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March 23, 2010

VIA EMAIL AND FEDERAL EXPRESS

Kevin A. Kispert
New York State Department of Environmental Conservation
Region One (SUNY @ Stony Brook)
50 Circle Road
Stony Brook, NY 11790-3409

Re: Comments on E.F. Barrett Power Station SPDES Renewal and Modification
Draft SPDES Permit No. NY-0005908; DEC No. 1-2820-00553/00001

Dear Mr. Kispert:

On behalf of the Citizens Campaign for the Environment (CCE) and the Network for New Energy Choices (NNEC), we submit these comments on the draft renewed and modified State Pollutant Discharge Elimination System (SPDES) permit for the E.F. Barrett Power Station, located in the village of Island Park in the town of Hempstead.

I. EXECUTIVE SUMMARY

CCE and NNEC support DEC's determination that closed-cycle cooling is the Best Technology Available (BTA) for minimizing the adverse environmental impact of the cooling water intake structures at the Barrett Station. The two operating units at Barrett – which were built in 1956 and 1963 – withdraw up to 294 million gallons per day (more than 100 billion gallons per year) from Barnum's Channel, and their antiquated cooling water systems needlessly kill nearly a billion fish and other aquatic organisms each year by sucking them into the plant's heat exchangers or trapping them on intake screens. The station's thermal discharges are also unacceptably high and thereby pose a risk to fish and wildlife in Hempstead Bay. The use of closed-cycle cooling is therefore necessary for the Barrett station to comply with applicable statutes and regulations including section 316(b) of the federal Clean Water Act and sections 701.2, 704.1 and 704.5 of the state water quality standards, which provide, among other things, that Barnum's Channel must be suitable for fish, shellfish, and wildlife propagation and be capable of being used for fishing. If the Barrett Station, a hulking relic from the middle of the last century, is to continue operating in the twenty-first century, it must modernize and convert to use of a closed-cycle recirculating cooling system, either by retrofitting or repowering.

Accordingly, CCE and NNEC ask that the draft permit DEC issued on December 23, 2009, be issued as a final permit forthwith, compelling National Grid to immediately begin implementing measures to install and operate closed-cycle cooling. Contrary to the company's arguments, there is no need to fill wetlands in order to locate closed-cycle cooling cells on the site. Instead, there is ample room to locate the cells in the upland location south of the existing

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plant buildings, which was identified by the company in its permit application materials. Further, the plant could be retrofitted in far less time than the company estimates and thus DEC should not allow National Grid or any future owner or operator of this facility, the entire five-year permit term to complete the project.

In addition, while DEC has identified wet closed-cycle cooling as BTA for Barrett, CCE and NNEC believe that dry closed-cycle cooling (or its equivalent) is also an available technology for the station because it is technologically feasible and its costs can be reasonably borne by the company. Dry cooling would completely eliminate the adverse environmental impact of Barrett's intake structures and thus it is a better form of the technology than wet closed-cycle cooling. Alternatively, Barrett could achieve performance equivalent to dry cooling at lower cost by using treated wastewater effluent as the source of makeup water for evaporative cooling towers, as other power plants have done. That too would completely eliminate fish kills. The Bay Park sewage treatment plant, run by Nassau County, is less than a mile from the Barrett station and generates about 57 million gallons of wastewater per day, which is otherwise discharged into the bay. That volume is far more than Barrett's makeup water needs will be after it is converted to closed-cycle cooling.

Nevertheless, despite the superiority of dry closed-cycle cooling and its equivalent, CCE and NNEC are not requesting an adjudicatory hearing on the draft permit, because we believe the aquatic environment of Hempstead Bay will be best served by prompt issuance of a final SPDES permit requiring Barrett to install closed-cycle cooling. If, however, an adjudicatory hearing is held, NNEC and CCE reserve their rights to seek party status in such a hearing and to contend that the SPDES permit does not meet all legal requirements, including but not limited to those relating to BTA.

II.
ABOUT CCE AND NNEC

Citizens Campaign for the Environment (CCE) is an 80,000 member, not-for-profit, non-partisan advocacy organization, headquartered at 225-A Main Street, Farmingdale, NY 11735. CCE works to protect public health and the natural environment on behalf of its members in New York and Connecticut. The protection of waterways, especially estuaries and drinking water sources, are of the utmost importance to CCE. CCE has been working to protect water quality across New York State since its inception in 1985. CCE has been an active member of the Long Island Sound Study Citizens Advisory Committee for the last 20 years, and CCE staff serve as Chair of the South Shore Estuary Reserve Citizens Advisory Committee. CCE members include but are not limited to recreational and commercial fisherman, boaters, lobstermen, sailors and others. The operation of the E.F. Barrett Power Station directly damages the activities and enjoyment of CCE's members and their interest in the marine environment of Hempstead Bay and the South Shore Estuary. For more information on CCE, see www.citizenscampaign.org.

The mission of the Network for New Energy Choices (NNEC) is to promote policies that ensure safe, clean, and environmentally responsible energy options. In pursuing that goal, NNEC collaborates with all levels of government, planning agencies, public interest organizations, government and industry associations, professional societies, labor groups, businesses, and the public. NNEC's focus is increasingly on the relationship between energy and water resource policy, planning and management. In particular, NNEC is examining the impacts that conventional thermoelectric generation has on aquatic ecosystems. NNEC is also involved in the ongoing dialogue regarding Long Island's demand for energy and water. NNEC is located at 215 Lexington Avenue, Suite 1001, New York, NY 10016, and more information about its activities can be found at www.newenergychoices.org.

