New York State Department of Environmental Conservation
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Alexander B. Grannis
Commissioner

May 7, 2008

The Honorable Jeffrey E. Stockholm
Administrative Law Judge
New York State Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 01-T-1679, LIPA Petition for Long Island Sound Cable Abandonment, Submission of Pre-Filed Testimony by NYSDEC Staff

Dear Judge Stockholm:

The Department of Environmental Conservation hereby submits the Pre-filed Testimony of Department Staff members Karen Woodfield, Diane English, Karen Graulich, and Richard Tuers in support of its opposition to the Petition of the Long Island Power authority to abandon cables in the captioned proceeding. This filing is served upon Your Honor and the Active Parties both electronically and by U.S. Post (except for those who did not provide an e-mail address to the List), using the Active Parties List dated April 25, 2008. Five copies of the Pre-Filed Testimony are also being provided by U.S. Post to the Secretary pursuant to 16 NYCRR §3.6(e). Thank you for your consideration in this matter.

The Department of Environmental Conservation
Office of General Counsel
By:

William G. Little, Esq.
Associate Counsel

ENCL.
cc.: Active Parties (4/25/08)
Secretary Brilling (5 copies)

BEFORE THE
NEW YORK STATE PUBLIC SERVICE COMMISSION
LONG ISLAND POWER AUTHORITY
SUBMARINE CABLE REPLACEMENT
CASE 01-T-1679

Pre-Filed Direct Testimony of:

Richard Tuers
New York State Department of
Environmental Conservation

May 7, 2008

Q: Please state your name, employer, and job title.

A: Richard Tuers, New York State Department of Environmental Conservation, Environmental Engineer.

Q: Please state your employment responsibilities.

A: Responsible for coordinating studies, designs, and construction of coastal erosion and flooding projects in New York City and Long Island with the Army Corps of Engineers, NYSDEC Regional staff, Department of State, and appropriate other Federal, State, and local agencies. These projects routinely require assessment of shoreline change, sediment budget analysis, condition of inlets, and impacts of coastal flooding of coastal communities due to sea level rise.

Q: What is the purpose of your direct testimony?

A: To identify and support the public health & safety concerns/issues arising from the proposal contained in Long Island Power Authority's ("LIPA") Petition to Abandon the seven remaining cables in the near shore area of Long Island Sound near the Northport Power Station.

Q: Have you reviewed the LIPA's Petition to Amend its Certificate of Environmental Compatibility and Public Need and Request for Expedited Approval, with Exhibits?

A: Yes. I have also been evaluating the information provided by LIPA and as part of the Feasibility Study for the Village of Asharoken Sediment Budget Analysis that was prepared in August 2004. The Sediment Budget Analysis evaluates the historical shoreline changes just east of the Northport Power Station to Eaton's Neck, about 2.5 miles west of the power station. This study is useful because it deals with the hydrodynamics of the shoreline and the coastal processes (littoral drift) of this site.

Q: What concerns, if any, does the Petition raise within your areas of expertise?

A: I have identified significant concerns for a risk to and negative impact on public health and safety. These concerns stem from the hazard the abandoned cable would present to recreational boaters, swimmers, wind surfers, and others who use the waters of Long Island Sound from potential exposure of one or more cables.

Q: Does the Petition identify any safety concerns the could occur after abandonment?

A: No. The Petition does not adequately discuss facts associated with or the consequences of leaving the abandoned cable in the bed of Long Island Sound.

Q: Please describe the reason for your concern regarding public safety after cable abandonment.

A: The survey data supplied by LIPA shows that, where LIPA was able to detect the buried cable, portions of the remaining cable have cover depths of four feet or less. Significant weather events, such as hurricanes and Nor'easters, frequently cause movement of the structural bed of Long Island Sound. On the north shore of Long Island, the significant weather events that pertain to this issue are more likely to be Nor'easters. Such events could cause the cables buried at these shallower depths (less than four feet burial depth) to become exposed. This will present a hazard to the public health and safety, one that is preventable by removal of the remaining cable sections.

Q: How have you identified this to be a concern?

A: As part of my responsibilities as a coastal engineer, I have been studying the historic shoreline change and sediment budget in the near shore area of the Northport Power Station. The shoreline change and structural bed of Long Island Sound can change with or without significant

weather events but a greater change can occur as a result of significant weather events such as hurricanes and Nor'easters.

Q: What do you mean by "movement of the structural bed of Long Island Sound"?

A: Wind, wave, tidal, and current action can caused by or be significantly enhanced by the storm events noted above. The near shore and off shore sands or sediment and stones in Long Island Sound can be moved or displaced, sometimes over large distances during the course of a single storm event. Hurricanes come with great intensity over a relatively short period of time. Nor'eaters can last for several days. The energy generated by these storms is strong enough to cause the described movement, even at the water depths now over the cable LIPA proposes to abandon. In a situation where there are shallower waters and where cable burial depths are also shallow (less than four feet), the storm energy can be strong enough to move the sands and overburden on top of the cables.

Q: Does LIPA's Petition describe the material into which the cable is buried?

