STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of Albany on October 20, 2004

COMMISSIONERS PRESENT:

William M. Flynn, Chairman
Thomas J. Dunleavy
Leonard A. Weiss
Neal N. Galvin

CASE 02-T-0036 - Application of Neptune Regional Transmission System LLC for a Certificate of Environmental Compatibility and Public Need for the Construction of two 600 megawatt (+/- 500 kV) High-voltage Direct Current Submarine/ Underground Electric Transmission Cables to Connect Load Centers in New York with Transmission and Generation Resources in New Jersey -- Petition to Amend Opinion and Order Issued January 23, 2004 filed by Neptune Regional Transmission System LLC.

ORDER GRANTING AMENDMENT OF CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

(Issued and Effective October 28, 2004)

BY THE COMMISSION:

INTRODUCTION

On January 23, 2004, we granted a Certificate of Environmental Compatibility and Public Need (certificate) to Neptune Regional Transmission System LLC (NeptuneRTS or the company). Authorizing, subject to conditions, the construction and operation of the New York portion of a 600 megawatt (500kV) high-voltage direct-current (HVDC) submarine/underground electric transmission cable that would extend from Sayerville, New Jersey to the Long Island Power Authority's (LIPA) substation on Newbridge Road in Levittown, Town of Hempstead, New York.

Pursuant to §123(2) of the Public Service Law (PSL), on July 26, 2004 NeptuneRTS petitioned to amend the Certificate to

reflect the following changes to the facility plans: (1) to modify the cable route such that the submarine cable will make landfall on Jones Island directly from the Atlantic Ocean, rather than passing through Jones Inlet and Hempstead Bay and making landfall on the bay side, (2) to modify the cable route within the Lower New York Bay such that the submarine cable will be installed parallel to an existing natural gas pipeline for 12.5 miles in New York Waters, reducing the overall submarine route by two miles, (3) to substitute a different cable design for the HVDC cable system included in the original application, and (4) to authorize use of Pirelli's Hydro-Plow for submarine cable burial in addition to the use of Nexans' CapJet cable burial system.

The amendment is being proposed to: (1) address recommendations made in the Army Corps of Engineers permit review process concerning protection of aquatic habitat and potential navigation issues, (2) facilitate and expedite installation of the submarine cable, and (3) incorporate a proven cable design into the facility plans. The proposed route changes use route alternatives that were considered in the original application and explored further during discovery and discussion among the parties. NeptuneRTS also seeks written confirmation that the Water Quality Certificate issued pursuant to §401 of the Clean Water Act applies to the facility as it is proposed to be modified.

As required by 16 NYCRR §85-2.10, the company published notices of the proposed certificate amendment in the Long Island edition of Newsday, a newspaper of general circulation on Long Island on July 16 and 22, 2004. By Notice issued July 27, 2004, a deadline for the receipt of comments on the proposed amendment of August 17, 2004 was established.

Comments on the proposed amendments were filed by staff of the Department of Environmental Conservation (DEC Staff); Wallace & Associates on behalf of Bay Head, Inc., an operator of

commercial clam dredging vessels (Bay Head); and Robert J. Reilly, an individual operator of a commercial clam dredging vessel (Reilly). In addition, comments supporting the amendments were filed by the Office of Parks, Recreation and Historic Preservation (OPRHP) and the Town of Hempstead. By letter dated October 4, 2004 the company responded to the comments and provided an update on communication and agreements with parties.

THE PROPOSED AMENDMENT

Each of the Requested changes is described below:

1. Jones Beach Landfall and Associated Changes to Cable Route

NeptuneRTS seeks authority to eliminate the portion of the submarine cable route through Jones Inlet and Hempstead Bay and to locate the New York Portion of the route entirely in the Atlantic Ocean. This change involves routing the cable in the ocean for approximately four additional miles - east of where the original route turned north into Jones Inlet - to a point south of Jones Beach State Park clock tower; making landfall from the south directly onto Jones Island and rejoining the approved route at the southern end of Jones Beach Causeway. This re-route is substantially the same as an alternative described in the Evidentiary Record in support of the Joint Proposal (Vol. 1, Tab 5, Response to DEC-29).

The authorized route was a compromise reached by parties. The company's original choice of a route that entered the inlet and completely crossed Hempstead Bay was opposed by DEC, the Town of Hempstead and others due to the biological sensitivity of the Bay. OPRHP was originally opposed to the ocean side landfall due to potential impact to the operation and facilities of Jones Beach State Park. The Certified route, through Jones Inlet and landing close to the Causeway represented the best compromise to both interests by minimizing Bay impact and avoiding the most heavily used portion of the Park.

The company has continued to evaluate alternatives that involve direct ocean side landings and has concluded that there are significant construction advantages in such an approach including: (1) eliminating a splice that would be required (2) eliminating complexities of changing from deep to shallow water installation technique within the inlet, (3) eliminating the need to comply with special Hempstead Bay conditions and (4) reducing over-all in-water cable installation time and important consideration given the narrow construction windows and the May 2007 in-service obligation to LIPA.

The company now proposes to install using horizontal directional drilling (HDD). A drilling pit will be located at a pitch & putt golf course adjacent to the restaurant parking lot that is currently under reconstruction. The exact location will be finalized with OPRHP. From there cable will be installed by drilling under the beach to the south and will terminate in the ocean bed offshore of Jones Beach. A second HDD will proceed to the north and will terminate at an exit pit located on the northern edge of a parking lot. Drilling will be conducted in the winter of 2004-05. When drilling is complete, conduit will be pulled through the bore holes, capped and marked, and the drill and exit pits temporarily refilled and covered. Proceeding from the parking lot, conduit will be laid in an open trench dug in the shoulder of the ramp connecting the parking lot to the Jones Beach Causeway, a distance of approximately one mile. As the conduit is installed, the trench will be refilled and the surface will be restored.

When the marine cable is delivered to the site in the fall of 2006, the entry and exit pits will be excavated and the cable pulled from (1) the cable ship through the conduit to the entry pit; and (2) the parking lot exit pit to the entry pit. The entry and exit pits will then be permanently covered and restored. The depth of installation and season of construction will eliminate potential impacts to Park facilities and users.

Use of the alternate route has been approved by OPRHP. There will be no permanent impact to Park facilities or to visitors. Temporary impacts during construction will be limited in scope and restricted to two off-season periods (Labor Day to Memorial Day).

2. Changes to Cable Route in Lower New York Bay.

This route change involves rerouting 12.5 miles of the cable directly across Ambrose Channel, in New Jersey waters and paralleling the existing Transco pipeline in New York Waters, eliminating the route that proceeded southeast and then northeast around Ambrose Channel. This route will result in a reduction of about two miles in the length of the marine route. This alternate was evaluated in the original application, but was rejected due to concern that it would conflict with the Ambrose Channel deepening project.

According to the Company the route change is being proposed in response to concerns expressed by the Sandy Hook Pilots Association that the original route traversed areas used for unofficial and emergency anchoring of ships and barges. By crossing the channel in a corridor parallel to the Transco pipeline, navigation and channel dredging issues will be minimized. A minimum separation distance between the cable and the pipeline will be agreed upon. Prior to construction the exact pipeline location will be determined by marine survey.

The proposed alternate route does not raise any potential for new or increased environmental impact. The new route does reduce the length of cable in areas where commercial fishermen have expressed interest.

3. Change in HVDC Cable Design.

The originally proposed cable system consisted of a single HVDC cable and an optical fiber communications line. The single HVDC cable included the return path in materials surrounding the high voltage delivery cable. This Integrated

Return Conductor (IRC) was to be manufactured and installed by Nexans.

After consultation with engineers and cable manufacturers, NeptuneRTS selected a cable system consisting of separate high voltage delivery and return cables and one fiber optic communication line. The cable system will be designed, manufactured and installed by Perelli, a company with a proven performance record.

The cable system will be bundled together into a single unit for submarine burial. The depth and width of the required trench will be the same as with the previous design. In upland locations the cables will be separate in a trench no larger than that previously proposed. Electromagnetic fields will not differ materially from those associated with the IRC. Unlike the IRC, the new cable will use solid insulation, creating no risk of fluid release to the environment.

4. Use of Hydro-Plow for Submarine Cable Installation.

The Certificate authorizes use of the CapJet 650 (deep water) and CapJet 50 (shallow water) plows for submarine cable installation. NeptuneRTS seeks authority to us Pirelli's Hydro-Plow as well as the CapJet system. Use of both will increase schedule flexibility and will help ensure that marine installation can be achieved in a single construction season, which will be critical to meeting LIPA's May 2007 in-service requirement.

Both the CapJet and Hydro-Plow employ water jetting technology, but differ in important operational characteristics. The company alleges the differences will not result in any material difference in potential environmental impacts, and that trench size and sediment dispersion from the Hydro Plow will be no greater than that of the CapJet.

The principal difference presented by the Amendment Application is the change in route. That change involves eliminating the Jones Inlet and Hempstead Bay portion of the

existing route, increasing the ocean portion of the submarine route, and increasing by approximately one mile the upland route. The revised route reduces the submarine route by two miles and increases the upland route by approximately one mile. The new upland portion will be located within developed areas of Jones Beach State Park. Construction work in this area will only occur between Labor Day and Memorial Day. No environmentally sensitive areas will be used or impacted by the new portion of the upland route all of which is in previously disturbed areas. Of the approximately one mile of additional upland route, most will be located within the shoulder of Jones Beach Causeway and associated exit and entrance ramps and paved parking lots. Most of the remaining portion will be installed through HDD, which will leave the surface undisturbed except for one drilling pit and one exit pit. The latter will be located within a paved parking. The entry point will be located in the west side of the pitch & putt golf course adjacent to the existing parking lot, which may be expanded by OPRHP for unrelated reasons. NeptuneRTS will finalize the location of the 10-foot square drilling pit in coordination with OPRHP. Surface disturbance of the pit and associated work area will be limited to the non-summer season, and access to the work area during construction will be via existing park roads and the adjacent parking lot. Temporary and final restoration plans for this work area will be developed with OPRHP’s approval and will be included in the Environmental Management and Construction Plan (EM&CP).