III.
BACKGROUND

A. National Grid's Five Fish-Killing Power Plants on Long Island

Long Island's coastal resources face an endless torrent of threats and its commercial and recreational fishing industries are struggling to survive. One significant contributor is the effect that National Grid's five power plants, including Barrett, have on aquatic life. The five plants destroy billions upon billions of fish each year in the course of withdrawing water for their once-through condenser cooling systems. The fish that are killed are primarily in the form of eggs, larvae and young hatched fish. The next generations of aquatic life needed to replenish decimated fish stocks are continually destroyed by these power plant withdrawals, undermining species recovery and diminishing a significant source of food for other marine species. Combined, all five Long Island National Grid power plants can withdraw nearly two billion gallons of water each day for condenser cooling. On the north shore, the Port Jefferson, Glenwood and Northport plants can withdraw over 1.5 billion gallons of ocean water daily from Long Island sound and its embayments. On the south shore, the Far Rockaway and E.F. Barrett plants can take in 378 million gallons daily. All in all, approximately 10.6 billion fish – in the early stages of development – are killed each year by these five National Grid-owned power plants through entrainment, and nearly 400,000 additional fish are injured or killed through impingement.[1]

If Long Island is to continue deriving electricity from these five plants, then DEC should require each of them, including Barrett, to replace their antiquated cooling systems with modern technology. In doing so, we urge DEC, in concert with stakeholders and other relevant state agencies, to adopt a comprehensive policy on the use of Long Island's coastal waters for power plant cooling. A forward-looking approach, one that considers the age of the plants and other factors, and includes a greater focus on and investment in energy efficiency and renewable

[1] *See* "Power Plants Kill Fish - National Grid's Long Island Power Plants and Their Adverse Effects On Coastal Fish," NNEC & CCE, July 2009
http://www.citizenscampaign.org/PDFs/fishKill_2009.pdf

energy, would be highly instructive, particularly in light of the potential that National Grid may choose to repower or retire one or more of the five plants.

Two weeks ago, on March 10, 2010, DEC released for public review a proposed draft policy for best technology available for cooling water intake structures, which sets out the Department's goals in implementing BTA at industrial facilities statewide and prescribes the technology required to minimize adverse environmental impact to aquatic resources.[2] The draft policy recognizes that the adverse environmental impact of cooling water intake structures (CWIS) is "staggering" and results in over 17 billion fish of all life stages being entrained or impinged annually statewide. In fact, about 62 percent of the staggering statewide fish kill total – 10.6 billion out of 17 billion – are caused by National Grid's five Long Island plants. *See* BTA Policy, Technical Document (Appendix A) at Table 1. To address that enormous loss of aquatic life, DEC's policy provides:

> [T]o conserve and protect the natural resources of the state and to minimize adverse impact to the environment, the Commissioner hereby establishes the following performance goals to minimize adverse environmental impact from a CWIS:
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> * * *
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> 3. Wet closed-cycle cooling or its equivalent as the *minimum* performance goal for existing industrial facilities that operate a CWIS in connection with a point source thermal discharge; and
>
> 4. Wet closed-cycle cooling as the *minimum* performance goal for repowered industrial facilities that operate a CWIS in connection with a point source thermal discharge.
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> However, this policy establishes only the minimum reduction goal and the Department reserves the right, in any case, to require more stringent protective measures at a particular facility and will require the most protective technology and/or operational measures available.

Draft BTA Policy at 1-2, 5 (emphasis added). As Commissioner Grannis explained in a statement accompanying its release: "With this policy, *New York is saying that closed cycle cooling is the best technology available and must be implemented to protect the environment.*"[3]

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[2] http://www.dec.ny.gov/animals/32847.html. The procedure set forth in DEC's draft statewide policy does *not* apply to the renewed and modified SPDES permit for Barrett because: (1) the statewide policy is still in draft form; (2) the draft of the statewide policy states that the policy will be implemented when a permittee seeks to renew an existing SPDES permit; and (3) there is no purported retroactivity provision in the draft policy. National Grid sought to renew its SPDES permit in April 2009.

[3] http://www.dec.ny.gov/press/63408.html (emphasis added)

DEC should require National Grid's entire five-plant Long Island fleet to meet the performance standard set forth in the draft statewide policy.

B. Hempstead Bay in the Western Bays of the South Shore Estuary.

The E.F. Barrett Power Plant is located in the Western Bays, a sub-region of the South Shore Estuary Reserve, which extends from the western boundary of the Town of Hempstead to the Nassau/Suffolk County line. The South Shore Estuary Reserve supports the largest concentration of water-dependent businesses in New York State. More than 3,000 businesses and 30,000 people depend on the 173 square miles of bays, tidal marshes, and wetlands. The Western Bays sub-region includes Hempstead Bay, South Oyster Bay and all rivers, tributaries and channels that drain into these waters. These embayments are an extensive area of shallow water and salt marsh islands connected by channels and tidal creeks. The Western Bays range in depth from a few inches along the shoreline to 30 feet at their deepest point and contain the greatest concentration of salt marsh islands in the South Shore Estuary. They are home to many species of marine and bird life, including hard shell clams, Snowy Egrets and Blue Herons.

Barrett's intake structures draw water from Barnum's Channel, which is classified as a Class SC saline surface water. The best use of Class SC waters is fishing. Under New York State's water quality standards these waters are expected to be suitable for fish propagation and survival. *See* 6 NYCRR § 701.12. Barnum's Channel is in Hempstead Bay, which is classified as a Class SA saline surface water. The best uses of Class SA waters are shellfishing for market purposes, primary and secondary contact recreation, and fishing. Under New York State's water quality standards these waters are expected to be suitable for fish propagation and survival. *See* 6 NYCRR § 701.10. In addition, the state water quality standards require that all thermal discharges to any waters of the state must assure the protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife in and on the body of water. *See* 6 NYCRR § 704.1. Marine life in the vicinity of the plant includes finfish such as bay anchovy, Atlantic menhaden, cunner, gobies, scup, pipefish, tautog, windowpane flounder and winter flounder. Shellfish in the vicinity include horseshoe crabs, American lobster and blue crabs as well as hard clams, soft clams, ribbed mussels and blue mussels. Significantly, four species of federally-listed threatened or endangered sea turtles inhabit these waters in the warmer months, including Kemps' ridley, loggerhead, leatherback, and green sea turtles.

C. E.F. Barrett Power Station

The E.F. Barrett Power Station's two operating steam-electric power units, Units 1 and 2, were built in 1953 and 1963, respectively. They are natural gas/oil fired units rated at 181 MW each for a total output of 392 megawatts (MW) of electricity. National Grid projects that the plant will operate at an average annual capacity factor of 31 percent (*i.e.*, the plant will run 31 percent of time during the year) for the foreseeable future.

The plant employs a once-through cooling system with two circulating water pumps per unit that can withdraw a plant-wide total of 294 million gallons per day (MGD) of water from Barnum's Channel. Two shoreline intake structures, one for each unit, are located 190 feet apart in the western end of Barnum's Channel. Each intake structure has trash racks, a curtain skimmer wall, and 1/4" and 1" mesh traveling screens. A fish return pipe carries fish and debris that are washed off the traveling screens to the discharge canal. Once cooling water has been used to condense steam exhausted from its steam turbines, the plant discharges heated water into the eastern end of Barnum's channel. A sheet pile wall in the channel separates the intake from the discharge to prevent recirculation of cooling water and confine the thermal discharge to the eastern end.