A: The material presented does not give a clear picture of the sediments or other materials that make up the structure for the entire cable burial area. LIPA indicates there is gravely sand, 2" - 4" stone, and some cobbles near cable five. (Petition to Amend Certificate, Exhibit A, page 20 for Cable 5 dive site description @ 1200 feet from Northport Shore.) LIPA does not provide any information about the structure in the Sound where the remaining cables are located. In addition, there is great variability throughout this area and, in my opinion, it may contain some cobble but is predominantly fines or sands. My own experience supports this and is illustrated by the United States Geologic Survey map entitled "Distribution of Surficial Sediment in Long Island Sound" (2000), a copy of which is attached hereto. (Georeferenced Sea-Floor Mapping and Bottom Photography in Long Island Sound, Valarie Paskevich and Lawrence Poppe, USGS, Coastal and Marine Geology Team, Woods Hole, MA.)

This color-coded illustration shows a large lense of sand (yellow) in the vicinity of the Northport

Power Station, including the area of the remaining cables. The other sediments are predominantly silty sand or clay, which are much finer than the sands and will therefore migrate more readily.

Q: Can the erosion process be more gradual?

A: Yes. Over time, there is the same risk of cable exposure and hazard to the public health and safety. The cumulative effect of smaller storms and/or the regular erosive action of wind, waves, tides, and currents will contribute to this more gradual effect.

Q: If the water depth is greater, are you still concerned that the cable cover could be effected by storms?

A: Yes. The added water depth does not lessen the degree of my concern. In the first place, there are shallow cable burial depths in the middle sections of the cable lengths as well as the sections that are closer to shore. Second, the intense storm energy mentioned above is sufficient to act forcefully on cables buried at shallow depths in sediment, even in cable sections further from the shore. Lastly, the water depths overall are fairly shallow, being approximately 30 feet deep or less.

Q: Does LIPA's abandonment proposal address/evaluate this public health and safety risk?

A: No, not in any manner.

Q: Would you recommend anything to address this failure?

A: The safest thing would be to remove the cable, eliminating any possibility of a threat or risk to public health and safety.

Q: Does this conclude your testimony?

A: Yes.

RICHARD E. TUERS

266 Boght Road

Watervliet, NY 12189

518. 221.7823

Education: B.S., Civil/Environmental Engineering, N.J. Institute of Technology, 1977

Graduate courses, Masters in Public Administration, Russell Sage, Albany

Registration: Engineering-In-Training, #044139, New York

Professional Experience:

1999 - Present ***Environmental Engineer*** - New York State Department of Environmental Conservation, Bureau of Flood Protection and Dam Safety, Albany Headquarters

- Sustainability/Climate Change- Catalyst for the Sustainability Forum and Office of Policy staff to prepare and deliver Sustainability Briefing to Commissioner Grannis and Executive Staff. Worked to collaborate in DEC and with other state agencies such as NYSERDA, NYSOPR& HP, and OGS on sustainability, and climate change. The objectives of the Sustainability Forum are to be more accountable within DEC, to Lead by Example, and export the program to the DEC Regional offices and state agencies.

- Coastal Erosion Program Administration- Responsible for major portion of a complex environmental program for the State of New York. Program includes project management, environmental review and coordination, contract administration, budget review, and public relations for coastal erosion issues in New York City and Long Island. Coordination with federal, state, town, village, and local citizen groups to resolve coastal erosion issues due to shoreline change, sea level rise, and global warming. Negotiated and prepared parallel contracts for feasibility studies with the Army Corps of Engineers and local town or villages to address erosion issues. Also prepared contracts for design and construction of coastal engineering measures. Prepared recommendations for supervisory review of selection alternatives for coastal projects.

- Training Coordinator- Represented bureau in Division of Water training committee workgroup. Collaborated with bureau staff to identify bureau training needs. Facilitated three-day training seminar for central office and regional staff on dam safety, flood plain management, flood projects, and coastal erosion hazard area implementation.

- Wellness Program Chairman - Implemented NYSDEC Wellness Program for Central Office staff of 1500 employees. Established wellness work group; created survey; implemented survey recommendations; created wellness web page for the new DEC facility in downtown Albany. Launched "America on the Move" project in 2005 and 2006 for the central office staff.

1984 - 1999 ***Environmental Engineer*** - New York State Department of Health, Bureau of Environmental Exposure Investigation

- Health Assessments and Consultations - Prepared health assessments and consultations for the Agency for Toxic Substances and Disease Registry (ATSDR) of inactive hazardous waste facilities. Evaluated past, present and potential future human exposures to environmental contaminants; made recommendations to appropriate environmental agencies to reduce or eliminate to toxic or hazardous substance in the environment.

  Wellness Coordinator - For Center for Environmental Health staff. Organized seminars on nutrition, physical activities, and relaxation.

- Training - Organized bureau training seminars on technical writing, field monitoring instruments, risk assessment, personal protection, negotiations, and Right-To-Know/Hazard Communication.

1982 - 1984 ***Tax Valuation Engineer*** - New York State Division of Equalization and Assessment.

- Cost Estimation - Prepared cost estimates ranging from $15,000 to $520,000 for industrial and utility equipment used by power, telephone, cable TV companies for NY State tax assessments.

