Clean Ocean Action

www.CleanOceanAction.org

Ocean Advocacy Since 1984

■ **Main Office**
18 Hartshorne Drive
P.O. Box 505, Sandy Hook
Highlands, NJ 07732-0505
Voice: 732-872-0111
Fax: 732-872-8041
SandyHook@CleanOceanAction.org

□ **Institute of Coastal Education**
3419 Pacific Avenue
P.O. Box 1098
Wildwood, NJ 08260-7098
Voice: 609-729-9262
Fax: 609-729-1091
Wildwood@CleanOceanAction.org

August 11, 2005

Richard L. Tomer, Chief
U.S Army Corps of Engineers
New York District
ATTN: Regulatory Branch, LIPA Offshore Wind Park Application
Jacob K. Javits Federal Building
New York, NY 10278-0090

RE: Public Notice 2005-00365-L4, Long Island Power Authority's Application for installation of an Offshore Wind Energy Generating Facility and Submarine Electric Cables

Dear Chief Tomer:

Clean Ocean Action is a broad-based coalition of over 180 conservation, environmental, fishing, boating, diving, student, surfing, women's, business, service, and community groups. Our goal is to improve the degraded water quality of the marine waters off the New Jersey/New York coast. It is Clean Ocean Action's (hereinafter "COA") mission to investigate, review, and question proposals that may effect ocean water quality in the NY/NJ Bight.[1] After many decades of abuse at the hands of polluters, these regional waters have successfully been defended to prevent ocean dumping and other adverse water quality impacts. Although COA has not taken an official position for or against offshore wind energy, COA intends to, consistent with the above mission, review any and all such projects for any potential negative impacts to the NY/NJ Bight.

The ocean and coastal waters of New York and New Jersey are an essential and unique resource. They provide recreational opportunities, support a vital commercial fishing industry, are home to a rich wildlife community, and are the foundation of one of the states' largest tourism industries. The NY/NJ Bight is an extremely fragile and vulnerable resource. A legacy of pollution and failure of stewardship for the NY/NJ Bight led to beach closures, massive fish kills, and economic crashes in the late 1980s. In response to these negative impacts, New Jersey strengthened its laws and regulations, and has come to understand that questions about using ocean and coastal resources must be approached very carefully, with full knowledge of the impacts and consequences.

The proposed Long Island Power Authority's (hereinafter "LIPA" or "Applicant") offshore wind power project is comprised of 40 windmills throughout a 5,216-acre offshore site ("Wind Farm"), and is a mere 3.5 miles from Jones Beach.

[1] Visit http://www.cleanoceanaction.org for more information.

The project would be located within New Jersey's "area of concern" for purposes of federal consistency under § 307 of the Coastal Zone Management Act and within land held in public trust under federal jurisdiction.

In short, LIPA's application is premature, incomplete, and lacks scientific justification. Additionally, and importantly, the LIPA proposal is proceeding without regulations to govern offshore wind development. There are no criteria, rules, management, monitoring, maintenance, decommissioning, or other guidelines for offshore, ocean-placed wind turbines. Therefore, in the absence of a regulatory framework, COA is not supportive of the installation of offshore wind energy facilities. The installation and management of offshore wind energy facilities without an adequate and comprehensive regulatory framework is inappropriate.

The recently passed Energy Policy Act[2] recognizes the lack of any regulatory framework for renewable energy. In particular, §1833 Renewable Energy on Federal Land and § 388 Alternate Energy-Related Uses on the Outer Continental Shelf, concern the regulation of renewable energy projects.

§ 1833 requires that the Department of Interior enter into a contract with the National Academy of Sciences to perform a study. The study must be conducted no later than 90 days from enactment of the Energy Policy Act (November 6, 2005). The study will evaluate the potential of developing wind, solar and ocean energy sources (tidal wave and thermal). The study will also assess current federal laws and regulations relating to the development of renewable energy and recommend statutory and regulatory mechanisms specifically tailored for such development. The study will be submitted to congress no later than two years from the date of enactment (August 8, 2007). Conversely, § 388 allows for discretionary citing of offshore alternative energy projects. This section confers on the Department of Interior the authority to grant a lease, easement, or right of way on the Outer Continental Shelf. Although § 388 allows for a project-by-project approval from the Secretary of Interior, COA does not support this as the prudent course of action.