COMMENT AND DISCUSSION

1. Jones Beach Landfall and Associated Changes to Cable Route

In a letter to the US Army Corps of Engineers dated July 30, 2004, the Town of Hempstead stated that it was 'delighted' that the proposed route change would avoid trenching in the sensitive Hempstead Bay and urged speedy acceptance of the new route.

DEC concurred, stating that 'The new proposed route ... would alleviate most of DEC's previous tidal wetlands and marine habitat concerns with the Hempstead Bay route'. However, it noted that the new route will transect areas of significant densities of surf clams. DEC requests that the cable route be adjusted to minimize interference with surf clam beds. DEC also comments that the cable burial should be maintained so as to minimize the potential for interference with clam harvesting and that notification to clammers be given. Further, DEC Staff's comments identify concerns regarding the location of the HDD exit pit in the nearshore coastal area off Jones Beach and the need to minimize the potential for the cable to be exposed. DEC Staff's concerns are focused on the need for the facility to comply with the State's Coastal Erosion Management regulations, 6 NYCRR Part 505. In addition, DEC Staff expresses concern with respect to the potential release of drilling muds into the ocean. In both cases, DEC Staff seeks the opportunity for review and comment on NeptuneRTS's detailed plans. It noted that the water quality monitoring program (Exhibit 3) and the Clam monitoring Plan (Exhibit 4) will have to be modified to reflect the route changes and suggests specific corrective language.

The new portion of the submarine cable route NeptuneRTS seeks to employ will be subject to Certificate Condition 7. As a result, the route depicted on the new maps and aerial photographs included as revised Sheets 9, 10 and 10A (Amendment Application, Exhibit A) serve as the centerline of an authorized 300-meter

wide corridor. The Final Corridor to be delineated in the EM&CP will be developed to avoid areas with significant clam beds, which will be identified from information supplied by DEC and from a clam density assessment to be conducted prior to EM&CP preparation, as reflected in the proposed amendment to Certificate Condition 7 included in Appendix A hereto.

Cable installation along the new portion of the submarine cable route also will be subject to the same requirements, developed with DEC and others, reflected in Certificate Conditions 10 and 13, including the requirement to conduct pre- and post-installation clam monitoring. NeptuneRTS agrees with DEC Staff's as to appropriate modifications to the Water Quality monitoring plan and clam monitoring plan (shown in Appendices B and C hereto). Post-installation inspection and maintenance requirements prescribed by amended Certificate Condition 11 – including special measures in sensitive areas – will likewise apply to the new route segment. Notification to the clamming industry in advance of installation activities is required by Certificate Condition 59, which also will apply to the new route. All clamming industry representatives NeptuneRTS has identified to date, those who have filed comments in this or other NeptuneRTS permit proceedings and any others brought to NeptuneRTS's attention will receive notification.

Appendix A hereto includes revisions to Conditions 11 and 16 that address DEC Staff's concerns. The precise location and dimensions of the HDD exit pit off Jones Island and the plans for dredging and HDD operations will be developed for inclusion in the EM&CP. All such plans will be developed in consultation with DEC Staff and will be subject to DEC Staff review and comment.

OPRHP noted that the new routes have not been surveyed for shipwrecks and that it could not, at this time, make a finding of No Adverse Effect. Given that the survey of the original route did identify a number of potential targets or

archeological significance, OPRHP believes it prudent to conduct a similar survey of the newly proposed routes. In order to avoid or mitigate disturbance, a preconstruction submarine archeological survey of identified targets along the authorized route is required by Certificate Condition 15. This survey shall include previously unsurveyed areas of the amended route.

The comments filed by Bay Head and Captain Reilly are nearly identical. They questioned the general location and nature of the marine cable as well as its impact upon their clam dredging operations. These comments address matters outside the scope of the notice of July 27, 2004, which invited comments only on the Amendment Application. Comments and questions they raise about alternative routes for the entire submarine portion of the facility, burial depth, and monitoring and maintenance are outside the scope of the Amendment Application. Each of those issues was fully aired in this proceeding and was the subject of extensive discovery and negotiations among the various active parties including parties who were concerned with the facility's potential impacts on the clam fishery, clam habitat and clamming industry. We encourage Bay Head and Captain Reilly to review our January 23, 2004 order and its attachments, including the Joint Proposal, with respect to their concerns.

As discussed above in connection with DEC Staff's comments, the final route will be aligned within the authorized 300-meter corridor to avoid surf clam beds to the extent possible, using both existing clam bed maps and the results of clam density sampling NeptuneRTS will complete prior to filing the EM&CP for the submarine route. The changes in route and installation equipment NeptuneRTS seeks will not increase the potential for conflict with the clamming industry. All Certificate conditions applicable to the submarine portion of the facility will apply to the new submarine route. For example, the cable will be buried at a depth of four feet along the new portion of the cable route, a depth that has been determined not

to pose a risk to commercial clam dredges. See Certificate Condition 10. The use of water-jetting technology NeptuneRTS will employ for installing the cable will reduce installation time and minimize physical impacts during installation. The requirements for inspecting and maintaining adequate cable protection spelled out in Certificate Conditions 10-13 will also apply to the new submarine route, as will the requirements for avoiding, to the extent possible, or minimizing impacts to surf clam habitat and for conducting pre- and post-installation clam monitoring.

2. Changes to Cable Route in Lower New York Bay.

DEC commented that it would like to see chemical analyses of sediment samples taken from the Ambrose Channel to determine if the Water Quality Monitoring Plan would need to be modified. NeptuneRTS will comply with this request, as reflected in Appendix B hereto. NeptuneRTS agrees that the Water Quality Monitoring Plan will apply to the new route portions.

3. Change in HVDC Cable Design.

DEC noted that the change in the cable system indicates it will remain solid and be bundled together into a single unit in the trench no larger than originally described and thus does not object to this change.

4. Use of Hydro-Plow for submarine Cable installation

DEC noted that the applicants' claims about sediment resuspension of the HydroPlow were not documented and thus requests that all operational requirements, water quality standards and adjustment provisions currently detailed for the CapJet installation be applied to the HydoPlow installation. NeptuneRTS agrees that all operational, monitoring and compliance requirements applicable to cable installation methods included in the original certificate will apply to the use of the Pirelli Hydro-Plow.

WATER QUALITY CERTIFICATION

As noted above, NeptuneRTS asks that we confirm that the Water Quality Certification issued in connection with the original certificate remains valid. We conclude that it does, since the certificate conditions contained in Appendix A hereto are as protective of water quality as those included in the original certificate.

CONCLUSION

After consideration of the physical setting, location and environmental impacts of the proposed changes and in accordance with PSL §123(2) we conclude that the proposed changes will not result in any material increase in any environmental impact of the authorized facility or a substantial change in the location of all or a portion of such facility other than as provided in the application for a certificate. The impacts of moving the cable route from Jones Inlet and Hempstead Bay to Jones Beach, the modification of the cable route within the Lower New York Bay, the change in the cable design, and the inclusion of the Hydro-Plow as a cable installation option would be essentially the same as those associated with the routing, design and installation technique authorized in the certificate. Moreover, the findings made in the Certificate pursuant to PSL §126(1) remain unchanged. While we conclude that the proposed amendments are without significant impact, the company shall, as part of the EM&CP, obtain such information as is necessary to finalize the proposed route modifications and shall further modify its monitoring plans accordingly.

After careful consideration of the Company's petition and the comments thereon, we will grant an amendment of the certificate as described herein and in the Appendices hereto.[1]

The Commission orders:

1. The Certificate of Environmental Compatibility and Public Need granted to Neptune Regional Transmission System LLC on January 23, 2004 is amended as described in the petition filed July 26, 2004 and in this order.

2. The Certificate Holder shall file, within 30 days after the issuance of this order, either a written acceptance of the amended certificate or a petition for rehearing of such order. Failure to timely file either an acceptance or a petition for rehearing shall invalidate the amended certificate.

3. This proceeding is continued.

By the Commission,

(SIGNED) JACLYN A. BRILLING
Secretary

[1] Changes to the Certificate Conditions appear primarily in Conditions 7, 8, 11, 15, 16, 26, 55, and 64; however, for the convenience of the parties and contractors, the conditions originally imposed in the Certificate have been included in Appendix A.

EXHIBIT A TO
JOINT PROPOSAL
(AMENDED)

NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER

- of the -

Application of Neptune Regional Transmission System LLC for a Certificate of Environmental Compatibility and Public Need for the Construction of two 600 megawatt (+/- 500kV) High-voltage Direct-current Submarine/Underground Electric Transmission Cable to Connect Load Centers in New York with Transmission and Generation Resources in New Jersey

02-T-0036

Amended Certificate Conditions
October 2004

The Commission orders:

1. Subject to the conditions set forth herein, Neptune Regional Transmission System, LLC ("Certificate Holder" or "NeptuneRTS™") is granted a Certificate of Environmental Compatibility and Public Need authorizing construction and operation of a major electric transmission facility consisting of one 600 MW (nominal) 500 kV high voltage direct current ("HVDC") submarine/underground electric cable; an AC/DC converter station; an underground 600 MW (nominal) 345 kV high voltage alternating current ("AC") cable system; and other associated equipment (collectively the "Transmission Facility"). The conditions set forth herein shall apply to the portions of the Transmission Facility certified to be built within the State of New York.

2. The Transmission Facility shall be located as shown on the maps included as Exhibit 1 (Amended) hereto. The Transmission Facility shall be located within easements, leaseholds or other interests to be acquired by the Certificate Holder in lands underwater owned by the State of New York and in uplands owned by the State of New York.

3. The Certificate Holder 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 condition shall invalidate the Certificate.