- Assessor Handbook - Assisted in creating the NY State Assessors Industrial and Utility Equipment Handbook. Negotiated contract with a local graphics firm to create silk-screen prints for the Assessors Handbook.

1979 - 1982 ***Civil Engineer***, U.S. Department of Agriculture, Soil Conservation Service.

- Design, Specification - Designed, drafted, and provided specifications for construction of a recreational park, an emergency stream restoration, recreational and farm ponds, and many other soil conservation measures in eastern New York.

- Project Management/Inspection - Managed two construction contracts: recreational park in Catskill Park (Hensonville) and a road bank stabilization in Adirondack Park (Stony Creek).

1978 - 1979 ***Civil Engineer***, Clayton County Public Works Department, Jonesboro (Atlanta, Georgia)

- Project Management/Inspection - Managed 51 commercial and industrial construction sites, and 15 residential developments in suburban Atlanta. Supervised, trained, and motivated staff to assist in conducting field inspections to assure compliance with design specifications.

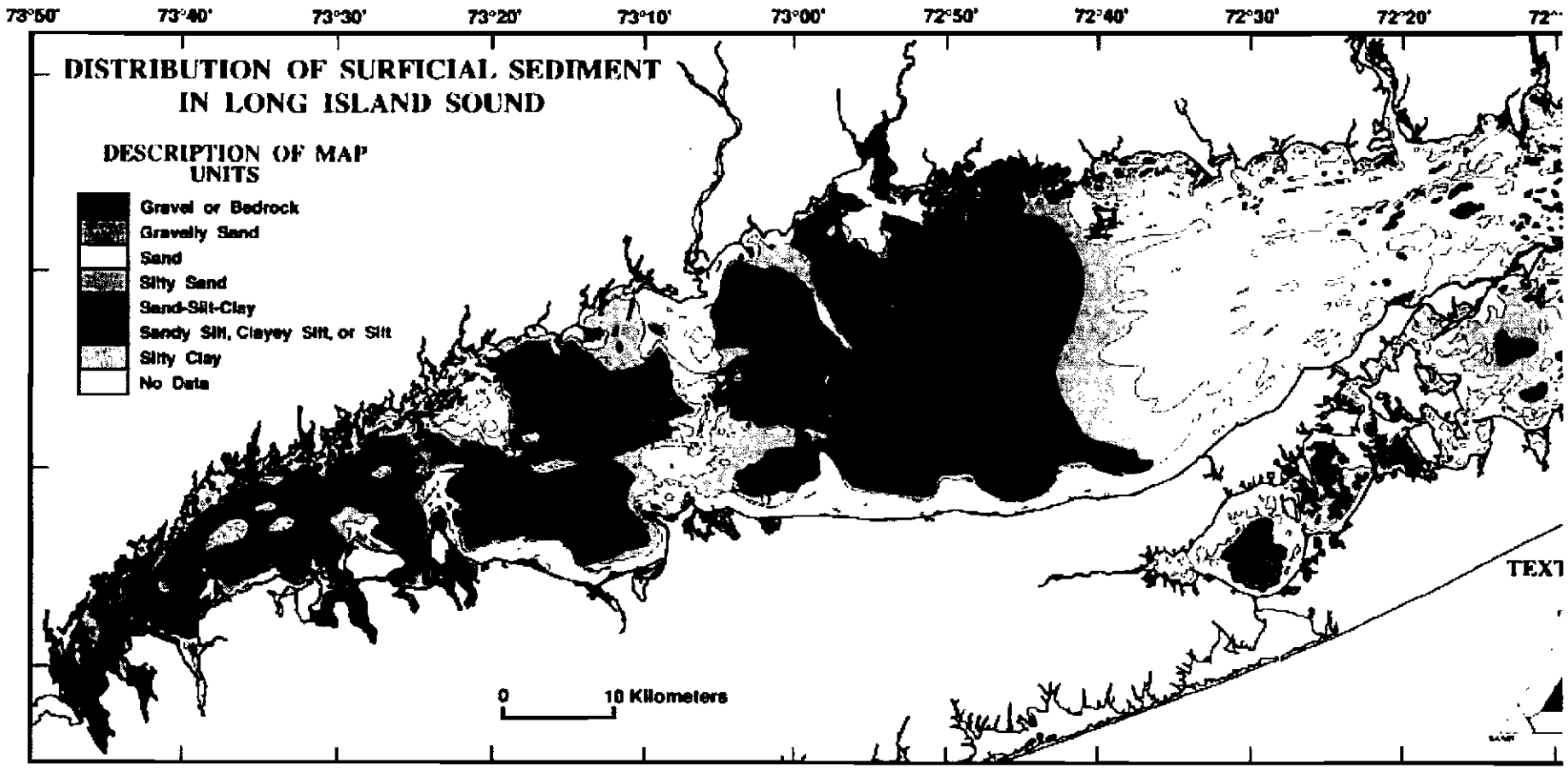
- Plot Plan and Drainage Review - Reviewed plot plan, roadway and drainage designs for compliance with state and county specifications. Issued the appropriate permits and worked with county building department and Georgia State Department of Transportation.

1977 ***Civil Engineer***, Testwell/Craig Laboratories, (Fairfield, New Jersey).