The prudent course of action is to create a proper regulatory framework which ensures that the project is conducted in an environmentally sound and safe manner. Considering that the § 1833 study will be complete in 2007, and the fact that the LIPA project is expected to be operational by sometime in 2008, the Army Corps of Engineers should defer this application until the completion of the study by NAS and submission of the study to congress by the Department of Interior.

However, should the Corps proceed without the benefit of the results from the § 1833 study, COA submits these more detailed comments and strongly urges the New York District of the U.S. Army Corps of Engineers (the "Corps") to require the Applicant to prepare a comprehensive Environmental Impact Statement ("EIS") for the proposed project.

An EIS is especially warranted in this situation because of the absence of pertinent information in LIPA's permit application ("the Application") and the clear potential for a project of this magnitude to significantly affect the quality of the environment. Furthermore, the Applicant practically requests an EIS by repeatedly stating that **basic information is unknown** and could be determined by an EIS. The Applicant also consistently relies on the Draft Environmental Impact

[2] H.R. Con. Res. 6, 109th Cong. (2005) (enacted)

Statement for the Cape Wind project in Nantucket Sound, Massachusetts. Reliance on the Cape Wind DEIS is improper not only because the studies must be site-specific but also because the Environmental Protection Agency has deemed the DEIS "inadequate" and requested that a supplementary EIS be performed.

Need for a Complete Species Analysis

Before continuing with the permit review process, the Corps should require LIPA to provide information on *all* of the potentially affected species. To date, LIPA has only provided information on federally managed fish species and endangered/threatened species using data culled from federal agencies and published documents. LIPA must not only obtain certification from National Marine Fisheries Service under §7 of the Endangered Species Act before obtaining a permit, LIPA should also identify all potentially affected species. LIPA has not identified all the local species, or mapped the specific habitat types that are actually present in the project area and that may potentially be impacted. Nor has the Applicant determined the use patterns of each species found in the project area, including migration patterns, time/seasons of residency, life history traits, dependency on the specific habitat type, percentage of critical habitat to be impacted by the project and the project's impact on such use patterns.

Additionally, the information provided in the Essential Fish Habitat (EFH) section of the Application contains several unsubstantiated assumptions and generalizations about habitat type, fish behaviours and effects of activity, as well as numerous acknowledgments of unknown impacts or lack of information. For example, **the Applicant repeatedly admits that the impact of the proposed project upon various species is "unknown", and concedes that further studies are necessary**. COA agrees. The Corps must require the Applicant to identify all local organisms and determine their individual level of sensitivity to the project activities, not just provide generic conclusions about impacts to "benthic organisms" or "eggs and larvae." Furthermore, studies conducted in other countries have concluded that baseline information specific to the actual proposed site of the Wind Farm is the first step in determining the environmental impacts of the project. The evaluation of effects depends on both on the intensity of the project (scope and scale) and the sensitivity of the local ecosystem and species. The higher the projects intensity and the sensitivity of the site, the higher the likelihood of negative impacts.[3] Such basic information is necessary for an adequate Environmental Assessment of the proposed project.

Need for an Environmental Impact Statement

The National Environmental Policy Act ("NEPA") "directs all federal agencies to include in proposals for . . . major federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on: (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be

[3] For instance, a local bird species with a high annual survival rate and a low reproductive output can be expected to have a higher level of sensitivity (and therefore more likely to be negatively impacted by the proposed project) than a local bird species with a high reproductive output and a correspondingly low annual survival rate.

involved in the proposed action should it be implemented."[4] "Major federal action" includes "actions with effects that may be major and which are potentially subject to Federal control and responsibility."[5] Importantly, in determining whether the impacts of a given project will be "significant" so as to require an EIS, both *beneficial and adverse* impacts are to be evaluated.[6]