4. The Certificate Holder shall not commence site preparation or construction of the Transmission Facility prior to receiving all necessary permits and approvals from the State of New Jersey and the United States Department of the Army for the Transmission Facility.

State and Local Laws and Regulations

5. a) Each substantive federal, New York state and local law, regulation, code and ordinance applicable to the location of the Transmission Facility authorized by the Certificate shall apply, except any substantive local law or regulation that the Commission has refused to apply as being unreasonably restrictive.

   b) No New York state or local legal provision purporting to require any approval, consent, permit, certificate or other condition for the construction or operation of the Transmission 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 Transmission Facility, (iii) those permits issued under a federally delegated environmental permitting program, (iv) those approvals and permits required to be obtained from the Department of Transportation ("DOT") pursuant to 17 NYCRR Part 131, (v) all applicable approvals required for oversize vehicle operation in connection with the delivery of equipment and materials for construction and installation work, and (vi) a certificate of occupancy issued by the Office of Parks, Recreation and Historic Preservation ("OPRHP") concerning the converter station described herein.

c) Subject to the Commission's ongoing jurisdiction, the Certificate Holder shall seek those permits and approvals identified in Paragraph 5(b)(iv) and (v). A copy of each such permit or approval received by the Certificate Holder shall be provided to the Department of Public Service ("DPS") promptly following receipt. The Certificate Holder may petition the Commission to seek resolution of any dispute that arises in connection with obtaining the permits and approvals identified in Paragraph 5(b)(iv) and (v), or to seek facilitation in the event the Certificate Holder believes there is unreasonable delay.

Submarine Cable Installation

6. (a) Dredging and cable laying, splicing and burying within New York State waters shall occur between September 30 and March 1, subject to such additional limitations incorporated into the Environmental Management and Construction Plan ("EM&CP"), as prescribed in Conditions 49 through 56, below.

(b) After prior consultation with the Department of Environmental Conservation ("DEC"), DPS and OPRHP, the Certificate Holder may petition the Commission for a modification of any construction window limitation, provided copies of the petition are served on all parties to this proceeding. Such petition shall include the results of such consultation.

(c) The following in-water activities may be undertaken outside the September 30 – March 1 window: benthic, geotechnical and archeological sampling and testing; mobilization and demobilization of vessels and equipment for dredging, cable laying and cable burial; post-consultation surveys and sampling; locating and marking utility crossings and installation of cable protection at utility crossings; and, on prior notice to DPS and DEC, emergency maintenance work including any protection or reburial work required to comply with Conditions 10 or 11.

7. The submarine cable shall be located within a corridor 300 meters wide the center line of which follows the coordinates listed on Exhibit 2 (Amended). Within this corridor, NeptuneRTS™ shall delineate a Final Corridor, 30 meters wide, within

which all installation activities will occur. The centerline coordinates of such Final Corridor shall be presented in the EM&CP. The Final Corridor shall be selected so as to minimize impacts on commercially harvested clam populations, based in part on clam density sampling to be done at the points shown on Sheet 10 of Exhibit 1 (Amended) and to avoid impacts to any archeological resources discovered as a result of the survey conducted in compliance with Condition 15.

8. The submarine cable shall be buried by means of the "CapJet 650," "CapJet 50" or Hydro-Plow III. The Certificate Holder shall operate the CapJet 650, CapJet 50 and/or Hyrdo-Plow III in accordance with the operating conditions determined in consultation with DPS and DEC through the pre-installation trials described in the Water Quality Monitoring Plan attached as Exhibit 3 (Amended), to minimize suspension of in-situ sediments. No mechanical dredging is authorized by this Certificate except in connection with the horizontal directional drilling ("HDD") exit location south of Jones Island subject to Certificate Condition 16, *infra*. Any other mechanical dredging or mechanical excavation of the cable shall require authorization by DEC.

9. In-water activities shall be undertaken in a manner that minimizes the potential for interference with navigation.

10. (a) The Certificate Holder shall install the submarine cable four feet below the existing sea bed except where utility lines are crossed or where geologic or topographic features prevent burial at such depth.

(b) Utility crossings shall be executed consistent with standard industry practices as identified for each such crossing in the EM&CP.

(c) In the event that a burial depth of four feet has not been achieved in an area other than a utility crossing, due to geologic or topographic features, following the post-installation inspection provided for in Paragraph 11(a), the Certificate Holder shall report the actual depth, propose a plan for achieving an adequate protection level given the location, submit it to DEC and DPS for review and approval, and commit to a reasonable schedule for implementation of the approved plan.

(d) The Certificate Holder shall install the submarine cable a minimum of four feet below the existing seabed in finfish trawling, surf clam dredging and shellfish harvesting areas, delineated on Exhibit 5 (Amended), hereto, except where utility lines or geologic or topographic features prevent burial to four feet. In such cases, the Certificate Holder shall follow the procedures prescribed in Paragraph 10(c) above.

(e) So long as the Certificate Holder complies with the requirements of this Paragraph 10, failure to achieve the four feet burial depth shall not be a basis for an order not to energize, or to cease operation. No direction to not energize or to cease operation shall be given, except upon application for an order to the Commission, which the Commission will grant or deny only after affording the Certificate Holder an opportunity to show cause why such order should not be granted.

11. The Certificate Holder shall include in the EM&CP:

(a) a post-installation inspection plan that shall include at a minimum:

(i) the method for determining the actual cable location and actual depth below sea bed of the cable upon completion of installation;

(ii) standards to be used to determine if maintenance (i.e., additional burial and/or protection efforts) is warranted in locations, if any, where the cable burial depth is less than four feet; and

(iii) the method or methods and timing for applying such efforts.

(b) a routine cable inspection plan that shall include at a minimum: (i) a protocol for conducting one or more inspections within the first two years following installation, one every five years thereafter, and more frequent inspections in sensitive areas such as the nearshore area (as defined in 6 NYCRR § 505.2(aa)) south of Jones Island and areas identified from previous inspections as warranting more frequent inspection; and (ii) the events or conditions (such as significant storm events) that will be the basis for conducting more frequent inspections;

(c) a maintenance plan that shall include, at a minimum, the standard to be used to determine, based upon inspection results, if and what relocation, reburial and/or added protection measures are required and special conditions for the nearshore area south of Jones Island, including reburial requirements and a prohibition against using rock and grout mattresses or similar protection in lieu of reburial; and

(d) a plan for capping the cable prior to abandonment.

12. NeptuneRTS™ may conduct the maintenance work contemplated in Paragraph 11 with prior notice to DPS, DEC and OPRHP, provided that it is conducted within the Final Corridor and within the authorized construction window. For work that must be undertaken outside either the Final Corridor or the authorized construction window, prior approval by the Commission shall be required, except in cases of an emergency.

13. The Certificate Holder shall incorporate within the EM&CP, and implement, the Water Quality Monitoring Plan and the Clam Monitoring Plan attached hereto as Exhibits 3 (Amended) and 4 (Amended). All laboratory analyses of water quality shall be conducted by a laboratory certified by the New York State Department of Health. If, during installation of the cable, the real time data collected under the Monitoring Plan indicate that Total Suspended Solids ("TSS") concentrations (measured at 500 feet downcurrent of the water jetting device) exceed ambient background TSS (measured at the upcurrent reference location) by 200 mg/L, DPS, DEC and the independent environmental inspector shall be immediately notified. The Certificate Holder shall employ one or more of the following environmental protection measures after consultation with the field representatives of DPS, DEC and the independent environmental inspector: changing the rate of advancement of the water jetting device, modifying hydraulic jetting pressures, or implementing other reasonable operational controls that may reduce suspension of in-situ sediments. Nothing in this paragraph, however, is

intended to require that hydraulic jetting pressures be reduced to levels that would not allow burial to the depths specified in Paragraph 10 through a single installation pass and to allow installations to be completed within a single construction window as described in Paragraph 6(a). NeptuneRTS™ shall keep DPS and DEC apprised of progress being made in completing submarine cable installation.

14. Water quality standards set forth in 6 NYCRR Parts 701, 702, 703 and 704, and sections 301, 302, 303, 306, and 307 of the federal Clean Water Act (see 33 USC 1311, 1312, 1313, 1313a, and 1317) shall not be contravened. Issuance of a Water Quality Certification also implies compliance with standards assuming that conditions placed in the certification are complied with.

15. Prior to commencement of installation activities, the Certificate Holder shall complete a submarine archeological field survey of the portions of the cable route not previously surveyed (including the area of the route in the Atlantic Ocean south of Jones Beach) and those locations it has previously identified as having potential archeological interest and complete all investigation on the 5.9 kilometer section identified in the Phase 1 report as needing additional work. The results of this study shall be submitted for review and comment by OPRHP and DPS. If adverse impacts to historic resources are identified, consultation pursuant to applicable historic preservation law and regulations shall be undertaken to identify ways to avoid, mitigate or minimize adverse impacts. A written report on this work and consultation shall be included in the EM&CP. Changes in cable

location or installation technique required by the results of the field survey will be detailed in the EM&CP prior to installation.

16.

a) At the landfall location the HVDC cable shall be installed within a conduit placed in an HDD bore hole. The HDD bore shall be initiated from a drilling pit located as generally shown on Sheet 10, and described in Condition #7, amended. The exact location in the Atlantic Ocean of the exit pit shall be detailed in the EM&CP. It shall be located a minimum of 1,000 feet seaward of Mean Low Water, and at a Mean Low Water depth of no less than 15 feet, and otherwise is required to be compliant with provisions of 6 NYCRR Part 505 of Coastal Erosion Management Regulations. The final location of the drilling and exit pits shall be approved by OPRHP and DEC, subject to the Commission's continuing jurisdiction, and presented in the EM&CP. Mechanical dredging employed to excavate the exit pit shall comply with a dredging plan to be included in the EM&CP. Drilling fluids shall be suctioned and removed onto barges which are in good operating condition and appropriately designed to contain discharged sediments.