- Construction Inspection - Performed field inspection of structural steel for accurate plumb and bolted connections for proper torque. Assisted with concrete design compliance by taking cylinders, checking slump, and measuring air content.

Training

Coastal Engineering, Corps of Engineers, Vicksburg, MS – 2000
Dredging Material Assessment and Management, Corps of Engineers, Boston, MA – 2005
Coastal Construction, FEMA, Long Island, NY – 2002
Systems Thinking, Albany, NY – February, 2006
Introduction to Sustainability, Albany, NY – June, 2006
Arc GIS 9.1, Albany, NY - March, 2006


73°50'
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DISTRIBUTION OF SURFICIAL SEDIMENT
IN LONG ISLAND SOUND
DESCRIPTION OF MAP
UNITS
Gravel or Bedrock
Gravelly Sand
Sand
Silty Sand
Sand-Silt-Clay
Sandy Silt, Clayey Silt, or Silt
Silty Clay
No Data
0
10 Kilometers

BEFORE THE
NEW YORK STATE PUBLIC SERVICE COMMISSION
LONG ISLAND POWER AUTHORITY
SUBMARINE CABLE REPLACEMENT
CASE 01-T-1679

Pre-Filed Direct Testimony of:
Karen Graulich
New York State Department of Environmental Conservation

May 7, 2008

Q: Please state your name, employer, and job title.

A: Karen Graulich, New York State Department of Environmental Conservation, Regional Manager of Marine Habitat Protection, Region 1.

Q: Please state your employment responsibilities.

A: As Regional Manager of Marine Habitat Protection, I am responsible for the program delivery of the state's Tidal Wetlands and Protection of Waters regulatory programs in Region 1. As part of my responsibilities, I review and supervise a staff of biologists who review applications for Tidal Wetland and Protection of Waters permits as well as Water Quality Certifications. I also review applications for other regulatory programs, such as pesticide and Article X permits, when there is a potential for impacts to the state's tidal wetlands or waterways. I also review environmental impact statements for a variety of municipal and private project proposals. As Regional Manager, I am responsible for providing complaint investigations, compliance inspections and enforcement of Article 15 (Water Resources) and Article 25 (Tidal Wetlands) of the Environmental Conservation Law, including impact assessments, expert testimony and, when necessary, providing removal, restoration and remediation recommendations for upland, tidal wetland and in-water conditions. I am also responsible for the management of 43 state-owned tidal wetland properties and four marine access facilities in Nassau and Suffolk Counties, including the generation and implementation of Unit Management Plans to coordinate resource protection and public use of these properties.

Q: What is the purpose of your direct testimony?

A: I supply this testimony to state that abandonment of the Long Island Power Authority

("LIPA") cables is not the appropriate alternative and that LIPA has not provided environmental studies to establish that abandonment of portions of the cable is environmentally preferable.

Q: What is the reason for your statement?

A: Allowing the cable to remain perpetually abandoned in place constitutes an adverse impact to the environment, specifically benthic habitat and the benthic community that exists within the first meter of the sediment and substrate of Long Island Sound.

Q: What is the nature of this adverse impact?

A: Most obviously, the area that is actually occupied by the cables is no longer available as habitat for benthic organisms. The presence of each cable prevents colonization of this occupied space and also provides a barrier to the natural movement, either lateral or vertical, of benthic organisms living in close proximity to the cable.

Q: What is the impact to the benthic community as a result of this kind of barrier?

A: The presence of the cables in the biologically active zone of the sediment will adversely impact the movement, distribution and abundance of organisms associated with this habitat. Some organisms will not be able to dig deep enough into the sediments to avoid predation from other organisms. For instance, razor clams typically escape predation by rapidly digging more deeply into the soil when threatened. This escape mechanism will be hampered for razor clams that have settled above the cable. Other burrowing organisms will not be able to naturally traverse the benthic habitat for purposes of feeding, reproduction or seasonal migration. The cable basically displaces organisms and disrupts the benthic community by creating a physical

barrier. Organisms that come across the cable while moving through the sediment will have their movement impacted.

Q: What are the consequences of this to the ecosystem?

A: Burrowing benthic invertebrates help mix sediments and play an important role in the decomposition of organic matter and marine primary productivity. These burrowing organisms are called bioturbators. Their movement through the sediment creates a range of micro-habitats that allow essential chemical processes to occur in this benthic zone. Processes like nitrification (the conversion of ammonium to nitrate) and denitrification (conversion of nitrate to nitrogen gas) are enhanced by the burrowing activities of organisms such as tube worms. A decrease in the activity and function of these organisms can result in a decrease in these processes which can adversely impact water quality. For example, if nitrification and denitrification decrease, the amount of ammonium that flows out of the sediment will increase. Ammonium is the form of nitrogen taken up most readily by phytoplankton. The overall result is an increase in nutrient loading and increased turbidity in the water column. Similarly, loss of benthic filter feeders can negatively affect water quality, since these organisms remove particulates from circulating water. Changes in the community structure of macrofauna and flora can change the availability of nutrients between the trophic levels of the community. Macrofauna, such as worms and molluscs, are an important component of fish diets and play a vital role in transferring energy and nutrients through the food chain to maintain fish and crustacean populations. In addition to maintaining fish and crustacean resources, benthic invertebrates (again we can consider the razor clam as a good example) provide an important dietary resource for populations of diving ducks

and wintering waterfowl in Long Island Sound, which include many recreationally important species in New York.

