventories and analyses, proposed and alternative techniques (including consideration of vegetative screening and buffer areas at locations such as stream crossings, public roadways, and residential areas), schedules, and other important environmental information deemed necessary.		Section 4.2; Section 8.2

EM&CP Guideline	Requirement/Condition	Comment	EM&CP Reference
8(b)	Describe interim ROW management plans and standards for securing, stabilizing, monitoring and addressing ROW access roads, facility maintenance, and analysis of compliance with any post-restoration requirements.		Section 4.2; Section 8.3
9. Organization of Document			
	The document should include appropriate cross-references, indicating where plan addresses specific requirements including: a) These *Environmental Management and Construction Plan Guidelines*; b) The Commission Article VII Certificate conditions and describing the procedures followed or that will be followed to comply with those requirements. c) If any particular requirements of these documents are not applicable, so indicate.	EM&CP Compliance Matrix Article VII Compliance Matrix	