The physical presence of offshore wind facilities in all phases of the project -construction, operation and decommission – may cause significant effects on the environment. Without more information on the potential effects of the Wind Farm on the organisms within the project area (which include several listed and endangered species), one cannot properly analyze the potential impacts of the project. The Wind Farm constitutes a new industrial use of the NY/NJ Bight region. In fact, offshore wind development is new to the entire United States. Consequently, no regulatory framework exists to govern such an activity. Without adequate regulations, the likelihood of significant environmental impacts are even greater. Considering the potential implications, **it is critical that every effort be made to assess the possible impacts, as well as alternative approaches, through the preparation of a *thorough* and *complete* Environmental Impact Statement.**

The Environmental Assessment by the Corps, and the resulting EIS, should address the following issues, each of which have the potential to significantly affect the human environment:

1. Mercury Pollution Offsetting

    - LIPA claims that the Wind Farm "will annually offset significant amounts of air pollutants including an estimated 235,000 tons of CO2, 489,000 tons of SO2, and 221,000 of NO2."[7] However, the Application fails to provide any evidence of how this project will achieve such an offset. In order to accurately assess the impact of this project, the Applicant should be required to present a detailed explanation of how the Wind Farm would offset air pollution.

2. Sources of Pollution

    - Contamination from Slip Rings: The use of copper slip rings in wind turbines can cause copper contamination of filter-feeding benthic organisms.[8] If this technology is proposed for this project, a detailed analysis is necessary to discover the expected increase of copper contamination to our local biota and sediments. Any alternative technology used in place of copper slip rings should also be evaluated for possible contamination of aquatic organisms.

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[4] 42 U.S.C. § 4332(C), NEPA § 102(C).
[5] 40 C.F.R. 1508.18
[6] 40 C.F.R. 1508.27(b)(1). *See also, National Wildlife Federation v. Marsh,* 751 F. 2d 767, 14 ELR 20172 (11th Cir. 1983); *Environmental Defense Fund v. Marsh*, 651 F. 2d 983, 11 ELR 21012 (5th Cir. 1981).
[7] http://www.lipower.org.cei/offshore.community.html
[8] Anderson, P. Horn Rev Offshore Wind Power Farm, Environmental Impact Statement on Water Quality. Spanggaard, G. (ed)

- Emissions: The Application states that a diesel generator will be used. Pollution emissions from the generator should be thoroughly evaluated. Additionally, any potential source of pollution emissions from the operation and maintenance of the facility should be examined. For example, maintenance trips will be conducted at least 400 times per year. LIPA has yet to identify the type and size of the boat that will be used for this maintenance. Due to the large number of trips per year, the type of engine (two or four stroke) and emissions controls of that engine become an important factor in gauging the effects on the marine environment. The type of engine can vary significantly on the type (air or hazardous) of quantity of the pollutant. Therefore, LIPA should incorporate such considerations as type of motor and size of the boat into an EIS.

3. Noise Pollution

- Noise pollution during and after construction could have a significant impact on the marine environment. During construction, underwater noise from construction vessels and drilling or piling equipment may have a negative effect on fish and benthic organisms. The frequency and level of underwater noise would vary depending on the way the Wind Turbines are constructed and the choice of foundation type and material. Because of the varying degree of noise, the degree of impact on marine organisms will also vary. To this point, **LIPA admits it does not know the impacts of noise on this community, stating, "Because the effects of construction noise and vibrations from wind farms on fish are relatively unknown, pre- and post-construction studies and surveys are needed."**[9] These noise studies should be incorporated as part of an EIS to ensure the reliability of the data being used as well as ensuring the exploration of proper alternatives.

  Furthermore, LIPA cites data from a Swedish study and the Cape Wind project as support of its contention that the project will not cause any negative effects from noise pollution. However, LIPA fails to address Swedish findings that harbour porpoises were affected by the ramming operations, both in terms of behaviour and abundance, over a range of temporal and spatial scales.[10] As mentioned above, reliance on the Cape Wind DEIS is not acceptable. Therefore, an independent study specifically concerning the marine organisms in the project area must be done in order to understand and mitigate any potential impacts.
- Post construction operation and maintenance are also expected to generate noise that could have a significant effect on the marine life around the project. LIPA relies on typical decibel (dB) value levels between 145 to 167 dBs at a distance of approximately 500 meters from Cape Wind. **LIPA candidly admits that it does not know what noise levels will be generated by its Wind Farm.** Rather then relying on analysis of this specific project, LIPA looks to Cape Wind to make

[9] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005. Tab 4, 80,.