Q: To what extent does the remaining buried cable present a barrier to benthic organisms?

A: The extent of the impact posed by the cables depends in large part on what portion of each cable is currently buried in the biologically active zone (upper three feet) of the sediment and what portion of each cable will be located in that zone in the future. This is difficult to determine since approximately 70% of the soundings data provided by LIPA did not actually identify the current burial depth of the cables. Without accurate current data and accurate data on the actual initial burial depth for comparison, there's no way to determine what portion of each cable is currently in the biologically active zone or whether the burial depth of the cables is declining or increasing over time in any given area due to the dynamic nature of coastal environments. Wherever the cables are in the biologically active zone, I would expect to see a localized reduction in benthic productivity. If each cable has areas of shallow burial interspersed with deeper burial depth, then the areas of reduced productivity would be likely to occur as variable islands of impacted habitat around the shallowly buried sections of the cable.

Q: Where does this island effect occur?

A: Based on the data LIPA provided, we can't be sure exactly where and to what extent along the remaining cables this impact may occur. LIPA has identified, in Exhibit A of the Petition, that one or more of the cables are within this benthic zone in near shore, mid-section and far-shore areas. LIPA's cable survey (Exhibit A to Petition) failed to detect significant lengths of the

cables. There were 208 attempts to locate the seven cables, and on 66 of those occasions the cable was "detected". I am concerned because: (a) we do not know how much of the remaining cables are actually located in the biologically active benthic zone, although the limited data that was provided by LIPA indicates that this condition does exist and (b) LIPA has not assessed the environmental impacts associated with abandoning the cables, whereas I have identified a number of adverse impacts that should be anticipated as a result of abandonment in my assessment.

Q: Do you think that hydraulic dredging or mechanical dredging would be acceptable methods for removing the existing cables?

A: Yes. Cable removal must still be done correctly, as described in the testimony of the Department's other witnesses, Diane English and Karen Woodfield. The dredging should be conducted during appropriate environmental windows to minimize impacts to natural resources, particularly spawning fish and shellfish stocks. However, if conducted appropriately, the use of these technologies would have a temporary impact that, once completed, will restore the impacted benthic environment to the pristine conditions that existed prior to the original cable installation.

Q: Does this conclude your testimony?

A: Yes.

Karen Graulich

NYSDEC
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
(631) 444-0295

Professional Experience

1999–present **New York State Department of Environmental Conservation** **Stony Brook, NY**

Regional Manager of Marine Habitat Protection (Region 1)

Position responsibilities include:

- The implementation and enforcement of New York's Tidal Wetlands and Protection of Waters regulatory programs, including:
  - Technical reviews and environmental impact assessments of project proposals and permit applications (approximately 3,000 annually) for land use and development in and adjacent to the tidal wetlands and waters of Nassau and Suffolk counties.
  - Violation investigations and compliance inspections including; the preparation of case files, referrals and Orders on Consent; negotiation of voluntary settlements and remedial actions. Provision of technical support and program expertise in affirmative and defensive administrative proceedings; preparation and review of testimony, affidavits, and briefs; recommendations for restoration and remediation; selection and preparation of witnesses; providing expert testimony.
  - Review and evaluation of major state (Depts. of State, Transportation, Environmental Conservation), federal (Army Corps, US F&WS), county (Vector Control, Public Works) and private and public projects and initiatives for impacts on the state's natural resources. Examples include shoreline and inlet stabilization projects; pesticide and herbicide programs; dredging and spoil disposal projects; power plants; wind, tidal and alternative energy projects; stormwater remediation; marsh management and wetland restoration projects.
- Draft policy and guidance documents for the effective interpretation and implementation of environmental conservation laws and regulations. Participate on policy development teams with program, permit and General Counsel staff to draft guidance, policies, definitions, recommendations for regulatory changes and public outreach.
- Provide technical expertise, monitoring and oversight for emergency response (e.g., oil spills, hurricanes) and emergency response contingency planning. Monitor and evaluate clean-up and containment practices. Provide alternative strategies as needed for the protection of natural resources and the public health and welfare.
- Real property management of 43 state – owned properties. Assess the natural resource values of properties and recommend properties for acquisition. Develop and implement Unit Management Plans for maintenance, restoration, improvement and public use of properties.
- Program oversight, fiscal management, planning and reporting. Supervision of professional and non-professional subordinates, including hiring, evaluation, and direction. Preparation of work plans; internal controls; budget proposals; annual and monthly reports; grant documents and permit applications.