Public Health and Safety

17. The Certificate Holder shall design, engineer and construct the Transmission Facility such that its operation will 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.

18. The Certificate Holder shall keep local fire department and emergency management teams apprised of chemicals and waste stored or generated on the site of the cable trench, drilling rigs and the converter station during construction and operation.

19. The Certificate Holder shall take appropriate measures as outlined in the EM&CP:

    (a) to minimize fugitive dust and airborne debris from construction activity; and

    (b) to prevent and respond to spills of fuels and other contaminants.

20. The Certificate Holder shall instruct its contractors to park in designated areas that will not interfere with normal traffic, cause any safety hazard or interfere with existing land uses.

21. The Certificate Holder shall consult, not less than weekly, with the state and local transportation agencies about traffic conditions near the project site, and shall make good faith efforts to minimize the impact of the construction of the Transmission Facility on area traffic circulation.

22. The Certificate Holder shall engineer and construct its facilities to be fully compatible with the operation and maintenance of nearby electric, gas, telecommunication, water, sewer, and related facilities; details of such other

facilities and measures to protect the integrity, operation, and maintenance of those facilities shall be presented in the EM&CP.

23. The Certificate Holder shall coordinate maintenance of its facilities with those of any adjacent utility facilities.

24. The Certificate Holder shall comply with the requirements for the protection of underground facilities set forth in 16 NYCRR Part 753.

25. Within ninety (90) days of the in-service date of the Transmission Facility, the Certificate Holder shall provide DPS with as-built drawings of the Transmission Facility, a map showing the location of the Transmission Facility, and a list of coordinates identifying the submarine cable location.

Upland Cable System Installation, Restoration and Maintenance

26. Between land fall on Jones Island and the Jones Beach Causeway, the cable shall be located within a corridor 500 feet wide, the center line of which is shown on Exhibit 1 (Amended), Sheet ___. For the remainder of the upland route, the cable shall be located within a corridor delimited on the west by the western edge of the paved surface of the north bound lanes of the Wantagh State Parkway and the Jones Beach Causeway and on the east by the boundary of the fee interest in lands on which the Wantagh State Parkway and Jones Beach Causeway are located, held by the State of New York, the centerline of which is shown on Exhibit 1. All upland cable system installation work shall be confined to temporary and permanent rights-of-way to be acquired from the State of New York located within the corridor described above except for installation on property owned by

LIPA within the boundaries of the Newbridge Road Substation, which work shall be conducted by or under the supervision of LIPA. The temporary and permanent easements shall be described in, and depicted on maps included with, the EM&CP.

27. Cable system installation shall be done using open-cut trenching and a combination of pipejacking, HDD and/or other trenchless technologies, following plans to be approved by DOT and OPRHP and provided in the EM&CP.

28. Surveying, marking and similar non-intrusive work may be done at any time with advance notice to OPRHP and DOT.

29. Construction work, excluding restoration work, within the Jones Beach Causeway and Wantagh State Parkway rights-of-way shall be confined to the period starting after Labor Day weekend and ending prior to the Memorial Day weekend of the succeeding calendar year.

30. Wetlands along the cable route shall be marked prior to start of construction. No construction activity shall take place within wetlands regulated under the Freshwater Wetlands Protection Act. No construction materials, equipment or vehicles shall be allowed to enter upon such wetlands. All construction and related activities affecting regulated wetland buffers shall be in conformance with plans incorporated in the EM&CP, which shall include among others the following restrictions:

(a) During construction, the Certificate Holder shall not permit the discharge of concrete, leachate or washings from transit mix trucks, mixers or other devices into tidal wetlands or protected buffer areas;

(b) Certificate Holder shall remove any debris or excess construction material from the adjacent area (upland) and for removal to an approved upland area for disposal. No debris is permitted in tidal wetlands or protected buffer areas.

(c) There shall be no disturbance to vegetated tidal wetlands as a result of the activity.

(d) Certificate Holder shall confine storage of construction equipment and materials to within the project work site or upland areas greater than 50 linear feet from the tidal wetland boundary.

(e) Certificate Holder shall contain all disturbed areas where soil will be temporarily exposed or stockpiled for longer than one week. Containment shall be by a continuous line of staked hay bales/silt curtain (or other DEC approved method) placed on the seaward side between the fill and wetland or protected buffer area. No side casting of spoil materials in wetlands shall occur. Soils shall be stockpiled a minimum of fifty feet from wetland boundaries. Non-saturated wetland soils shall have topsoil segregated from the subsoil and replaced on top. Tarps are authorized to supplement these approved methods; and

(f) Certificate Holder shall place excavated sediments directly into the approved disposal site or conveyance vehicle. No sidecasting (double dipping) or temporary storage of dredge material is authorized.

31. Delivery of cable and other materials shall be coordinated with OPRHP, DOT and local highway officials and, employing traffic controls specified in the EM&CP, shall minimize to the extent practical disruption of traffic on the Jones Beach Causeway and Wantagh State Parkway and intersecting roads and highways.

32. A detailed work plan governing activities within the highway rights-of-way and prepared in coordination with DOT, OPRHP and DPS and in compliance with 17 NYCRR Part 131 shall be included in the EM&CP, which shall cover at a minimum:

a) a schedule separately showing the sequence and duration of trenching, drilling and/or pipejacking, cable delivery and laying, backfilling, splicing, and testing;

b) a traffic diversion/lane closure plan;

c) coordination with planned highway and bridge construction and repair projects;

d) a map showing the location of: the trench with reference to the paved highway surface and bicycle path, lay down and mobilization areas, drilling and exit pits, pipejacking entry and exit pits, and splicing locations;

e) trench profile;

f) a plan for trench backfilling, marking and protection and temporary covering;

g) a plan for conducting trenching and cable laying in the vicinity of other underground utility lines, conduits and pipes;

h) a soil removal and handling plan;

i) a vegetation protection, removal, replacement, restoration and maintenance plan that has been reviewed and approved by OPRHP and DOT personnel and that includes among other things a post-completion assessment of the need for remedial vegetation plantings, to be undertaken under the supervision of OPRHP;

j) plans for minimizing disturbance of the bike path, temporarily relocating and resurfacing the bike path, and the permanent location, extension and restoration of the bike path;

k) a plan for minimizing construction-related noise during the hours between 6:00 p.m. and 7:00 a.m.;

l) a plan for minimizing construction-related lighting impacts on surrounding areas; and

m) a plan for minimizing disruption of traffic, pedestrian and recreational use including during special events at State Park facilities.

33. Vegetation disturbance and removal shall be minimized to the extent practical.

34. Construction activities shall be restricted to the hours of 7:00 a.m. and 6:00 p.m. except for construction activity in connection with HDD, cable pulling and laying,

cable joint splicing, and other activities reasonably necessary to comply with DOT restrictions on daytime construction on or along roadways or public access areas. This restriction shall not require the cessation of construction activities that require a continuous work effort once started.

35. Deliveries related to construction activities shall take place between 7:00 a.m. and 6:00 p.m., except for cable deliveries, and to the extent required to accommodate other oversized deliveries. This condition is not intended to prohibit nighttime deliveries reasonably necessary to facilitate compliance with DOT restrictions on daytime construction in or along roadways or public access areas or to require the cessation of construction activities which require a continuous work effort once started.

36. The Certificate Holder shall coordinate construction activities with other construction and maintenance activities taking place at the same time and in the same vicinity by OPRHP or DOT. The Certificate Holder shall schedule construction staging, construction and maintenance activities to minimize or avoid, to the extent practicable, disturbance to pedestrian use of recreation ways, use of the recreational bikeway, and access to and use of Jones Beach State Park facilities. Details of construction schedule planning and coordination with OPRHP and DOT shall be presented in the EM&CP.

37. The Certificate Holder shall confine construction and subsequent maintenance to the certified right-of-way, converter station parcel and approved additional work areas, as detailed in the EM&CP.

38. The Certificate Holder shall prepare detailed soil handling and erosion control plans to be included in the EM&CP. The soil handling and erosion plan shall include specifications for testing, stockpiling or removal from site, storage, erosion control, restoration, compaction of backfill in trenches, and site preparation and enhancement for restoration within the Wantagh State Parkway and Jones Beach State Park. Prior to start of construction, the Certificate Holder shall install and thereafter inspect daily and repair promptly temporary erosion control devices as indicated in the EM&CP and any storm water and erosion control plans.

39. The Certificate Holder shall provide details in the EM&CP of street work, including provisions for minimizing the duration and extent of open pits within and adjoining public streets, parking lots and rights-of-way.

40. Within ten days of the completion of final restoration, the Certificate Holder shall notify the Commission that all restoration has been completed in compliance with the EM&CP.

41. The Certificate Holder shall submit to DPS, DEC, DOT and OPRHP a facility management plan, as part of the EM&CP, which includes discussion of patrols, marking and maintenance of facilities, and coordination of activities with underlying landowners and managers.

Converter Station Design and Construction

42. The converter station shall be located at 508 Duffy Avenue, in the Town of North Hempstead.

43. (a) The converter station shall be designed, constructed and operated so as to comply with applicable federal and state laws, regulations and codes and applicable substantive requirements of the Code of the Town of North Hempstead except for those requirements addressing building height, parking spaces, fence height (to the extent applicable to the sound barriers included in the design) and construction noise (to the extent continuous work as described in Paragraph 48 below, would otherwise be restricted). The tallest building within the converter station will not exceed 64 feet in height above existing grade, and the tallest support tower will not exceed 86 feet above existing grade. To the extent practicable, the Certificate Holder shall lower the existing grade where the tallest building is to be located so that the building height will be less than 64 feet above the now existing grade. The Certificate Holder shall incorporate the results of this effort in the site plan discussed in Paragraph 44.

(b) The converter station shall be designed to minimize visibility and visual impacts. The depth and density of existing buffers to the north of the converter station site and on the western side of the Parkway opposite the converter station site shall be used to guide design of the buffer between the site and the Parkway. To the extent practicable, this buffer shall be of a width consistent with the above-noted buffers. Consultation with the Town of North Hempstead and other interested parties including the Town

of Oyster Bay shall also be performed to determine the design of buffers along the other perimeters of the site.