D. Adverse Environmental Impacts of Barrett's Intake Structures

As permitting documents make clear, the Barrett station's withdrawal of up to 294 million gallons per day from Barnum's Channel kills nearly one billion fish, eggs, and larvae annually by trapping them against intake screens (known as "impingement") or drawing them into the plants' cooling systems (known as "entrainment").[4] Cooling water intake structures can affect the full spectrum of organisms in the aquatic ecosystem at all life stages (*e.g.*, eggs, larvae, juvenile, adult) from tiny photosynthetic organisms to fish, shrimp, crabs, birds, and marine mammals, including threatened and endangered species.[5] These impacts may result in appreciable losses of early life stages of fish and shellfish, serious reductions in forage species and recreational and commercial landings, and extensive losses over relatively short intervals of time. "Further, some studies estimating the impact of impingement and entrainment on populations of key commercial or recreational fish have predicted substantial declines in population size. This has lead to concerns that some populations may be altered beyond recovery."[6]

A January 2005 report of entrainment and impingement monitoring conducted at the Barrett station from February 2003 to February 2004 determined that the plant entrains 33 distinct taxonomic groups of fish, primarily cunner, bay anchovy, tautog, windowpane, and searobin, which collectively comprise more than 90 percent of the entrainment sample. About 16 percent of the post-yolk sac larvae entrained are winter flounder. Using the DEC's "full-

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[4] As the U.S. EPA has explained, small, fragile aquatic organisms entrained through a plant's cooling system are subject to mechanical, thermal, and toxic stress including physical impacts in the pumps and condenser tubing, pressure changes caused by diversion of the cooling water into the plant or by the hydraulic effects of the condensers, thermal shock in the condenser and discharge tunnel, and chemical toxemia induced by antifouling agents such as chlorine. 65 Fed. Reg. 49,059, 49,072 (Aug. 10, 2000). Few, if any, entrained organisms survive the immediate and latent effects of entrainment.

[5] 69 Fed. Reg. 41,576, 41,586 (July 9, 2004).

[6] 66 Fed. Reg. 65,255, 65,264 (Dec. 18, 2001).

flow" calculation baseline, approximately 1.15 billion eggs and larvae would be entrained per year if the plant operated at maximum capacity all year long. Actual entrainment is more than 900 million organisms annually. The monitoring study found that 57 distinct species of fish were impinged, primarily Atlantic silverside, Atlantic menhaden, mummichog, striped killifish, and winter flounder (which collectively made up about 90 percent of the impingement sample). Under "full flow" conditions, 178,000 fish would be impinged each year, and under actual conditions annual impingement is approximately 176,000 fish. As DEC has explained:

> Winter flounder made up 2.7 percent (26,800,000 eggs and larvae) of the entrained species, and 3.0 percent (5,300 adults) of the species impinged [at Barrett]. The ... [f]acility entrains more winter flounder eggs and larvae than any other steam electric generating facility located in the marine district. Based on reports provided to the Department by National Grid, almost 40 percent of the estimated annual entrainment of winter flounder by power plants in New York State occurs at E.F. Barrett. The Atlantic States Marine Fisheries Commission has recently determined that this species is overharvested throughout its range, with only 9.0 percent of the target biomass remaining, and is requiring New York, along with all Mid-Atlantic States, to impose drastic reductions in commercial and recreational take in 2010.

2009 Barrett Biological Fact Sheet ("Bio Fact Sheet") at 2. Moreover, the monitoring study for Barrett, which assumed that 100 percent sampling efficiency, may understate the number of fish actually being killed by the plant.

National Grid incorrectly contends that it is more important to protect adult fish than early life stages of fish, and that the impacts of cooling water intake structures should be measured in "adult equivalents" or "juvenile equivalents" (*i.e.*, how many eggs and larvae would survive to a fish of a certain age) and compared to commercial landings of harvestable fish species. However, the company's position enjoys no support in law or science. In fact, while protecting fishery yields may be desirable, it is not the central environmental concern at stake. Indeed, the regulatory goal of Clean Water Act section 316(b) is not limited to avoiding population- or community-level declines of particular species, but is primarily to minimize adverse impacts on *all life stages of aquatic organisms* and thereby protect the ecological integrity of the entire aquatic ecosystem. As the U.S. EPA has found, intake structures cause "multiple types of undesirable and unacceptable adverse environmental impacts," including entrainment and impingement; reductions of threatened, endangered or other protected species; damage to critical aquatic organisms, including important elements of the food chain; diminishment of a population's compensatory reserve; losses to populations including reductions of indigenous species populations, commercial fisheries stocks, and recreational fisheries; and stresses to overall communities and ecosystems as evidenced by reductions in diversity or other changes in system structure and function. 66 Fed Reg. 65,256, 65,292 (Dec. 18, 2001); 69 Fed Reg. 41,576, 41,586 (July 9, 2004). In particular, EPA has recognized that "the loss of large numbers of aquatic organisms" may affect not only "stocks of various species" and their compensatory

reserve, but also "the overall health of ecosystems." 66 Fed. Reg. at 65,292.

Significantly, in a 2004 Federal Register publication, EPA approvingly cited DEC's analysis of such ecosystem effects in connection with the permitting of three Hudson River power plants. DEC found that entrainment not only reduces adult populations of the species whose eggs and larvae are entrained, but also depletes the species' ability to survive unfavorable environmental conditions, and, perhaps most significantly, diminishes the forage base, which disrupts the food chain, transferring energy from higher to lower trophic[7] levels and compromising the health of the entire aquatic community.[8] In particular, DEC explained, using a simplified example, that if an individual bay anchovy is killed via entrainment and disintegrated upon passage through an intake structure it is no longer available as food to striped bass and other top predators, and is instead consumed only by lower trophic level organisms, such as detritivores (organisms that feed on dead organic material), thus transferring energy from the top of the ecosystem to the bottom and affecting the integrity and proper functioning of the system. Likewise, the entrained bay anchovy would no longer be available to consume phytoplankton, which upsets the distribution of nutrients in the ecosystem. *Id.* In other words, the focus must not be solely, or even primarily, on measuring the plant's effect on adult fish population levels, but rather on minimizing the mortality of (and harm to) aquatic organisms of all species at all life stages, because such damage saps biological energy from the aquatic ecosystem and alters the integrity of the natural environment.