[10] Tougaard, J., Carstensen, J., Henriksen, O.D., Teilmann, J. & Hansen, J.R. (2004): Harbour porpoises on Horns Reef - effects of the Horns Reef Wind Farm. Annual Status Report 2003. Report request. Commissioned by Elsam Engineering A/S. National Environmental Research Institute. 67 pp.

conclusions regarding the impacts on NY/NJ waters. Again, reliance on the Cape Wind DEIS is unacceptable. The Application states, "It is anticipated that noise from construction activities and increased vessel traffic, which would be very similar to that employed for the Cape Wind Project, would produce noise levels similar or below those presented above (145-167 dBs)."[11] Due to the fact that the actual noise levels, as well as the effects of the noise levels on the marine environment, are unknown, it is important to conduct noise modeling (including individual and cumulative noise) for this specific site and in this specific area in order to properly address potential problems and ensure minimal impact.

4. Sediment Re-suspension

- The installation of the Monopoles and Electrical Substation Platform (ESP) will be done with a pile driver as well as the use of anchors and jack up barges. These activities will cause disturbance of the seafloor by increasing suspended sediments and turbidity. Such a disturbance can cause a wide range of negative impacts such as: bioaccumulation in fish from contaminated suspended sediments, clogging of fish gills, and damage to fish larvae and eggs. Due to the likelihood of impacts resulting from these activities, all impacts and alternatives should be explored to determine the degree of disturbance that will be caused. Only after impacts and alternatives have been adequately analyzed, can an applicant properly minimize and mitigate the impacts of the activity. The impacts of the construction will vary significantly with the duration, number and frequency of barges and anchors being used. The extent of the use of anchor and jack up barges has yet to be determined by LIPA. **The Application states, "It is not known at this time how many anchors would be used on construction vessels during installation activities, and as a result, it is not currently known how much disturbance to seafloor sediments would occur associated with vessel positioning, anchoring, and the anchor line sweep during the installation of the WTGs and substation."[12]** This information must be supplied to determine the full impact of the proposed project on the public health and the environment.

- The installation of 40 Monopoles will disturb and destroy approximately eight (8) acres of benthic habitat. The installation of transmission cables will negatively impact another 375,000 to 675,000 square feet (8.6 to 15.5 acres) of benthic habitat. Presumably to minimize the significance of these losses, LIPA repeatedly states that offshore benthic communities are homogenous.[13] However, this statement is incorrect. Contrary to LIPA's claims, most research conducted in nearshore marine

[11] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4, 80

[12] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005. 69.

[13] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4

environments (including Long Island Sound)[14] has found that benthic habitats are complex and heterogeneous environments.

We further note that the jet plow technique used to bury the lines will further impact marine organisms that survive the destruction of their benthic habitat. Sediment suspended by the plowing will cause impacts on marine organisms through the bioaccumulation of pollutants contained in those sediments, clog fish gills, and cause negative impacts on benthic invertebrates, fish larvae, and eggs.

- Anchor placement is admitted to cause long-term destruction of benthic habitat, yet LIPA does not provide the number of anchors to be utilized or the extent of habitat to be impacted. In the permit application, **LIPA states that, "[i]t is not known at this time how many anchors would be used on construction vessels during installation activities, and as a result, it is not currently known how much disturbance to seafloor sediments would occur associated with vessel positioning, anchoring, and the anchor line sweep during the installation of the WTGs and substation."[15]** The development of an Anchor Handling Plan must be a requirement of the EIS, along with an analysis of the impact to benthic organisms.

- **LIPA admits that the full range of impacts of sediment and displacement on marine organisms is unknown.** Relying on data from Cape Wind, LIPA anticipates that the sedimentation effects will be minimal.[16] Reliance on other project data is not appropriate in this circumstance. The habitat and waters of the two projects are too different to draw any valid correlations. Therefore, an independent study, specifically concerning this marine environment, must be done in order to understand and mitigate any potential impacts.