(c) The facility design shall use materials that minimize glare and that are neutral in color. The design shall also include appropriate landscaping in the vicinity of the facility. The perimeter fence shall be dark vinyl clad or such other design as approved by OPRHP. An illustrative rendering of one possible exterior design of the converter station facilities is attached as Exhibit 6.

(d) Maintenance and enhancement of the vegetative screen between the converter station site and the Wantagh State Parkway consistent with the conditions of this Paragraph 43 shall be a priority objective in the design and layout of the converter station. Maintenance of the vegetative screening of the converter station shall be the responsibility of NeptuneRTS™ in perpetuity, or until the facility is removed.

(e) Night lighting of the facility shall be limited to the minimum necessary for security purposes, giving full consideration to energy conservation, glare, and minimizing light trespass. All such lighting shall be selected and installed to shield the lamp or lamps from direct view to the greatest extent possible, to minimize upward lighting and to comply with worker safety requirements.

44. The EM&CP shall include the following: (a) a protocol for measuring noise levels after the converter station is in operation. The protocol shall provide for

measurements and reporting that will enable the DPS and Town of North Hempstead to verify that the converter station complies with Chapter 38 of the Code of the Town of North Hempstead; (b) a site plan of sufficient detail to conform to Section 70-219(D)(2) of the Code of the Town of North Hempstead, concerning the contents of site plans including landscaping, lighting (as described in Paragraph 43) and infrastructure drawings, which site plan shall have been approved by OPRHP; (c) construction drawings including architectural, structural, HVAC, mechanical, electrical, plumbing and fire protection plans for all structures, which drawings shall have been approved by OPRHP; and (d) a detailed visual analysis with respect to the visibility of the converter station facilities from the surrounding area including the parkway and nearby properties. Such analysis shall include identification of the southern and northern-most points along the Parkway from which the converter station will be visible during leafless periods, and simulations of visibility during leafless periods approximately every 500 feet along the Parkway within this impact area. A plan for this visual analysis shall be prepared by NeptuneRTS™ and approved by OPRHP.

45. In developing the site plan for the converter station, NeptuneRTS™ shall consult regularly with OPRHP, DPS, DOT, and the towns of North Hempstead and Oyster Bay, and share preliminary drawings of, inter alia, foundations, elevations, renderings and landscaping as they become available. Not later than 30 days prior to the date by which NeptuneRTS™ expects to file the EM&CP for the converter station, NeptuneRTS™ shall file with the same parties a preliminary site plan of

sufficient detail to conform to Section 70-219(D)(2) of the Code of the Town of North Hempstead for their review and comment.

46. Prior to commercial operation of the converter station, NeptuneRTS™ shall obtain from OPRHP a certificate of occupancy covering the converter station. Copies will be provided to DPS and the Town of North Hempstead.

47. The design and layout of the converter station shall accommodate the operation and maintenance of two groundwater monitoring/remediation wells, and related piping and pumping and treatment equipment at locations to be agreed upon by OPRHP, DEC and NeptuneRTS™ in connection with the ongoing remediation of the General Instrument Site (DEC Site No. 1-30-020).

48. Except for work entirely within an enclosed building, construction work and deliveries shall be restricted to the hours between 7:30 a.m. and 6:00 p.m. This restriction shall not require the cessation of construction activities that require a continuous work effort once started. All nighttime work will be subject to provisions for minimizing off site noise and light intrusion.

Environmental Management and Construction Plan

49. The Certificate Holder shall not begin site preparation or construction with respect to any portion of the Transmission Facility (except for surveying, boring and such other related activities as are necessary to prepare final design plans) before it has submitted to the Commission, and the parties identified in Paragraph 52, below, and the Commission has approved, an EM&CP for the relevant portion of the Transmission Project. The filing and review of the EM&CP may be

segmented in order to facilitate construction sequencing and scheduling provided that, with its first EM&CP filing, the Certificate Holder identifies the EM&CP segments.

50. Except where this Certificate requires otherwise, the environmental protection measures contained in the Application, the 401 Water Quality Certification, the Water Quality Monitoring Plan attached hereto as Exhibit 3 (Amended), the Clam Monitoring Plan attached hereto as Exhibit 4 (Amended), and the Joint Proposal, shall be incorporated into the EM&CP and applied during construction, operation and maintenance of the transmission Facility. Applicable provisions of the EM&CP and orders approving the EM&CPs shall be accommodated in contracts associated with the Transmission Facility.

51. The Certificate Holder shall provide, as a part of the EM&CP, in addition to the plans and information listed above in Paragraphs 7, 10, 11, 13, 15, 16, 19, 22, 26, 27, 30, 31, 32, 36, 37, 38, 39, 41, and 44, a final design plan that reflects the Transmission Facility's conformance with the certificate and applicable federal, state and local requirements.

52. The Certificate Holder shall submit four copies of the EM&CP to the Commission, and serve four copies on the Albany staff of DEC, one copy each on Regions 1 and 2 of the DEC, two copies on the Commissioner of OPRHP, two copies to the Long Island State Park Regional Director, one copy to OPRHP Field Services Bureau, one copy each on DOT in its Albany office and on its regional office, at least one copy on any other New York State agency (and its relevant

regional offices) that requests the document, two copies each to the Towns of Hempstead, North Hempstead and Oyster Bay, and one copy on active parties on the service list who request the document, and 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, the Certificate Holder shall provide notice, in the manner specified below, that the EM&CP has been filed.

53. The Certificate Holder shall serve written notice(s) of the filing of 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, the Certificate Holder shall publish the notice(s) in a newspaper or newspaper of general circulation in the vicinity of the facility.

54. 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 Transmission Facility and the EM&CP; 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 it from the Certificate Holder; the name, address, and telephone numbers of the Certificate Holder's representative and the Independent Inspector; the address of the Commission, and a statement that any person may comment on

the EM&CP by filing written comments with the Commission and the Certificate Holder within 30 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). 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.

55. The Certificate Holder shall address at least the following information in the EM&CP. The information shall be prepared in compliance with all applicable state and local laws and regulations other than those local laws identified in Condition 43.

a) details of work site dimensions, construction rights-of-way, and off-rights-of-way access needs and locations, and measures to protect adjacent facilities, structures, and vegetation;

b) details of the in-water Final Corridor authorized for cable burial including centerline coordinates and locations of all sensitive areas identified by DEC, DPS, and/or OPRHP.

c) a work plan for HDD and hydraulic jacking activities including an identification of pit locations, pit dimensions, drilling fluid control measures, stabilization and dewatering practices and nuisance control;

d) details of cable pulling and splicing plans;

e) designated parking areas and equipment storage and staging locations;

f) details of erosion control plans;

g) spoil control plans for excavations;

h) fuel and fluids spill prevention and control plans;

i) hazardous materials handling and disposal;

j) public road traffic control and public safety;

k) pedestrian access, recreation trail/bikeway traffic control plan, fencing around open work areas and provisions for through traffic, alternative access;

l) plans and specifications for pavement restoration;

m) nighttime construction provisions, including lighting and noise control, including conditions when nighttime construction will be undertaken;

n) underwater construction and vessel spill containment and control plans;

o) site restoration plans including a plan for temporary restoration in all areas that will be initially affected by HDD operations and subsequently by cable pulling and splicing operations;

p) construction schedule and coordination plans;

q) dredging plans, silt control measures to be used during dredging and dredged materials management plans and proof of disposal;

r) provision for submission of a certification by a professional engineer licensed by the State of New York stating that, if constructed in accordance with the final design plans, the Transmission Facility will

comply with the electromagnetic and magnetic field standards referenced in Condition 17, above;

s) A Compliance Plan that shall include:

i) The name(s) of the environmental inspector(s) and a statement of qualifications for each inspector demonstrating sufficient knowledge and experience in environmental matters to complete the inspections and audits;

ii) A certification confirming the independence of the inspector(s) from the Certificate Holder and certifying the authority of the inspector(s) to "stop work" in cases of non-compliance or imminent environmental or safety hazard;

iii) Provision for deployment of more than one inspector in the event that two or more major field operations are undertaken simultaneously, such that at least one inspector shall be assigned to each construction area, the same inspector shall not be assigned to both in-water and on-land activities simultaneously, and no inspector shall be assigned to more than two active construction areas at any one time;

iv) A proposed checklist of matters to inspect for compliance, including the specific items or locations to be inspected, the inspection to be employed (*e.g.*, visual, auditory, testing by

instrument, etc.), and acceptability criteria to be applied by the inspector(s);

v) A procedure setting forth how the Certificate Holder will respond to and correct problems found by the inspector(s); and

vi) A schedule for monthly environmental audits during construction and submission of audit checklists, together with a written explanation of problem(s) signed by the auditor(s) and an authorized representative of the Certificate Holder, to DPS, DEC, OPRHP and local agency and/or building inspectors.

t) A notice of intent to exercise authority under the general storm water State Pollutant Discharge Elimination System ("SPDES") permits for construction and industrial activities.

56. The Certificate Holder shall report any proposed changes in the approved EM&CP to DPS, DEC, DOT, OPRHP and to the Independent Inspector. DPS 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 will refer all other proposed changes in the EM&CP to the Commission for approval. Upon being advised that DPS will refer a proposed change to the Commission, the Certificate Holder shall notify all affected statutory and active parties as well as 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. Any delay in receipt of written confirmation will not delay Commission action on the proposed change. The Certificate Holder shall not execute any proposed change until it receives oral or written approval, except in emergency situations threatening personal injury, property damage or severe adverse environmental impact or as specified in the EM&CP.

Notices and Public Complaints

57. Promptly following the closing on financing, NeptuneRTS™ shall notify the Commission that the financing to support construction is in place. Such notice shall state that the affiant has no knowledge of pending or imminent events that may materially affect the Certificate Holder's ability to construct the Transmission Facilities.