1988–1999 **New York State Department of Environmental Conservation East Setauket, NY**

Marine Resources Specialist

New York state's principal biologist, investigator and technical expert on crustaceans and related species. Responsibilities of this position included:

- Design, implementation and reporting of special research projects, including population studies, movement, migration, disease occurrence, hypoxia, and fishery impact assessments. Conducted data collection and analysis, generated project documents (project proposals, annual and final reports and budgets for federal funding)
- New York State's representative on regional technical committees and stock assessment committees.
- Evaluation of environmental impact statements, management plans and project proposals.
- Assisted in the promulgation of regulations and legislation for lobster and crab fisheries.
- Organized public hearings; coordinated and facilitated user input to achieve fishery management objectives.
- Developed and implemented cooperative data collection programs with commercial and recreational user groups.
- Developed, administered and analyzed fishery data collection systems. Created statistical computer models for fishery impact assessment including a model to assess fishery impacts on egg production in American lobster populations
- Hired, supervised and evaluated project staff including marine biologist, technicians and seasonal laborers.

1986–1988 **New York State Department of Environmental Conservation East. Setauket, NY**

Seasonal Hire for NYSDEC Marine Resources:

- Marine Finfish Unit: Project design, data collection, analysis and reporting of the Weakfish Tagging Project.
- Marine Finfish Unit: Data collection and analysis for the Peconic Trawl Survey and Peconic Beach Seine Survey.
- Marine Habitat Protection: Ground-truth tidal wetland mapping and aerial photography.
- Marine Resources Permit Office Permit issuance of recreational and commercial marine licenses.
- Shellfish Unit: Monitoring shellfish harvests, shellfish transplants and water sampling.

1986 **West Hempstead, NY**

Pharmaceutical Chemist

- Laboratory testing, data analysis and reporting of release rates (dosage), stability and quality control of pharmaceuticals

1983-1984 **West Quoddy Marine Research Station** **Lubec, ME**

Research Assistant

- Accoustical and population studies of the Northern Right Whale
- Wildlife Rehabilitation
- Public Outreach including interpretive nature walks (intertidal, coastal bog vegetation, birds, general) and special presentations (regional ecology, marine science, geology)

Education

Dowling College Oakdale, NY

- BS in Natural Science and Mathematics
- Recipient of the Natural Science Achievement Award

Additional Training:

- Incident Command System training (emergency response)
- Qualified Resource Unit Leader
- Plans Chief for the NY Wildfire and Incident Management Academy, Upton, NY
- Freshwater Wetland Delineation
- Tidal Wetland Delineation
- USCG Shoreline Clean-up Assessment Team training
- On-Site Wastewater Treatment Systems
- Environmental Justice
- Introduction to ArcGIS / Introduction to ArcGIS 9
- Biometry (Biostatistics)
- Fisheries Statistics & Stock Assessment

BEFORE THE
NEW YORK STATE PUBLIC SERVICE COMMISSION
LONG ISLAND POWER AUTHORITY
SUBMARINE CABLE REPLACEMENT
CASE 01-T-1679

Pre-Filed Direct Testimony of a Panel
Consisting of:

Diane English and
Karen Woodfield
New York State Department of
Environmental Conservation

May 7, 2008

Q: Please state your name, employer, and job title.

A: Karen Woodfield, P.E. - New York State Department of Environmental Conservation, Environmental Engineer 2.
Diane English, P.E.- New York State Department of Environmental Conservation, Environmental Engineer 2.

Q: Please state your employment responsibilities.

A: Karen Woodfield- I am a member of the Sediment Assessment and Management Unit in the Division of Water. I am responsible for the technical review of projects as they pertain to dredging, dredge material disposal, sediment contamination identification and water quality impacts associated with dredging operations primarily in the Long Island Sound, New York Harbor/Hudson River Estuary, and Upper Hudson areas. I draft special conditions for 401 Water Quality Certifications for both dredging projects and cable and pipeline installation projects. I assure that applicants develop appropriate sediment sampling programs for characterizing the sediment in the project location. I also assure that applicants develop appropriate water quality monitoring programs to characterize resuspension of sediment during dredging or pipeline/cable installation. My curriculum vitae, attached, fairly and accurately represents my experience.

A: Diane English - I am a member of the Sediment Assessment and Management Unit in the Division of Water. I am responsible for the technical review of projects as they pertain to dredging, dredge material disposal, sediment contamination identification and water quality impacts associated with dredging operations primarily in the Long Island Sound, New York Harbor/Hudson River Estuary, and Upper Hudson areas. I draft special conditions for 401 Water Quality Certifications for both dredging projects and cable and pipeline installation projects. I assure that applicants develop appropriate sediment sampling programs to characterize the sediment in the project location and develop appropriate water quality monitoring programs for characterizing resuspension of sediment during dredging or pipeline/cable installation. My

curriculum vitae, attached, fairly and accurately represents my experience.

Q: What is the purpose of your direct testimony?

A: To assess and critique the Petition's conclusions about limitations on removal of the remaining seven cables.

Q: Have you reviewed the Long Island Power Authority's Petition to Amend its Certificate of Environmental Compatibility and Public Need and Request for Expedited Approval, with Exhibits?

A: Yes. We have also reviewed additional materials submitted by the Long Island Power Authority ("LIPA") such as the Environmental Management and Construction Plan ("EM&CP") which incorporates the TSS Monitoring Plan for New York Waters, the Alternatives Analysis for Remaining Cable Sections (Alternatives Analysis), and the response to discovery questions.