E. Barrett's Current SPDES Permit and Submittals

The plant's current SPDES permit, which became effective on December 1, 2004, has been modified three times (on April 26, 2006, July 6, 2007, and January 15, 2009) and expired on December 1, 2009. The expired permit was administratively extended under the State Administrative Procedures Act (SAPA) until the current permit renewal process has been completed. The current permit does not limit the intake of cooling water, but does have several limits on thermal discharges, First, there is a limit of discharges from Outfall 005, which have a maximum delta T of 30° F, with a maximum discharge temperature of 110° F (although the permit also states that these limits may be exceeded by 10° F for up to one percent of the operating time per year). Second, Additional Condition 10 states that the receiving water temperature may not be raised more than 4° F from October to June and not more than 1.5° F from July through September, except within a 357 acre mixing zone. Further, Additional Condition 10 also incorporates the standard from 6 NYCRR § 704.1 that the "'[t]hermal

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[7] The term "trophic" refers to the feeding habits or food relationship of different organisms in a food chain.

[8] NYS DEC, 2003, Final Environmental Impact Statement: Concerning the Applications to Renew NY SPDES Permits for the Roseton 1 & 2, Bowline 1 & 2 and Indian Point 2 & 3 Steam Electric Generating Stations (cited by EPA at 69 Fed Reg. at 41,587-88).

discharge from the facility shall assure the protection and propagation of a balanced indigenous population of fish and shellfish in and on Barnums' [sic] Channel and Hempstead Bay."

As part of the current permit, the permittee was required to submit a Proposal for Information Collection Report (PICR) that included a description of the proposed and/or implemented technologies and/or operational measures to be evaluated in a Design and Construction Technology Review (DCTR), followed by a Proposed Suite of Technologies or Operational Measures (PSTOM or "BTA Proposal"). In April 2007, KeySpan submitted a DCTR,[9] which DEC deemed incomplete. Keyspan provided additional information in June 2007 and October 2007, including an engineering and cost assessment of closed-cycle cooling ("CCC Report"), in which it proposed a location for locating cooling towers that would result in the loss of wetlands.[10] DEC approved the DCTR in November 2007, and National Grid submitted its BTA Proposal in December 2007.[11] In August 2009, DEC requested that National Grid evaluate alternative locations for cooling towers, and National Grid submitted that evaluation in December 2009.[12]

F. The Draft Renewed and Modified SPDES Permit

In December 2009, DEC issued the draft renewed and modified SPDES permit for the Barrett Station on which we are now commenting. In connection with that permit, DEC determined that "BTA for E.F. Barrett is wet closed-cycle cooling." Bio Fact Sheet at 4. DEC expects that a 98 percent reduction in impingement and a 95 percent reduction in entrainment are the minimum reductions that will be achieved from implementation of CCC. *Id.* Further as DEC explained:

> This technology will also significantly reduce the number of winter flounder eggs and larvae entrained and impinged – more than any other technology or operational measure available to reduce aquatic impacts. In addition, the replacement of the current once-through technology with a closed-cycle cooling system would eliminate the thermal pollution that currently does not meet the New York State's thermal standard. This too will improve habitat in the area of the existing thermal discharge to assure the protection and propagation of a

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[9] Design and Construction Technology Review for the E.F. Barrett Power Station, ASA Analysis & Communication, April 2007.

[10] An Engineering & Cost Assessment of Retrofitting Closed-Cycle Cooling Technologies and E.F. Barrett Power Station, Alden Research Laboratory and Burns Engineering Services, September 2007.

[11] Proposed Suite of Technologies or Operational Measures for the E.F. Barrett Power Station.

[12] Alternative Retrofit Cooling Tower Site Evaluation – E.F. Barrett Power Station, Burns Engineering Services.

> balanced, indigenous population of shellfish, fish and wildlife in Barnum's [C]hannel as required by New York State regulations (6 NYCRR Part 704.1).

Id. The draft permit states that National Grid must install and operate a closed-cycle cooling system by the expiration date of the permit. Thus, DEC proposes to give National Grid five years – the entire term of the renewed SPDES permit – to install closed-cycle cooling. The permit also allows National Grid to propose, within one year, an alternative plan that will minimize adverse environmental impacts to levels equivalent to closed-cycle cooling.

IV.
DETAILED COMMENTS

As CCE and NNEC have recently commented on the draft permits for two other National Grid power plants on Long Island, the Glenwood Power Station and the Port Jefferson Power Station, raising many similar substantive issues, we have attached those submittals to this comment letter, and we are hereby incorporating them by reference. Our September 25, 2009, comment letter regarding the Glenwood plant, with exhibits A through D thereto, will be referred to herein as the "Glenwood Comments," and our October 7, 2009, comment letter regarding the Port Jefferson plant, with exhibits A through D thereto, will be referred to herein as the "Port Jefferson Comments."

A. Closed-Cycle Cooling Is BTA for E.F. Barrett Power Station.

1. Closed-Cycle Cooling Is Compelled by Sections 316(b) and 704.5.

As DEC determined in December 2009, a closed-cycle cooling system is the best technology available to minimize the adverse environmental impact of Barrett's intake structures, and is therefore required under section 316(b) the federal Clean Water Act and 6 NYCRR § 704.5. With a closed-cycle cooling system, Barrett would withdraw, at most, five percent as much water the station currently withdraws from Barnum's Channel, and since aquatic mortality is directly related to the amount of water use, such a system will cut aquatic mortality by at least 95 percent, or could eliminate that mortality entirely. No other mechanisms short of plant outage during entrainment season can reduce the aquatic impacts to a level commensurate with closed-cycle cooling.[13] Given these substantial reductions, it is impossible to meet the Best Technology Available standard without recirculating the water via closed-cycle cooling. Simply put, BTA for Barrett Station is, at a minimum, closed-cycle cooling because it is the best

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[13] As EPA has explained, "[c]losed-cycle cooling systems ... are the *most effective* means of protecting organisms from I&E [impingement and entrainment]." U.S. EPA Office of Science and Technology Engineering and Analysis Division, Economic and Benefits Analysis of Proposed Section 316(b) Phase II Existing Facilities Rule § A2-2.1(a), at p. A2-5, available at http://www.epa.gov/waterscience/316b/econbenefits/a2.pdf (emphasis added).

technology for minimizing the adverse environmental impact of the plant's intake structures and is available for installation and use at Units 1 and 2.