58. The Certificate Holder 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 of the Commission and the phone number of the Commission's Environmental Compliance Section, shall also be provided in the event there are questions or concerns. A log shall be maintained that lists at least the date of any complaint, identity and contact information for the complaining party, the date of the Certificate Holder's response, and a description of the outcome. Phone logs

shall be made available to DPS upon its request. During DPS's compliance inspections, the Certificate Holder shall report to DPS every unresolved complaint.

59. No less than two weeks before commencing site preparation, the Certificate Holder shall give notice to local officials and emergency personnel. The Certificate Holder shall also provide such notice for dissemination to surfclam and shellfishing industry representatives, local media and for display in public places (such as general stores, post offices, community centers and conspicuous community bulletin boards). The notice shall contain a map and a description of the Transmission Facility in the local area, the anticipated date for start of construction and the name, address and local or toll-free telephone number of an employee or agent of the Certificate Holder. The notice shall also contain a statement that the project is under the jurisdiction of the 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. Where possible, the notice shall be written in language reasonably understandable to the average person. Upon distribution, a copy shall be submitted to the Secretary of the Commission, the Commissioner of Environmental Conservation, and DEC.

60. The Certificate Holder shall provide construction contractors with complete copies of the Certificate, EM&CP, 401 Water Quality Certification, and 6 NYCRR Parts 700-704. 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.

61. The Certificate Holder shall notify all construction contractors that the Commission may seek to recover penalties for violation of the Certificate, not only from the Certificate Holder, but also from its construction contractors, and that construction contractors may also be liable for other fines penalties and environmental damage.

62. The Certificate Holder shall inform the Secretary, DPS, OPRHP, DOT and DEC at least five business days before commencing construction or clearing on this project.

63. At least five business days before NeptuneRTS^{TM} begins construction within the right-of-way limits of any roads or takes direct access therefrom, NeptuneRTS^{TM} shall notify each such department or agency of the approximate date work will begin.

64. The Certificate Holder shall provide DPS, DEC, OPRHP and DOT with weekly status reports summarizing the previous week's construction and indicating construction activities and locations scheduled for the next two weeks.

65. After commencement of construction of the certificated facilities, the Certificate Holder shall provide DPS with a monthly report on the progress of construction and an update of the construction schedule.

66. Within ten days after the Transmission Facility is in service, the Certificate Holder shall notify the Commission of that fact.

Environmental Supervision

67. The authority granted in the Certificate and any subsequent order in the proceeding is subject to the following conditions necessary to ensure compliance with such order:

a) The Certificate Holder shall regard DPS 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 representatives may issue a stop-work order for that location or activity.

b) A stop-work order shall expire in 24 hours unless confirmed by a single Commissioner. If a stop-work order is confirmed, the Certificate Holder 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.

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 field representatives may consult with the Independent Inspector, or may initiate action based

upon the Independent Inspector's oral report, and shall attempt (wherever practicable) to direct preventive or remedial action through the Certificate Holder's representatives possessing comparable authority. In the event that DPS field representatives issue a stop work order, neither the Certificate Holder nor the contractor will be prevented from undertaking any such safety-related activities as they deem necessary and appropriate under the circumstances.

d) In the event of any emergency involving specific construction or maintenance activities that violate or threaten to violate the terms of the Certificate or any other order in this proceeding, DPS field representatives may direct the Certificate Holder to install appropriate mitigative measures or devices.

68. The Independent Inspector and appropriate inspection personnel of the Certificate Holder shall be on site at the start-up of each field operation and at all times during environmentally sensitive phases of construction such as waterfront areas and parklands. The Independent Inspector and appropriate inspection personnel of the Certificate Holder shall be equipped with sufficient documentation, and transportation and communication equipment to effectively monitor contractor compliance with the provisions of this Certificate, subsequent Orders in this proceeding, applicable sections of the Public Service Law, and the Commission approved EM&CP.

69. The Certificate Holder shall organize and conduct site compliance audit inspections for DPS as needed but not less frequently than once a month during the site preparation, HDD, cable-laying, upland excavation, construction, and restoration phases of the Project. The inspection shall include a review of the status of all certification conditions, requirements, and commitments, as well as a field review of the project, if necessary. The inspection shall also include:

    a) reviews of all complaints received, and their proposed or actual resolutions;

    b) reviews of any significant comments, concerns or suggestions made by the public, local governments, or other agencies;

    c) reviews of the status of the project in relation to the overall schedule established prior to the commencement of construction; and

    d) any other items the Certificate Holder or DPS considers appropriate. The Certificate Holder shall circulate a written record of the results of the inspection to involved agencies.

70. Nothing in this Certificate and its appendices shall limit either (a) the authority of DEC to monitor the environmental and health impacts resulting from the construction and operation of the project and to enforce applicable provisions of the Environmental Conservation Law (including those which provide for summary abatement authority) and applicable implementing regulations governing the environmental and health impacts resulting from such construction

and operation, or (b) any defenses to such enforcement that the Certificate Holder may be able to assert under applicable law.

Cultural Resources

71. Should archeological materials be encountered during construction, the Certificate Holder 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, the Certificate Holder shall notify DPS and OPRHP 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 the scope of impact mitigation has been determined.

72. 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 immediate 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, the Certificate Holder shall notify DPS and OPRHP. All archaeological/burial encounters and their handling shall be reported in the status reports required by Paragraphs 65 and 69, above.

73. The Certificate Holder shall refrain from undertaking construction in areas where cultural resource surveys have not been completed and until such time as the results of any additional cultural resource surveys that are required have been

reviewed by the appropriate authorities, including OPRHP and DPS. DPS shall be contacted prior to commencement of construction in any such areas.

Transmission System Reliability

74. The Certificate Holder is authorized to construct and agrees to design, engineer, and construct the interconnection facilities in support of the Transmission Facilities as provided in the System Reliability Impact Study ("SRIS") approved by the New York Independent System Operator ("NYISO"), the Transmission Planning and Advisory Subcommittee ("TPAS"), the NYISO Operating Committee, and the NYISO Class Year 2003 Annual Transmission Reliability Assessment Study ("ATRAS"), and in accordance with the applicable and published planning and design standards and best engineering practices of NYISO, Long Island Power Authority ("LIPA"), the New York State Reliability Council ("NYSRC"), Northeast Power Coordinating Council ("NPCC"), North American Electric Reliability Council ("NERC"), and North American Electric Reliability Organization ("NAERO"), and successor organizations depending upon where the facilities are to be built and depending on which standards and practices are applicable. Specific requirements shall be those required by the NYISO Operating Committee and TPAS in the approved SRIS and by any interconnection or facilities modification agreements made with LIPA.

75. The Certificate Holder shall work with LIPA’s system planning and system protection engineers to discuss the characteristics of the transmission system before purchasing any equipment for the switchyards and other system protection

and control equipment related to the electrical interconnection of the Project to the LIPA transmission system. This discussion is designed to ensure that the equipment purchased will be able to withstand most system abnormalities. The technical considerations of interconnecting the Project to the LIPA switchyards shall be documented by the Certificate Holder and provided to DPS and LIPA no later than two months prior to purchasing the equipment. Updates to the technical information shall be furnished as available.

76. The Certificate Holder shall work with LIPA's engineers and safety personnel on testing and energizing equipment in the switchyards. Unless provided by LIPA, a testing protocol shall be developed and provided to LIPA for review and acceptance. The Certificate Holder shall call DPS's Bulk Transmission Section within one hour to report any transmission-related incident that affects the operation of the Project. The Certificate Holder shall submit a report on any such incident within seven days to DPS's Bulk Transmission Staff and LIPA. The report shall contain, when available, copies of applicable drawings, descriptions of the equipment involved, a description of the incident and a discussion of how future occurrences will be prevented. The Certificate Holder shall work cooperatively with LIPA, NYISO and the Regional Reliability Council to prevent any future occurrences. The Certificate Holder shall notify DPS of meetings related to the electrical interconnection of the Project to the LIPA transmission system and provide the opportunity for DPS to attend those meetings.

77. The Certificate Holder shall work with LIPA, and any successor Transmission Owner (as defined in the NYISO Agreement), to ensure that, with the addition of the Transmission Facilities (as defined in the Interconnection Agreement between the Certificate Holder and LIPA), the system will have power system relay protection and appropriate communication capabilities to ensure that operation of the electric transmission system is adequate under NPCC Bulk Power System Protection Criteria, and meets the protection requirements of the NERC, NPCC, NYSRC, NYISO, and LIPA, and successor Transmission Owner (as defined in the NYISO Agreement). The Certificate holder shall ensure compliance with applicable NPCC criteria and shall be responsible for the costs to verify that the relay protection system is in compliance with applicable, published NPCC, NYISO, NYSRC and LIPA criteria.

78. The Certificate Holder shall operate the Transmission Facilities in accordance with the FERC-approved tariffs and applicable rules and protocols of NeptuneRTS™, LIPA, NYISO, NYSRC, NPCC, NERC, and NAERO, and successor organizations. The Certificate Holder shall obey operational orders issued by the NYISO or its agent or successor. The Certificate holder may seek subsequent review of any specific operational orders at the NYISO, NYSPSC, the FERC, or in any other appropriate forum. The Certificate Holder shall obey applicable dispatch instructions issued by NYISO, its agent, or its successor, in order to maintain the reliability of the transmission system. In the event that the NYISO System Operator encounters communication difficulties, the Certificate

Holder shall obey dispatch instructions issued by the LIPA Energy Control Center, or its successors, in order to maintain the reliability of the transmission system.

79. The Certificate Holder shall be in full compliance with the applicable reliability criteria of LIPA, NYISO, NPCC, NYSRC, NERC, NAERO and successors. If it fails to meet the reliability criteria at any time, the Certificate Holder shall notify the NYISO immediately, in accordance with NYISO requirements, and shall simultaneously provide the Commission and LIPA with a copy of the NYISO notice.