Q: What concerns, if any, does the Petition raise within your areas of expertise?

A: The Petition, which includes the Alternatives Analysis, determines that water column total suspended solids (TSS) levels expected from hydraulic dredging would likely exceed currently authorized thresholds. The Petition also determines that the cables cannot or should not be removed, and that abandonment is the appropriate alternative.

Q: Do you conclude differently?

A: Yes. We conclude that mechanical (bucket) dredging or hydraulic dredging are viable methods to remove some or all of the remaining cable and that these methods are not precluded by the authorized thresholds of the EM&CP or the Article VII Certificate.

Q: What is the basis for your conclusion?

A: We find that either hydraulic dredging or mechanical dredging can be performed consistently with the Commission's June 21, 2007 Certificate. The EM&CP states that operational controls (mitigation measures) will be employed to reduce or minimize resuspension of sediments if thresholds are exceeded. There is no requirement for a work stoppage. Certificate Condition 19 requires LIPA to incorporate a Turbidity Monitoring Plan for New York waters into the EM+CP. Page 3 of the incorporated Monitoring Plan states that exceeding background TSS concentrations by 100 mg/l at 500 feet requires mitigation measures such as adjustments to vertical thrusters and tensioners. These mitigation measures are to be employed to minimize sediment resuspension and apply to cable installation by jetting. For hydraulic dredging, the corresponding mitigation measures to reduce resuspension would include adjusting the rotation speed, the ladder swing speed and/or the depth of cut. For mechanical dredging, mitigation measures include controlling bucket speed and/or using a closed environmental bucket.

Certificate Condition # 48 provides that LIPA can petition the Commission for permission to employ mechanical dredging with prior written consent from DEC. Discovery question DEC- 4 (9) requested that LIPA provide information on mechanical dredging. LIPA's discovery question response did not provide the requested information, citing the Certificate limitation on mechanical dredging without addressing the option for petition.

Q: LIPA has raised a concern that cobble in the path of a hydraulic dredge will impede use of this technology. Do you find this concern to be valid?

A: By emphasizing the issue of cobbles, the Petition gives the impression that cobble is of concern over the entire length of the remaining cables. This impression is not well supported by the OSI Summary Report results.

The text of the OSI report states that, "Diver reports suggest that fine compact sand dominant

(sic) the area surficially but is often underlain by gravelly sand, shell hash, and occasional cobbles" (page 2 of 3). Gravelly sand and shell hash are suitable for hydraulic dredging. Cobble is not suitable for hydraulic dredging, but the extent and prevalence of the cobble along the length of the remaining cable is not defined. The description provided in the Petition (pages 6 and 7) of the results of the OSI Diver Verification Program does not correspond completely to the information contained in the attached OSI Summary Report. The Petition describes only 3 of the 6 sites surveyed by divers. In three of the surveys performed by OSI (1100, 2200, and 2500 feet from shore), no cobble is reported. In one survey (1000 feet from shore), cobble was detected at the same depth (6 feet) as the cable. In these 4 locations, hydraulic dredging would likely be an effective method of removing the cable. At 2 of the 6 diver survey locations in the OSI report (1200 and 1600 feet from shore), cobble is reported under 2 to 4 feet of sand, gravelly sand, and shell. At one of these sites (1600 feet), the prevalence of cobble is described as "occasional". The depth and location of the remaining cables were not confirmed at either of these sites, so it is not possible to determine that hydraulic dredging of the 2 to 4 feet of overlying sandy gravel sediments would not remove sufficient overburden to allow successful removal of the cable.

In summary, the results of the Diver Verification Program indicate that some of the remaining cable could be successfully removed by hydraulic dredging. Only six sites were surveyed by divers, all of which were along Cable 5 . There is insufficient information to determine the length of each remaining cable over which hydraulic dredging would potentially be precluded by the presence of cobbles.

Q: Is it your opinion that either hydraulic dredging or mechanical dredging would be an acceptable method for cable removal?

A: From a water quality perspective, we find that these technologies could be employed using the operational controls mentioned above. Our goal is to minimize resuspension of sediments. Sediment testing performed during the application process for this project revealed no

appreciable contamination in the sediments in this area, so we are not concerned with redistribution of toxic materials.

From a feasibility perspective, mechanical dredging should be effective regardless of the presence of cobbles. For hydraulic dredging, the OSI Summary Report suggests that hydraulic dredging should be effective in allowing removal of at least some of the remaining cable. There is insufficient information provided to determine the length of each remaining cable over which hydraulic dredging would potentially be precluded by the presence of cobble.

Q: What if LIPA encounters the new cable while employing either of these technologies?

A: LIPA should not install new cables if subsequent removal of the older, remaining cables will endanger the integrity of the new cables. If the new cables are installed, caution must be used in dredging, anchoring, or placing spuds during removal operations. The use of a GIS location system during removal operations will be essential so that dredge barges can avoid the new cables. Dredging may need to be suspended if new cables are put at a high risk of damage.

Q: If any portions of the remaining cable have to continue to remain in place, or be abandoned, because of interference with portions of the new cables, what would you recommend?