2. Closed-Cycle Cooling Is Also Required to Meet Water Quality Standards.

In addition to meeting the technology-based BTA standard, closed-cycle cooling is also required to meet New York State water quality standards ("WQSs"). EPA's Environmental Appeals Board ("EAB") has recognized that "in certain cases, even if the technology standard does not require closed-cycle cooling, a state's WQSs may."[14] EPA has explained this requirement as follows:

> The NPDES permit's requirements pertaining to CWISs [cooling water intake structures] under CWA § 316(b) must also be consistent with applicable State legal requirements, including water quality standards. Determining exactly how to apply water quality standards to CWIS requirements in any given case will depend on the exact nature of the water quality standards and the particular circumstances of the case at hand. The most obvious consideration, however, is whether the CWIS requirements will provide for the protection of the designated uses of the water bodies of concern.[15]

Under New York State's water quality standards, Hempstead Bay must be suitable for "fish propagation and survival," and the designated uses include fishing and shellfishing. *See* 6 NYCRR § 701.10. Barnum's Channel must be suitable for fish propagation and survival and allow fishing as a designated use. *See* 6 NYCRR § 701.12. Further, thermal discharges from the Barrett station violate the statewide fish protection standard applicable to thermal discharges. 6 NYCRR § 704.1. Consequently, National Grid is currently in violation of Additional Condition 10 of its SPDES permit, which incorporates Section 704.1, and until closed-cycle cooling is installed and operational at Barrett, it will likely continue to violate that condition. Given the needless destruction by Barrett's intake structures of approximately one billion fish and other organisms in at least 57 distinct taxonomic groups – including winter flounder and many others – and the unacceptable thermal impacts, closed-cycle cooling is also necessary to protect the designated uses of and the fish populations in the source waterbody.

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[14] In *In re Dominion Energy Brayton Point, L.L.C. Brayton Point Station*, NPDES 03-12, 12 E.A.D. 490, 496 (Remand Order) (EAB Feb. 1, 2006).

[15] U.S. EPA - New England, Clean Water Act NPDES Permitting Determinations for Thermal Discharge and Cooling Water Intake from Brayton Point Station in Somerset, MA (July 22, 2002) at 7-27.

3. Closed-Cycle Cooling Cells Can Be Easily Retrofitted to the Existing Plant.

National Grid proposes the following design for retrofitting the intake and piping for closed-cycle cooling:

> the current intake structure would be modified by sealing off the intake and discharge canals to form two basins to hold recirculated water from the cooling towers. This water would be sent to the cooling towers, and then redirected into the intake basin, where it would then be sent to the existing condenser. New pumps would be added to withdraw water from the discharge channel and a smaller pump would be added to the new intake basin to withdraw makeup water from Barnum's [C]hannel.

Bio Fact Sheet at 3. That approach is the most appropriate method, entails no technological difficulties, and should be followed.

4. Cooling Cells Can be Easily Located at Barrett without Filling Wetlands.

National Grid's contention that there is not enough space on the Barrett property to site closed-cycle cooling cells without filling wetlands is simply wrong. As noted above, each Barrett unit is rated at 181 MW (for a plant-wide total of 362 MW) and each unit has a design intake flow of 227.5 cubic feet per second (cfs), which is 102,000 gallons per minute (gpm), for plant-wide totals of 455 cfs or 204,000 gpm. To provide sufficient cooling for a plant of that size, each unit would require only four or, at most, five wet closed-cycle cooling cells. National Grid's claim that each unit would need ten cells is based on the faulty assumption that they would need to install cells that could achieve a 7° F "approach temperature."[16] In fact, no power plant in this region would ever build cooling cells with a 7° F approach temperature, given that an approach temperature in the 12° F to 15° F range is the demonstrated and appropriate specification that balances plant efficiency with cost. A reduction in approach temperature from 12° F to 7° F would require an 80 percent increase in the number of cooling cells. Thus, National Grid is proposing to over-engineer the closed-cycle cooling system by doubling its size.[17]

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[16] The design "approach temperature" refers to how close the temperature of the circulating cooling water gets to the dew point on particularly hot and humid days in the region. Here, National Grid uses climate data from JFK airport to determine that dew point (also referred to as the "summer wet bulb temperature"). Because National Grid added 2° F (to estimate recirculation of air into the cooling tower) to the "highest 1% incidence level" of 77° F from the JFK data, National Grid's calculations are very conservative in this regard also.

[17] Further, National Grid is also proposing to over-engineer the fan motors in its proposed 20-cell array. The company clams that it would use fan 20 motors, each rated at 250 brake horsepower (BHP), which is about the largest fan motor available, and is also completely unnecessary.

National Grid also seeks to impose artificial constraints on the project by erroneously claiming that the cooling cells for each unit would have to be arranged in a single row, and that each row would have to be spaced at least 150 feet apart. In particular, the company claims that twenty cooling cells would occupy an area roughly 500 feet long by 450 feet wide, which would just barely fit in the open field/parking lot areas south of the plant buildings, and thus be difficult to locate there. In fact, by using incline, back-to-back, plume-abated mechanical draft cooling, the rows of cells can placed next to each other or the cells can be clustered in a variety of configurations. This type of cooling cell has been available from several manufacturers for many years and used at many power plants in the state and beyond, and has recently been improved upon by the leading manufacturer, SPX/Marley. (*See* Glenwood Comment as 10-11 & Exh. A; Port Jefferson Comments at 12-13.) Thus, even if National Grid did choose to waste money by installing twice as many cooling cells as it needs, those 20 cells could be clustered together in the center of the site, away from any other infrastructure, with ample buffer room. Further, since only ten cells are needed to cool the entire plant, and these can be placed back-to-back or clustered, even less space is needed. As an illustration, attached hereto as Exhibit A is a satellite photo of the Bergen Station in Ridgefield, New Jersey, which has inline, back-to-back cooling cells, six of ten of which are plume-abated cells. A similar configuration could be employed at Barrett.

Accordingly, there is no need whatsoever to fill any wetlands in order to install a closed-cycle cooling system at Barrett.