80. The Certificate Holder shall file a copy of the following documents with the Commission: all facilities agreements with New Jersey utilities, PJM and LIPA, and successor Transmission Owners (as defined in the NYISO Agreement); the SRIS approved by the NYISO Operating Committee; the interconnection study approved by PJM and the local utility in New Jersey; any documents produced as a result of the updating of requirements by the NYSRC; the Relay Coordination Study (which will be filed not later than six months prior to the projected date for commercial operation of the facility, subject to coordination with LIPA); and a copy of the facilities design studies for the New York and PJM portions of the Transmission Facilities, including all updates.

81. In the event that an equipment failure of the certificated facilities causes a significant reduction in the capability of the certificated facilities to deliver power, the Certificate Holder shall promptly provide to DPS and LIPA copies of all

notices, filings, and other substantive written communications with the NYISO as to such reduction, any plans for making repairs to remedy the reduction, and the schedule for any such repairs. The Certificate Holder shall report monthly to DPS on the progress of any repairs.

82. The requests of NeptuneRTS^{TM} for waivers of certain filing requirements of 16 NYCRR, Part 86 are granted for the reasons noted in the body of this Order.

Neptune Regional Transmission System LLC
Suspended Sediment / Water Quality Monitoring Plan

October 13, 2003

Amended, September 21, 2004

INTRODUCTION

This document presents the Suspended Sediment and Water Quality Monitoring Plan (the Plan) associated with Neptune RTS™ submarine cable-burial operations. The Plan is to be implemented during pre-installation waterjetting trial operations, and waterjetting cable installation operations.

Subaqueous sediments along the planned cable route were evaluated in the laboratory and a three-dimensional hydrodynamic and water quality model was used to estimate the potential volume and extent (area) of sediment transport, resuspension and deposition due to submarine cable installation. The model was also used to estimate the concentration and distribution of suspended solids concentrations and to estimate water column contaminant concentrations resulting from the disturbance of these bottom sediments. The resulting concentrations were then evaluated outside a mixing zone of 200 feet on either side of the cable and compared to applicable water quality standards and background values.

Based on the modeling results, the maximum vertically averaged total suspended solids (TSS) concentration ranged from 195 to 990 mg/L, depending on the fraction of trench material released to the water column. These concentrations are comparable to background measurements (see NYCDEP 2002; Hardy 1973; Bricelj et al., 1984).

Model results indicate that water column contaminant concentrations, as a result of sediment disturbance during cable burial operations, may contravene water quality standards at certain locations in the Raritan River, Raritan Bay, and the New York Bight within the waters of the State of New Jersey. Subsequent to the collection and analysis of any Ambrose Channel sediment samples, an analysis of potential water quality exceedances will be performed. If concentrations of contaminants in such samples are elevated, the Ambrose Channel will be added to the foregoing list. Because of the limited degree to which water quality standards may be contravened, the scope of water column contaminant monitoring will target cable burial operations in areas where water quality exceedances were predicted by the model. Anticipated increases in both water column contaminants and suspended sediments associated with cable burial operations are expected to be short-term and localized, rapidly diminishing with distance from the proposed cable route.

Table 1. Estimated water quality standard exceedances based on model results

Region	Raritan River				Lower Bay							New York Bight							Hempstead Bay											
Analyte	1	2	3	4	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	12
PCB		x		x					x																					
Dioxins and Furans				x	x			x		x																				
Arsenic	x	x	x	x	x	x	x	x	x	x	x	x																		
Mercury		x		x			x	x	x	x																				
4,4´-DDD		x		x																										
4,4´-DDE		x		x					x																					
Benz(a)anthracene		x		x			x	x		x																				
Benzo(a)pyrene		x		x			x	x	x	x																				
Benzo(b)fluoranthene		x		x			x	x		x																				
Benzo(k)fluoranthene		x		x			x	x		x																				
Chrysene		x		x			x	x	x	x																				
Dibenz(a,h)anthracene		x						x																						
Indeno(1,2,3-cd)pyrene		x					x	x	x	x																				
	Sayreville, NJ											NJ		NY					Hempstead, NY											

PROCEDURES

The goal of the Plan is to characterize the effect of sediment disturbance on the overlying water column, and to provide information for operational refinements that could minimize the amount and extent of sediment suspension during cable-laying to the extent practicable. Monitoring will focus on defining the extent of the suspended sediment plume and on measuring water column concentrations of priority pollutants associated with the sediment disturbance. This will be accomplished using a combination of real-time instrumentation and laboratory analysis of water samples as follows:

1. Periodic turbidity profiling measurements using *in situ* optical backscatter (OBS) monitoring equipment;
2. Continuous *in situ* acoustical backscatter monitoring for suspended sediment using an acoustic Doppler current profiler (ADCP);
3. Grab sample collection for laboratory analysis of TSS;
4. Grab sample collection for laboratory analysis of water quality contaminants;
5. Periodic temperature and salinity profiling measurements using conductivity, temperature and depth (CTD) equipment; and

6. Concurrent time and positional information using a differential global positioning system (DGPS).

The OBS and ADCP backscatter data (1 and 2 above) will be used in conjunction with the grab samples for TSS (3) to afford wide spatial and temporal coverage of the anticipated suspended sediment plume in near real-time. Grab samples for water column contaminants (4) will demonstrate the degree to which sediment contamination is released to the water column due to sediment disturbance. Vertical profiling of temperature and salinity (5) will provide information on ambient conditions that may be contributing to plume dynamics. All data will include time and positional information from the shipboard DGPS system (6).

Suspended Sediment Monitoring

Sediment resuspension will be monitored along transects positioned perpendicular to the axis of the expected plume and located down-current of cable burial operations. Exact monitoring locations will vary, but will be selected so that the three transects relative to the cable-laying operations fully enclose the sediment plume. Previous surveys suggest that 200 ft, 500 ft and 800 ft down-current would provide adequate coverage, and these distances will be used initially. The length of each transect will vary (primarily determined by current velocity); however, each transect will be of sufficient length to establish the spatial extent (boundaries) of the plume.

Monitoring will be concentrated around slack and peak running tides. Each sampling location will include the collection of three water samples for laboratory TSS measurement: one from 18 inches below the surface, one at mid-depth, and one 3 feet above the bottom. Vertical profiles of turbidity, water temperature, and salinity will be measured at each sampling location as well. Turbidity is measured in nephelometric turbidity units (NTU) using an OBS instrument. These measurements can then be converted to suspended sediment concentrations (mg/L) based on field calibrations. The OBS instrument will be attached to the CTD so that a single instrument cluster will be lowered through the water column for each sampling location.

Background monitoring will be conducted throughout the cable burial operations outside the area of the expected plume (approximately 500 ft upstream or adjacent to cable burial operations depending on tidal conditions) for comparison purposes. The number of sampling locations necessary to establish background conditions will be refined during pre-installation trials (see below) and as monitoring progresses, but will be conducted at a minimum of one location on each phase of the tide (e.g., slack, peak ebb, peak flood) during which monitoring is performed, and will include each of the 16 shellfish sampling locations to be performed under the Shellfish Monitoring Plan. Monitoring events will occur at least twice per tidal cycle (12.4 hours) during cable burial activities, during a running tide (i.e. ebb or flood) and during a slack tide. Based on consultation with NYSDEC, NJDEP, and NYSDPS, if monitoring results demonstrate acceptable performance, monitoring frequency may be decreased as the project progresses.

Real-time acoustic backscatter data will be collected concurrently with the sampling described above using an ADCP. Back scatter data from the ADCP will be compared to simultaneous TSS

and turbidity measurements to determine the relationship between acoustical backscatter and suspended sediment, as well as the error associated with this relationship. ADCP data, which will have a much greater spatial resolution, will be converted to TSS or turbidity based on the relationship developed from the field measurements and laboratory analysis to create an uninterrupted profile across each section of the sediment plume traversed during water quality monitoring. Water temperature and salinity data will be used to calculate speed of sound to improve acoustical backscatter results.

Water Column Contaminant Monitoring

Based on the modeling results summarized in Table 1, water samples will be collected for the pollutants listed in Table 2 at the following locations: Raritan River Stations 2 and 4, Lower Bay Stations 3 and 4 and one or more locations selected in consultation with NYSDEC and NJDEP based on the results of Ambrose Channel sediment sampling. Background samples will be collected from each of these locations approximately 500 ft up-current from cable burial activities (a set of three water samples will be collected from 3 feet above the bottom at each location) as close in time as practicable to the primary sampling, and with the intent of collecting a sample uninfluenced by cable burial. During cable burial activities, a set of three water samples will be collected from 3 feet above the bottom at a single location at each of the above stations, 500 ft down-current from the cable trenching position (NJDEP reserves the right to reduce this distance to within 200 ft of the cable trenching position in the Raritan River based on suspended sediment data collected during the Pre-Installation Trial Monitoring outlined below). The 24 unfiltered samples will be analyzed for TSS and for all priority pollutants listed in Table 2 excluding dioxin, for which analysis will be performed on one background and one downgradient sample from each location (i.e., eight total samples). Water samples will be collected using a Nisken bottle sampler device, except for mercury samples which will be obtained as prescribed in EPA Method 1631 (i.e., clean fluoropolymer or borosilicate glass bottles). In addition, field measurements of temperature, pH, conductivity, and turbidity will be performed for each sample collected.