5. Fuels and Oil Spill

- Other potential impacts to EFH of Council-managed species include the inadvertent release of drilling fluids during construction of theHorizontal Direct Drilling (HDD), Wind Farm operation, as well as from accidental spills of petroleum lubricants and fuel from offshore construction equipment/vessels during construction of the Wind Farm.[17] LIPA proposes that "a spill prevention and countermeasure plan (SPCC) would be prepared, submitted and implemented in order to avoid and/or minimize the potential for project-related releases or spills of fuels or other discharges."[18] The

[14] Zajac, R. N. et al. Response of infaunal populations to benthoscape structure and the potential importance of transition zones. 2003. Limnology and Oceanography 48 (2): 829-842.
[15] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4 68.
[16] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4 75-78.
[17] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4 78.
[18] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 4 78.

SPCC must be prepared in advance so the full range of potential impacts and alternatives can be explored to minimize any possible impact. The SPCC also must include a thorough analysis detailing the areas that would be impacted the most in the event of any spill.

- The potential for corrosion of transmission lines exists. Submarine transmission cables often are filled with oil to insulate the cables and prevent heat loss. Due to the ocean's highly corrosive environment, the potential for leakage of oil directly into the environment is a serious concern. The Application submitted to the Corps lacks any information as to whether the cable is oil filled or not. This information must be provided and examined in order to properly prepare for the event of line corrosion.

- During operation, up to 300 gallons of petroleum-based lubricant would be stored in each windmill and up to 1500 gallons of diesel fuel oil would be stored at the Electrical Substation Platform.[19] Thus, a significant amount (total of 12,000 gallons of petroleum based lubricant and 1,500 gallons of diesel) of petroleum products will be stored perilously close to the ocean environment. LIPA needs to detail all possible alternatives and procedures for spill prevention and cleanup. Also, the Applicant has yet to state how much oil and lubricant will likely be consumed and brought out to the Wind Turbine Generators throughout the year. Until the amount of oil and lubricant are determined, it is impossible to accurately assess the potential impacts of the proposed activity.

6. Electromagnetic and Thermal Effects

- Once the transmission lines are installed and operating, the lines will emit electromagnetic and thermal emissions that can disturb and interfere with navigation of fish along migratory pathways, and decrease the ability of predatory fish species that use electrical outputs to detect and capture their prey. The applicant has failed to provide this information in a sufficient manner. Modeling within an EIS is necessary to ensure that the most effective measures have been considered and utilized in order to minimize and eliminate any adverse impacts resulting from such thermal and electromagnetic disturbances.

- The use of an Alternating Current (AC) cable has been proposed for this project. AC current usually emits higher electromagnetic frequencies than Direct Current (DC). Therefore, LIPA must be required to properly block these frequencies to minimize the potential risk to the marine environment. The methods chosen by LIPA should be incorporated into the EIS to ensure that all possible alternatives have been explored and to ensure the best alternative is chosen.

7. Weather Impacts

[19] Long Island Offshore Wind Park, Application to the US Army Corps of Engineers NY District, April 26, 2005, Tab 3 5.

- The severity of the weather and the depth of water in the project location will put a tremendous burden on the Wind Turbines and the Electrical Substation Platform. To this point, LIPA has not addressed the potential problems involving the severity of weather on the Wind Farm. The location of this Wind Farm is unique due to the depth of water and strength of current along with seasonal storms such as Nor' Easters, Tropical Depressions, and Hurricanes. An EIS incorporating site-specific studies on this environment must be conducted in order to ensure that a Monopile Wind Turbine and Electrical substation platform can remain stable and functional in such harsh conditions. LIPA has not explained what measures have been taken to ensure that the Turbines will remain stable throughout their 25-year life span, or what additional measures have been taken to prevent discharge of oil and lubricant from the storage facilities on the Electrical Substation Platform and Wind Turbines and, if applicable, from the transmission lines in the event that such an accident occurs. These questions must be answered in order to ensure that the impact on the environment is as minimal as possible.

8. Navigation

- The project area will result in the loss of open water (5,216 acres) and increase the density of boat traffic in nearby shipping lanes, thus increasing the chance of collisions and accidents. Such incidents may result in the loss of human life and property, and may also cause the release of toxic pollutants into the ocean environment. Due to the increased likelihood of accidental collisions, a comprehensive analysis of the potential impacts of the increased traffic and how to accommodate such traffic should be included in an EIS.