5. Closed-Cycle Cooling Cells Can Be Retrofitted in Two Years, Not Five.

As noted, the draft permit would give National Grid five years – the entire SPDES permit term – to install and operate a closed-cycle cooling system. That time frame is unnecessarily attenuated and would allow the plant to needlessly continue killing fish at unacceptable levels. National Grid estimates that it would need three years to complete the project after it obtains necessary permits. More specifically, the company estimates one year of engineering and design, another year of "specifying and purchasing," six months for site preparation (including filling wetlands, although that is not necessary, as discussed above), ten months for constructing cooling towers, eight months for constructing a new pump house, and four months for tying in the new piping, for a total of 52 months (*i.e.*, four years and four months) after the SPDES permit is issued before the new cooling system could start up. CCC Report at 20. This is an absurdly long schedule. An entire new power plant can be built in far less time. Many of the components in the project schedule can be shortened considerably and the sequencing can be changed such that several of the items can be done at the same time, meaning the entire project could be completed in about half the time National Grid estimates. The SPDES permit should not simply allow National Grid to take the entire five years to install closed-cycle cooling. Rather, it should also impose the explicit requirement that the new system be installed in the shortest feasible time, and DEC should not approve a Technology Installation and Operation Plan (TIOP) without carefully scrutinizing the construction schedule and making National Grid justify the sequencing and duration of each and every project activity. This is particular true because, not only will the

plant be operating without BTA for time it takes to install closed-cycle cooling, but also because the plant will be violating the thermal standards in 6 NYCRR § 704.1 and Additional Condition 10 during that period of time.

6. Closed-Cycle Cooling Is Practical, Affordable, and Cost-effective, and Will Not Cause any Significant Adverse Impacts.

Although DEC has properly rejected National Grid's other arguments as to why it should be allowed to continue destroying aquatic life in such enormous numbers, we address here some of those arguments and others that opponents or skeptics of the technology sometimes raise.

Closed-Cycle Cooling Is Cost-Effective. The "all-in" cost of building and installing closed-cycle cooling at Barrett would be in the range of $27-30 million for plume-abated cooling cells at both units. (See also Port Jefferson Comments at 13, estimating same cost for that plant, which has the same design intake flow.) National Grid's estimated construction cost figures of $56 million (for cooling towers alone) and $72 million (for the cooling towers plus other equipment and direct costs) are inflated for several reasons. See CCC Report at 39, Table 7. First, as discussed above, the company needs only half as many cooling cells as they have proposed. Thus, the company's $56 million estimate for 20 cooling cells can be cut in half. National Grid then adds approximately $16 million (thus pushing the cost up to $72 million), which is also inflated or completely unnecessary.[18] National Grid then adds another whopping $30 million for what it vaguely describes as "management, "indirects," "indeterminates," and "contingencies." To put the numbers in context, DEC has estimated Barrett's future revenues at nearly $3 billion over the next 20 years.[19] Thus, the actual capital cost of $30 million will be only about one percent of the revenues derived from the plant. Even doubling or tripling that $30 million figure would only result in costs that are approximately two or three percent of revenues, which is a reasonable economic burden for industry to bear to comply with BTA requirements. *See, e.g.*, 66 Fed. Reg. 65,255, 65,324 (December 18, 2001) (EPA determined that costs of one to three percent of baseline revenues was economically practicable). Moreover, National Grid would likely pass on any added compliance costs and thus the costs would actually not consume any of their revenues.

Closed-Cycle Cooling Will Not Noticeably Increase Electricity Rates. Because it is a smaller portion of National Grid's revenues, the low cost of closed-cycle cooling could likely be absorbed by National Grid without any increase in the cost of electricity to homeowners. But even if the costs are passed on to the Long Island Power Authority (LIPA) and, ultimately, ratepayers (which is the current contractual relationship between National Grid and LIPA), the

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[18] For example, $3.4 million is for fans, but the plant will only need half as many fans, those fans can be smaller than 250 BHP. Likewise, the cooling basin will be half the size and the wetland filling included in the budget will not be necessary.

[19] BTA Policy, Appendix A: BTA Policy Technical Document at 14, Table 6.

resulting increase in electricity bills would likely be only pennies per month. A study by the U.S. EPA of a power plant in Massachusetts that is being required to retrofit to closed-cycle cooling found that the cost to upgrade that plant (which is larger and will be more expensive than Barrett to retrofit) would result in an increase to ratepayers of only 3 to 13 cents per month – less than the cost of the postage stamp needed to mail the electric bill![20]

Closed-Cycle Cooling Cells Are Visually Unobtrusive. The plume-abated cooling cells would be only about 60 feet tall, which makes them much smaller than the main power plant buildings on site. For that reason, they would be hardly noticed. The rendering of the Bethlehem Energy Center in Exhibit B to the Glenwood Comments and the Port Jefferson Comments shows just how small and unobtrusive cooling cells are at a power plant site. Further, because of the availability of plume-abated cooling cells, there would be no visible steam plumes from those cells.

Closed-Cycle Cooling Is Quiet. The use of ultra low noise fans, which are available from several manufacturers, would allow Barrett's cooling cells to operate extremely quietly. Attached as Exhibit D to the Glenwood Comments and the Port Jefferson Comments are a low noise cooling cell fan brochure from SPX/Marley, as well as case study conducted by Howden Cooling Fans (one the largest cooling tower fan manufacturers in the world) entitled "Retrofit of a Large Cooling Tower in Combination with a Significant Noise Reduction." Both SPX and Howden have available an ultra low noise fan option – Howden's product is referred to as a "super quiet SX-fan[21] – and Howden's case study verified that the total noise emanating from the tested cooling towers measured only 39.2 dB(A) at a nearby housing area.[22] A sound level of 40 dB(A) is equivalent to a "quiet rural area," according to a University of Wisconsin sound chart.[23]

The Retrofit Will Not Require Long Outages. Little or no unscheduled downtime is necessary for plants to retrofit to closed-cycle cooling. The entire cooling cell and piping

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[20] *See* U.S. EPA, Region 1, Determinations Document for Brayton Point Power Station, July 22, 2002 ("The long-term rate effect to the typical 500 kWh per month consumer from increased production costs and slightly reduced generation as a result of the cooling system improvements is conservatively estimated to range from $0.03 per month to $0.13 per month. When possible ... expenditures to comply with recent Massachusetts air pollution regulations are taken into account, the figures only rise to $0.09 to $0.38 per month.").

[21] More information on Howden's fans can be found at: http://www.howden.com/en/Products/CoolingFans/DSeries/default.htm (D-series fans); and http://www.howden.com/en/Products/CoolingFans/ESeries/default.htm (E-series fans).

[22] *See* also http://www.evapco.com/evapco_videos.asp?vID=lss1 and http://www.districtenergy.org/08CoolingConference/Proceedings/4A2_HOETICKXGood_Cooling_Tower_Practises.pdf (video and presentation from EVAPCO on the performance of the super low noise fan).