Table 2. Analytes, Water Quality Standards, and laboratory analyses

Contaminant	Limit (µg/L)	Basis	Method	MDL* (µg/L)
PCB	0.03	Maximum, Total	EPA 8082	0.04
Dioxin	6E-10	Depth Average, Total	EPA 8290	5E-04
Arsenic	0.136	Maximum, Total	EPA 200.8/6020 ICP-MS*	0.5
Mercury	0.146	Maximum, Total	EPA 1631M AF*	0.001
4,4´-DDD	0.000837	Depth Average, Total	EPA 8081	0.01
4,4´-DDE	0.000591	Depth Average, Total	EPA 8081	0.01
Benz(a)anthracene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Benzo(a)pyrene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Benzo(b)fluoranthene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Benzo(k)fluoranthene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Chrysene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Dibenz(a,h)anthracene	0.031	Depth Average, Total	GC-MS and SIM*	0.02
Indeno(1,2,3-cd)pyrene	0.031	Depth Average, Total	GC-MS and SIM*	0.02

*Key to abbreviations: AF=atomic fluorescence; GC=gas chromatography; ICP=inductively coupled plasma; MDL=method detection limit (ug/L); MS=mass spetrometry; SIM=selected ion monitoring.

Sampling for water column contaminants will be performed from a different vessel than the one responsible for the suspended sediment monitoring. All laboratory analyses of water quality must be conducted by a laboratory certified by the New York State Department of Health.

Pre-Installation Trial Suspended Sediment Monitoring

The pre-installation trial presents an opportunity to refine the Plan prior to cable burial operations. Trial operation of the selected water-jetting system (i.e., the CAPJET 650-1 MW or CAPJET 50 equipment provided by Nexans of Norway or the Hydro-Plow III provided by Pirelli) will be conducted prior to commencement of cable burial to simulate operations and refine operating conditions. Water quality monitoring will be performed during these trials to

accomplish several goals. First, operational settings of plow speed and water-nozzle pressure will be optimized to minimize the resuspension of sediments in the water column consistent with the cable installation schedule and certificate conditions. Second, suspended sediment and water quality monitoring procedures will be refined, including the calibration of acoustic, optical backscatter, and sampling equipment. Third, monitoring results and operational settings and adjustments from the trial will establish a standard of performance and operational requirements to be used during actual cable burial.

Procedures implemented during cable burial and associated monitoring may be modified based on the findings of the pre-installation trial. Modifications may include locations of transects, the number of water quality samples collected, and the procedures for correlation of water quality samples and real-time equipment. Any modification to the monitoring plan will be subject to NYSDEC and NJDEP approval.

Pre-installation trials will be conducted in Raritan Bay at a location near or adjacent to the proposed cable route. The exact location will be determined based on weather conditions and cable laying schedule. The trials will be conducted over a period of not more than five (5) days and will include the laying, burial and recovery of approximately 300 m of an appropriate "test object" selected to simulate the actual cable. Trial monitoring will include suspended sediment sampling and analysis in accordance with the procedures described above.

REPORTING

Results of the pre-installation trials will be summarized and the findings and recommendations for procedures to be implemented during cable burial and associated monitoring provided to NYSDEC, NYSDPS and NJDEP in a brief letter report. Once cable burial activities commence, daily reports will be filed that include the stations traversed, a catalog of data collected, and the correlations of optical and acoustic back scatter with TSS that were used to guide the field monitoring. Following completion of the cable burial activities, a final report will be submitted that will include the procedures, field and analytical testing data, findings, and limitations of the monitoring performed during all phases of the Plan. The final report will include the actual correlations between real-time optical and acoustical backscatter equipment and corresponding TSS measurements, comparisons of measurements with relevant Water Quality Standards, and QA/QC data for laboratory and field activities. All analytical results and laboratory reports from all sampling stations in New Jersey and New York shall be provided to NJDEP and NYDEC.

SAMPLING AND ANALYSIS SCHEDULE

Samples collected for TSS analysis will be transferred to a laboratory every 24 hours. The total turnaround time, including laboratory analysis, data entry, and data processing, is expected to take four to six days. It is anticipated that gross sediment characteristics (grain size distribution, sediment type, etc.) will not vary substantially over a three-day window. Thus, results on the

fourth day will be used to guide the monitoring crew interpreting real-time acoustical and optical backscatter data. Field activities during the first three to four days will be guided by backscatter correlations developed during the pre-trial installation. Estimates of volumetric plume extent for each day will be provided following completion of cable burial activities. Water samples analyzed for priority pollutants will be collected when cable burial operations reach the designated sampling locations (Raritan River Stations 2 and 4, and Lower Bay Stations 3 and 4). These samples will be transferred to the analytical laboratory immediately following collection. The laboratory turnaround time for priority pollutants is expected to be 21 to 28 days, therefore no data (other than that available from field monitoring of temperature, pH, conductivity, and turbidity) will likely be available prior to the completion of cable-laying operations.

REFERENCES

Bricelj, V.M., R.E. Malouf and C. de Quillfeldt. 1984. Growth of juvenile *Mercenaria mercenaria* and the effect of resuspended bottom sediments. Marine Biology 84:167-173.

Hardy, C.D. 1973. "Chemical Oceanography", Final Report of the Oceanographic and Biological Study of the Southwest Sewer District #3, Suffolk County, New York. Vol. 1. Marine Sciences Research Center. State University of New York at Stony Brook, New York.

New York City Department of Environmental Protection (NYCDEP), 2002. New York Harbor Water Quality Survey: (www.nyc.gov/html/dep/html/news/hwqs.html)

NEPTUNE REGIONAL TRANSMISSION SYSTEM LLC
PRE- AND POST-INSTALLATION CLAM MONITORING

Amended, September 21, 2004

Pre- and post-installation clam monitoring will be conducted along the submarine portions of the cable route. Monitoring will characterize and compare the pre- (i.e., existing) and post-installation abundance and size/ age distribution of hard clams and surf clams occurring in the vicinity of the cable route. Monitoring will also be used to assess the health (i.e., pathogen occurrence) and possible installation-related impacts to these species along the planned route.

Results of the pre- and post-installation clam monitoring survey will be summarized and reported within three months following completion of each survey.

PRE-INSTALLATION SURVEY

No earlier than three months prior to scheduled cable installation, a survey of the planned route will be conducted. The pre-installation survey will be conducted in three general sampling areas along the planned cable route: (1) Raritan Bay, (2) Atlantic Ocean (New York Bight), and (3) Atlantic Ocean (Jones Island). The Raritan River is closed to shellfishing; therefore no survey is scheduled for this portion of the cable route. Within each general area, locations selected in consultation with the appropriate state agency to be representative of the various benthic habitats known to exist along the planned cable route and known to contain hard clam or surf clam resources (McCloy 1988, Davidson and Linehan 2003), will be included in the pre- and post installation surveys.

The surveys will document the abundance, size/age distribution and health (i.e., pathogen occurrence, inflammatory response) of hard clams and surf clams occurring along the planned cable route.

A commercial style hydraulic dredge, lined with a 2-in. x 3-in. wire mesh, will be used to sample surf clams in the Atlantic Ocean locations; a commercial style clam rake will be used to sample hard clams in Raritan Bay.

Five stations will be sampled during the pre-installation survey in Raritan Bay and six stations in the New York Bight. Two stations will be sampled in the Jones Island area. Stations will be located within 100 feet and no more than 400 feet on either side of the planned and installed cable route. Approximate sample location are shown in Figure 1. Station location (i.e., name, station coordinates), survey time/date, weather/oceanographic conditions, water depth, sediment temperature/color/odor, grab penetration/volume, visual sediment texture, epibenthic fauna/flora, water temperature, dissolved oxygen, salinity and turbidity will be recorded at each station.

Within Raritan Bay (that portion of the planned route west of Chapel Hill Channel), hard clams collected at each survey station will be examined for the hard clam parasite QPX (Quahog Parasite X). A total of 30 hard clams will be collected for histological processing and tissue

section examination at each station. QPX tissue and organ infections, prevalence and intensity (i.e., percentage of clams collected with QPX), and any other unusual histological finding will be recorded. Evidence of tissue inflammation due to possible disturbance will also be recorded, including non-infectious agents such as kidney concretions, Hemocytic nodules and sediments in clam tissues. External shell characteristics, gapping, condition (i.e., alive or spent) and size will be recorded. A shellfish pathologist will conduct all clam examinations.

Within the New York Bight, a total of 12 surf clams collected at each station will be examined for pathogen occurrence and prevalence (i.e., percentage of clams) by histological sectioning and examination. Evidence of inflammation due to possible disturbance will also be recorded, including non-infectious agents such as kidney concretions, Hemocytic nodules and sediments in clam tissues. External shell characteristics, condition (i.e., alive or spent) and size will be recorded.

In the Jones Island area, 30 surf clams will be collected at each survey station and examined for evidence of inflammation due to possible disturbance. Histological sectioning and examination will be as described above.

POST-INSTALLATION SURVEY

Two post-installation surveys will be conducted. The first post-installation survey will be conducted approximately four to six weeks following cable installation. Station location, sampling and analysis will be the same as described in the pre-installation survey.

A second post-installation survey will be conducted approximately 12 months after cable installation. Hard clam samples will be collected at a minimum of three stations in Raritan Bay and surf clam samples will be collected from the two stations in the Jones Island area. The survey stations will be selected based on evidence of pathogen infection and tissue inflammation as reported from the first post-installation survey. Additional sampling will be conducted at the remaining stations (i.e., two in Raritan Bay and two in the Jones Beach area) only if clams collected at these stations during the first survey also exhibited pathogen infections or evidence of tissue inflammation due to disturbance. Sampling and analytical methodologies will be the same as described for the previous surveys.

Based on the results of the first post-installation survey, surf clams will be collected during the second post-installation survey only at those stations from which surf clams collected during the first survey exhibited pathogen infections and evidence of tissue inflammation due to disturbance. Sampling and analytical methodologies will be the same as described for the previous surveys.

References:

Davidson, M. and J. Linehan. 2003. 2002 Atlantic Ocean Surf clam Population Assessment. New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Bureau of Marine Resources. East Setauket, New York.

McCloy, T. 1988. The Shellfish Resources of Raritan Bay and Sandy Hook Bay. New Jersey Department of Environmental Protection, Division of Fish, Game and Wildlife, Bureau of Shellfisheries. Trenton, New Jersey. Technical Series 88-1.