9. Operations and Maintenance

- Due to the size and complexity of the project, operation and maintenance of the facility is inexorably linked to the potential for significant negative effects. An EIS would address such issues and prevent, or mitigate any foreseeable operational and maintenance problems. It is only through an EIS that that an Operation and Maintenance Manual (OMM) can be properly developed. The OMM should cover both the construction, operation, and decommission of the project. The safety concerns of the public and the environment demand that the OMM be detailed and comprehensive enough to cover all reasonably foreseeable events. The EIS should incorporate into the OMM the proper range of alternatives and mitigation measures necessary. Additionally, the OMM should include, at a minimum, cleanup crew response time, clean up procedures for specific types of spills (oil, lubricant, bentonite), comprehensive crew training, first aid response, and a decommissioning plan.

10. Decommissioning

- The decommissioning of the Wind Farm is projected for 25 years after the installation of the Wind Farm Turbines, the Electrical Substation Platform and their foundations. Due to the presence of hazardous materials within the turbines (and,

possibly, the transmission cables), as well as the disturbance to the ocean floor, a thorough and detailed Decommissioning Plan is necessary to adequately protect the marine environment. The Plan needs to be incorporated into an EIS to ensure that all alternatives are explored and the marine environment can be fully restored. The decommissioning of the Wind Farm will also present a disposal issue concerning the oil filled containers (and, possibly, oil filled cables). The Plan should include decommissioning and disposal of oil filled cables and containers to ensure that no release of toxins into the waters of New York and New Jersey will occur. Current measures are inadequate to address such concerns. The application provided by LIPA states that, "decommissioning may involve the dismantling of the Wind Turbine Generators, the Electrical Substation Platform and their foundations, and the removal of the associated scour protection devices and the subsequent transportation of these materials to shore for reuse or recycling. When disassembling the Wind Turbine Generators, they would be dismantled in the same manner that they were put together utilizing similar equipment." Simply stating that the procedure of decommissioning will be similar to that of the construction is unacceptable. The potential impacts on the environment and public health demands that a comprehensive and detailed decommissioning plan be adopted. A detailed plan needs to explain specifically how the Wind Farm will be dismantled, what equipment will be used, mitigation measures employed in event of an accident, clean up crews, and time taken to dismantle.

Finally, it is essential that the Applicant make financial arrangements (such as the posting of a bond in an adequate amount) to secure the performance of the Decommissioning Plan. Without such arrangements, if the Wind Farm is subsequently closed or abandoned, there may be insufficient funds to prevent the Wind Farm from leaching oil and diesel fuel as its windmills rust and collapse into the ocean.

11. Cumulative Impacts

- Since "[t]he decision whether to issue a permit will be based on an evaluation of the probability impact including cumulative impacts of the proposed activity on the public interest,"[20] the above referenced impacts, as well as any other potential impacts should be analyzed cumulatively. To do so accurately, an EIS should be performed.

For the foregoing reasons, should the application process proceed without the results of the Energy Policy Act § 1833 and a regulatory framework, COA requests that the Corps' permit review and eventual Environmental Assessment result in a mandate that the Applicant perform an Environmental Impact Statement. In addition, COA would also like the opportunity to review and comment on any Operations and Maintenance Manual and/or Decommissioning Plan, should LIPA be required to submit same, as requested above.

Thank you for your consideration of the above comments. Should you have any questions, please contact Christopher Ackerman or Nicole Simmons at (732) 872-0111.

[20] U.S. Army Corps of Engineers, Public Notice # 2005-00365-L4, June 9, 2005, p.1.

Sincerely,

Cindy Zipf
Executive Director

Christopher Ackerman
Legal Intern

Jennifer Samson, Ph.D.
Principle Scientist

Nicole Simmons, J.D.
Water Policy Analyst

Robin Blair
Environmental Chair, Garden Club of New Jersey
Environmental Chair, Shrewsbury Garden Club
Shrewsbury, NJ

Peter Goodman
Concerned Citizen
New York City, NY

Dr. Reba Goodman
Columbia University
New York City, NY

Lewis Pell
Concerned Citizen
Highlands, NJ