[23] *See* http://trace.wisc.edu/docs/2004-About-dB/

construction process can take place while the plant continues to operate using once-through cooling. A short shutdown is only required to allow final tie-in of the cooling tower piping to the existing surface condensers at each unit. And this hook-up of the new cooling system can be carried out with little or no downtime beyond the typical annual maintenance outage period of two to four weeks and/or in non-summer months when power demand is low.

Closed-Cycle Cooling Should Not Increase Air Emissions. The switch from once-through cooling to closed-cycle cooling will cause a very minor loss in electricity production efficiency, approximately 1 to 2 percent. Output would thus be reduced by about 3 to 6 MW as a result of the conversion to cooling cells.[24] If this 3 to 6 MW is generated by a natural gas-fired combined-cycle plant, the annual NOx and PM10 emissions from this output would be a relatively modest 0.3 to 0.6 tons per year (11 to 22 lbs/day) and 0.16 to 0.31 tons per year (6 to 12 lbs/day), respectively, assuming a 30 percent plant usage rate. Further, these losses would be reduced if, as discussed below, the plant used treated effluent instead of seawater for cooling. Moreover, there would be no increase in air emissions if the power is replaced by renewable geothermal, solar, or wind resources, as it should be. Like many states, New York is developing renewable energy sources to replace fossil fuel sources and, in California, the state energy commission recently denied an application for a 100 MW natural gas fired peaking power plant in part because rooftop solar photovoltaic cells could potentially achieve the same objective for comparable cost, *i.e.*, they are equally cost-effective.[25] Further, as also discussed below, if the plant repowered with a combined-cycle natural gas unit, the same amount of electricity could be generated while producing 90 percent less air emissions. The excessive amounts of air pollution emitted by the plant will not be caused by closed-cycle cooling, but by National Grid's choice to continue running an antiquated, inefficient 1950s power plant in 2010 and beyond. Repowering would make the most business sense while also meeting modern environmental standards.

B. Dry Cooling Is Superior and Feasible, Particularly in a Repowering.

Although the wet form for closed-cycle cooling would reduce fish kills by approximately 95 percent, the dry form of closed-cycle cooling (also known as air-cooling) would completely eliminate water withdrawals and resulting fish kills. Thus, it is a better form of the technology.

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[24] For example, the measured annual efficiency penalty at the 346 MW Jeffries Station in South Carolina – which converted its cooling system to a full recirculating, mechanical-draft system after many years of operation utilizing a once-through system – is 0.16%. The cooling tower pump and fan energy demand for steam plants is estimated by EPA at 0.73%. Thus, the total energy penalty (the sum of those two numbers) would be approximately 0.9%. *See, e.g.*, U.S. EPA, Office of Water, Technical Development Document for the Proposed Section 316(b) Phase II Existing Facilities Rule, April 2002, Chapter 5, Sections 5.6.1 to 5.6.3, pp. 5-34 to 5-36. In fact, there is a similar loss in efficiency when power plants stacks are fitted with wet scrubbers and other equipment to reduce NOx and SO_2.

[25] *See* NATURAL GAS & ELECTRICITY, August 2009, 8-13, Bill Powers, "CEC Cancels Gas-Fed Peaker, Suggesting Rooftop Photovoltaic Equally Cost-Effective."

Power plants with dry cooling systems release waste heat by sending the steam exhausted from the steam turbines through narrow tubes with cooling fins like a giant automotive radiator. As air is blown across the fins, either by natural drafts or fans, the steam cools and condenses back into water that is reused to generate more electricity. Dry cooling systems require neither make-up nor blowdown water and therefore reduce water impacts well beyond even the most efficient closed-cycle wet cooling system. Plants with dry cooling systems also have no thermal discharge to watersheds, but only to air, and need to add additional water only periodically for system maintenance and cleaning. A typical 1,000 MW plant combined cycle plant with a dry cooling system uses less than 0.2 million gallons per day. This residual water demand is associated with boiler feedwater makeup requirements. The dry cooling system itself has no water demand.[26]

Power plants have used dry cooling systems for nearly 70 years. Dry cooling was introduced in U.S. in the late 1960's and, today, more than 600 power plants worldwide are dry-cooled, more than 60 of them in the U.S., with several in operation in our region. To give just three examples: (1) on Long Island, the Caithness Energy Center in Yaphank is a new 350 MW air-cooled facility that started commercial operation in 2009; (2) upstate, the Athens Generating Plant is a 1,080 MW air-cooled plant approved by DEC in 2000 and constructed shortly thereafter; and (3) in Linden, New Jersey, next to the New Jersey Turnpike, the Linden cogeneration plant is a 760 MW air-cooled plant built in 1992. Other plants have converted to dry cooling in a repowering or are proposing to do so. In Southern California, the El Segundo Generating Station is proposing to modernize by repowering and replacing its once-through cooling system with dry closed-cycle cooling, thereby eliminating its use of seawater.[27] Closer to home, in Long Island City, Queens, the Ravenswood Generating Center has an air-cooled condenser, which was installed many years after the plant was originally built, with the addition of a combined-cycle unit in 2004.[28]

The far greater efficiency of modern combined-cycle natural gas units not only reduces cooling water needs, but also reduces air emissions by upwards of 90 percent as compared to an older, inefficient steam-turbine-only unit like Barrett's. For example, when the Bethlehem

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[26] Two types of dry-cooling systems exist, direct-acting and indirect-acting. In direct-acting systems, the exhaust steam from the steam turbine is routed directly to an air-cooled condenser where it is condensed inside a series of finned tubes by air blown across the tubes. The heat is dissipated to the atmosphere in a single step. Direct-acting, dry-cooled systems are the most prevalent type of air-cooled condenser currently used in the U.S., and are considered to be more cost-effective for *new* power plants. In indirect-acting systems, the exhaust steam from the steam turbine transfers heat to a cooling water loop in a surface condenser. The heated water is then brought to a dry cooling tower, which transfers the waste heat from the cooling water loop to the atmosphere. These types of systems are typically considered for retrofitting *existing* once-through cooling systems as the surface condenser would already be present.