A: We recommend that LIPA be required to create and follow an approvable monitoring plan that requires annual monitoring of the cable location, depth, and movement, and that removal be required if the cable is at risk of coming to the surface and presenting a health, safety or navigational hazard.

Q: Does this conclude your testimony?

A: Yes.

CURRICULUM VITAE

Diane M. English
Environmental Engineer II
New York State Department of Environmental Conservation

License:
New York State Professional Engineer

Education:
Master of Engineering, Environmental Engineering, August 1983
Rensselaer Polytechnic Institute, Troy, New York

Bachelor of Science, Environmental Engineering, May 1981
Rensselaer Polytechnic Institute, Troy, New York

Experience:

New York State Department of Environmental Conservation: Environmental Engineer

Bureau of Watershed Assessment and Research, September 1999 to present
- Reviewed permit applications and consulted on 401 Certifications for proposed dredging, pipeline, and cable projects primarily in the Long Island Sound and New York Harbor/Hudson River Estuary areas.

Bureau of Water Resources, September 1985 - June 1990
- Provided technical support for the Reservoir Releases Program.
- Provided technical support for drought management activities and monitoring throughout the State.
- Designed and developed a database for the Water Supply Permit Program.

Bureau of Spill Prevention and Response, June 1984 - September 1985
- Evaluated petroleum tank testing methods.
- Served on a technical advisory panel for an EPA study to evaluate tank testing methods.
- Participated in the development of a database and information management system for the tank registration and testing program.

Radian Corporation: Environmental Engineer, June 1983 - March 1984
- Developed effluent wastewater guidelines for four metal manufacturing industries.
- Wrote technical documents to provide engineering support for proposed guidelines.

Brookhaven National Laboratory: Assistant Researcher, Summer 1981
- Conducted research to gather data on water resources, municipal water conservation, and industrial water reuse and recycling.

Curriculum Vitae

Karen Woodfield
Environmental Engineer II
New York State Department of Environmental Conservation

License:
New York State Professional Engineer

Education:
Master of Engineering, Environmental Engineering, August 1982 - Rensselaer Polytechnic Institute, Troy, New York

Bachelor of Science, Biology, June 1978 - Long Island University, Southampton, New York

Experience:

1995 - present	Reviewed permit applications and consulted on 401 Certifications for proposed dredging, pipeline, and cable projects primarily in the Long Island Sound and New York Harbor/Hudson River Estuary areas. Reviewed and consulted on the sediment monitoring requirements and special operating controls and water quality monitoring for various Article VII and Article X dredging and pipeline/cable placement projects. Conducted an EPA funded study to determine the concentration of dioxin in the sediment of tributaries to Lake Ontario. Participated in the workgroup to draft a revised Dredging Guidance Document for the department then aided in revising this draft document into a Technical Operation and Guidance series document. Participated in the collection of sediment samples from New York Harbor, Hudson River, Mohawk River and the St. Lawrence River as well as various other locations throughout the State. Assisted in the development of the Part 608 Substantive Conditions for the Hudson River PCB Remediation Project. Evaluated and provided special conditions for various wind power projects, tidal energy project and proposed LNG projects.
1988-1994	Planned and conducted water quality surveys for the Lower Genesee River and smaller rivers throughout the state. Supervised and conducted a grant funded multi- disciplinary study of the Genesee River. Co-authored the final report. Designed and conducted two studies to determine the impacts of zinc on streams downstream of mining operations.
1985-1988	Planned, supervised and conducted water quality (stream) surveys of assigned rivers in New York State. Developed mathematical models that represented the Chenango River and the Canandaigua River during survey conditions. Interpreted the model results for purposes of wasteload allocations. Summarized the results of each survey in an engineering report. Supervised seven to ten engineers and technicians during each survey. Wrote a Quality Assurance/Quality Control Document and Standard Operating Procedures Manual for use on each survey. Wrote "success" stories for the Canandaigua Outlet and the Oneida Creek.
1982-1985	Worked on the development of industrial pretreatment programs for New York State municipalities. Designed specific sampling programs for municipal sewage treatment plants and determined toxic sampling requirements for industries. Assessed the adequacy of locally developed industrial discharge limits.
1981-1982	Research Assistant - Rensselaer Polytechnic Institute, Troy, NY. Researched aqueous adsorption of organic homologues onto activated carbon. and competitive adsorption between similar organics. Supervised one student worker and trained several student workers.

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Application of Long Island Power Authority for a Certificate of Environmental Compatibility and Public Need regarding replacement of the 138kV Submarine Electric Transmission Line between Northport, N.Y. and Norwalk, Conn. Pursuant to Article VII of the Public Service Law.

Case 01-T-1679

CERTIFICATE OF SERVICE

I hereby certify that I have this day served by U.S. Post the Pre-Filed Testimony of New York State Department of Environmental Conservation Staff members Karen Woodfield, Diane English, Karen Graulich, and Richard Tuers upon Administrative Law Judge Jeffrey Stockholm and all other persons designated on the official Active Parties List (dated April 25, 2008) compiled in the captioned proceeding. I have also served these same documents by electronic transmission upon those persons who provided an e-mail address to the Active Parties List.

Respectfully submitted,

Jodi Aubin

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Dated: May 7, 2008
Albany, New York