[27] http://www.elsegundorepowering.com/

[28] http://www.transcanada.com/pdf/power/ravenswood.pdf

Energy Center, near Albany, repowered in 2002-03 it cut emissions of smog-causing nitrogen oxide by 90 percent, and reduced sulfur dioxide emissions, the pollutant that causes acid rain, by 94 percent.[29] The repowering also increased output from 400 MW to 750 MW, thereby producing almost double the electricity with far less impact. As DEC has explained:

> Where impacts are large, the optimal approach from our standpoint is to repower an existing facility into a state-of-the-art power plant. The facility can thus be redesigned into an efficient new station (e.g. using combined cycle technology) that will reduce fuel use, greatly increase thermal efficiency and minimize impacts to air and water. By incorporating BTA in the design phase, the projects can more easily accommodate technologies such as closed cycle cooling, and the most protective intake structures. In addition, this approach results in the re-use of an existing industrial site rather than disturbance to a greenfield site.[30]

Further, because modern plants are more efficient, costing less for them to produce electricity, the power can be sold very competitively, thereby displacing other more inefficient and polluting plants in the region, which can also reduce electricity rates. This results in a win-win-win for the environment, consumers, and business.

Of particular note, LIPA had an option to buy the Barrett plant from National Grid, although it recently declined that option. Nevertheless, LIPA was evaluating the possibility of repowering on-site by constructing a new combined-cycle unit utilizing an air-cooled condenser, retiring one of the exiting Barrett units and keeping the other unit as a peaker or load-following unit. Indeed, the best course of action for Barrett would be for National Grid, or any future owner of the plant, to repower it to a new combined-cycle natural gas plant using an air-cooled condenser, and shutting down the two 50-year-old units. That option is certainly technically feasible and would also be cost-effective because the new plant would be able to operate at a very high capacity factor, increasing revenues dramatically, and thereby offsetting the additional capital cost.

C. Use of Treated Effluent for Cooling Water Would Be Equivalent to Dry Cooling, at Lower Cost, and Would Provide Other Benefits.

Alternatively, a level of protection for aquatic resources equivalent to dry cooling could be achieved through the use of a wet closed-cycle cooling system, if the cooling water source is changed from seawater to treated wastewater effluent. National Grid admits that the "use of ... grey water ... as the makeup for the circulating water system would be possible..." CCC Report at 19. However, the company says it "rejected" that possibility because it "*may* have unacceptable environmental effects" without indentifying any such effects. *Id.* (emphasis

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[29] http://www.power-technology.com/projects/bethlehem/

[30] http://www.dec.ny.gov/animals/32847.html

added). In fact, there are no unacceptable environmental impacts from the use of reclaimed water in cooling cells, and, if done properly, there are additional environmental benefits. National Grid estimates that 7,400 gpm will be needed for makeup water, which is about 10 MGD. The Bay Park sewage treatment plant, run by Nassau County, is less than a mile from the Barrett station and generates about 57 million gallons of wastewater per day, which is otherwise discharged into the bay. That volume is more than five times what Barrett's makeup water needs will be after it is converted to closed-cycle cooling. Moreover, the switch from salt water to fresh water for cooling would further reduce makeup water needs, increase the electric efficiency of the plant, eliminate any salinity that might otherwise be emitted from the cooling towers, and reduce the discharge from the Bay Park plant to the bay.

Using grey water for cooling is a highly feasible, practical and affordable solution that has been successfully accomplished in many locations. Rated at more than 3,800 megawatts, the Palo Verde nuclear plant in Arizona is the largest in the country, yet the plant is cooled without drawing from any natural waterbody – all three units reuse water from the Phoenix Municipal Waste Treatment System, which is processed, treated, and stored in an ultimate heat sink water supply lake onsite.[31] Similarly, the Bergen Station, a fossil fuel power plant at the confluence of the Hackensack River and Overpeck Creek in Ridgefield, New Jersey, once withdrew 400 million gallons of river water per day through its once-through cooling system, but has eliminated those withdrawals, and all entrainment and impingement, by retrofitting with closed-cycle cooling towers and running a pipeline under the river to a sewage treatment plant from which it now draws treated effluent for cooling.[32] Another example is the Mankato power station in Minnesota.[33]

Only two technical issues would have to be addressed to use grey water for cooling at Barrett. One is whether the effluent from the Bay Park Sewage Treatment Plant would need additional treatment to destroy any remaining pathogens and solids. Several methods are available to address pathogens, and a filter would remove solids. Notably, in 2009, Nassau County Department of Public Works identified needed upgrades to the facility which included ultraviolet treatment of pathogens to replace chlorination. The second issue is indentifying a low-impact route for the piping that would not harm coastal resources. This should not present a significant issue. As noted above, the Bergen plant in New Jersey is across the river from the wastewater plant from which it draws cooling water and the piping was apparently accomplished successfully there. The use of grey water should be carefully explored.

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[31] http://www.nucleartourist.com/us/pvngs.htm

[32] http://www.bcua.org/WPC_VT_WasteWaterReUse.htm

[33] http://www.calpine.com/power/plant.asp?plant=215

V.
RESERVATION OF RIGHTS FOR PARTY STATUS IN ANY PUBLIC HEARING

Under Article 70 (Uniform Procedures) of the New York State Environmental Conservation Law (ECL), after evaluating public comments on a permit application, DEC must "determine whether or not to conduct a public hearing on the application." ECL § 70-0119(1). In particular, "where any comments received from members of the public or otherwise raise substantive and significant issues ... and resolution of any such issue may result in ... the imposition of significant conditions..., the department shall hold a public hearing." *Id.*; *see also* 6 NYCRR § 621.8(b) (same).

Although issues raised in this comment letter meet the criteria for substantive and significant issues requiring an adjudicatory hearing, CCE and NNEC are *not* requesting a hearing on the draft permit, because we believe the aquatic environment of Hempstead Bay will be best served by prompt issuance of a final SPDES permit requiring Barrett to install closed-cycle cooling. If, however, an adjudicatory hearing is held, NNEC and CCE reserve their rights to seek party status in such a hearing and to contend that the SPDES permit does not meet all legal requirements, including but not limited to those relating to BTA.

VI.
CONCLUSION

Based on the foregoing, CCE and NNEC request that DEC issue the renewed and modified SPDES permit for Barrett Power Station in final form forthwith, requiring National Grid to immediately commence the design and construction planning process for the installation and operation of closed-cycle cooling in the shortest possible time.

Very truly yours,

Reed Super

cc (by email):
Congressman Steve Israel
Congressman Peter King
Congresswoman Carolyn McCarthy
Senator Dean Skelos
Senator Carl Marcellino
Senator Charles Fuschillo
Assemblyman Joseph Saladino

Assemblyman Harvey Weisenberg
Assemblyman Robert Sweeney
Supervisor Kate Murray
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