

# SUPER LAW GROUP, LLC

September 25, 2009

## Via Email and U.S. Mail

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 Glenwood Power Station SPDES Renewal and Modification  
Draft SPDES Permit No. NY-0005916; DEC No. 1-2822-00482/00011

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 Glenwood Power Station, located on the eastern shore of Hempstead Harbor in the hamlet of Glenwood Landing, Town of North Hempstead.

## I. EXECUTIVE SUMMARY

The two operating units at Glenwood were built in the early 1950s and rely on antiquated cooling water systems that withdraw up to 179 million gallons per day (MGD) from Hempstead Harbor. The large volume and high velocity of the plant's cooling water withdrawals needlessly destroy more than 175 million fish and other aquatic organisms each year by sucking them into the plant's heat exchangers or trapping them on intake screens. Although Glenwood is a fairly small plant, with a generating capacity of 210 megawatts (MW), and operates as a "peaking" facility (*i.e.*, it runs only at times of peak power demand), its once-through cooling system kills a disproportionately high number of fish relative to the plant's capacity factor because it operates during the most biologically active times of year, late spring and summer, when large numbers of newly-spawned fish in Long Island Sound are susceptible to being entrained. Specifically, although Glenwood has a capacity factor of roughly 15 percent, it kills as many fish as if it operated at 71 percent of its full capacity. Thus, from a fishery perspective, Glenwood has the same impact as a baseload plant.

Glenwood's owner, National Grid, contends that it may not operate the plant beyond May 2013, when its current power service agreement with the Long Island Power Authority expires. If, however, either of the Glenwood units continue to operate beyond that date, the plant should be required to install and operate a closed-cycle recirculating cooling system, which is standard equipment in new power plants and would reduce water usage and fish kills by 95 percent or

more. The use of closed-cycle cooling is necessary to comply with section 316(b) of the federal Clean Water Act and 6 NYCRR § 704.5, both of which require the best technology available (BTA) to minimize the adverse environmental impacts of cooling water intake structures. Closed-cycle cooling is also required to comply with applicable New York State water quality standards, which provide that Hempstead Harbor must be suitable for fish propagation and survival as well as fishing. By DEC's own admission, closed-cycle cooling is more than one-and-a-half times as effective (95 percent as compared to 62 percent) in reducing entrainment than the flow reduction technology, variable speed pumps, that DEC chose as BTA. Further, as we discuss below, DEC has underestimated that difference through use of an improper "calculation baseline." In fact, a once-through cooling system with variable speed pumps at Glenwood would kill more than ten times as many fish (92 million per year) than would a closed-cycle cooling system (less than 9 million per year).

Contrary to Department staff's conclusions, the use of closed-cycle cooling at Glenwood is feasible, and the reasons given in the biological fact sheet for rejecting closed-cycle cooling are unsupported. First, there is adequate space to locate the necessary mechanical-draft cooling cells within the footprint of the decommissioned power house on the north of the site and/or in the parking lot directly west of the plant, across Shore Road. Second, despite National Grid's assertion, which DEC uncritically accepted, the operation of closed-cycle cooling would not violate the Town of North Hempstead's noise ordinance because of the availability of ultra low noise fans (sometimes referred to as "super quiet" fans). As we further explain below, closed-cycle cooling is feasible, practical, affordable, and cost-effective, and will not itself cause any significant adverse impacts, environmentally or aesthetically. The draft permit's 60 percent entrainment reduction and 80 percent impingement reduction targets are therefore too low because closed-cycle cooling is an available technology that would achieve greater reductions.

The Glenwood SPDES permit requires too little, too late, and should not be issued in its current form. Accordingly, to correct the draft permit's fatal flaws, DEC must determine that closed-cycle cooling represents the best technology available for minimizing adverse environmental impacts from the cooling water intake structures at Glenwood, and require the installation and use of that technology (or require flow reduction consistent with such technology) in the shortest possible time. Immediately commencing the design and construction planning of closed-cycle cooling at Glenwood would cause no undue hardship to National Grid, despite any uncertainty concerning post-2013 operation, for two important reasons. First, the lead time for designing, constructing, and connecting both units to closed-cycle cooling is likely to be five years, and thus the operational decision would be made well in advance of the retrofit. Second, the draft permit gives National Grid until November 2012 to propose alternative measures that would achieve the same or greater protective benefits as the technologies determined to be BTA. Thus, the permit includes a built-in mechanism allowing National Grid to evaluate other measures of equivalent effectiveness before final implementation.

As a closely related matter, the Glenwood plant should immediately install variable speed pumps as an interim protective measure while the closed-cycle cooling retrofits are being

designed, planned, and constructed. Apart from the need for closed-cycle cooling, there is no legal or practical justification for the draft permit's compliance schedule, which gives National Grid until May 2013 to submit its designs and a schedule for installation of those pumps.

A couple of other points warrant brief mention in this summary. First, DEC's use of a "full-flow" calculation baseline to calculate the impingement and entrainment reductions to be achieved is improper and misleading; for this reason, the variable speed pumps will not actually achieve a 60 percent reduction of the 175 million organisms currently being entrained annually. If a calculation baseline is used at all, then it must reflect some accurate measure of the plant's actual water usage and actual fish kills. Second, the permit should not defer all impingement and entrainment monitoring until well after 2013, as it currently does. Third DEC has rejected a substratum intake system as infeasible because the technology is under development. However, if DEC is to give National Grid until 2013 to submit its technology plan, then there may be ample time for substratum technology to be adequately developed. Finally, National Grid/Keyspan's SPDES permit compliance record is spotty in that the plant has been out of compliance for 11 out of the last 12 quarters (through March 2009), mainly as a result of failures to timely submit required reports. This should be taken into consideration with respect to the suitability of the permittee for the proposed permit renewal.

## 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 more. The operation of Glenwood Power Station directly damages the activities and enjoyment of CCE's members and their interest in the marine environment of Hempstead Harbor and Long Island Sound. For more information on CCE, see [www.citizenscampaign.org](http://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](http://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 Glenwood, 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 2 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. If National Grid intends to continue operating the plants in the twenty-first century, then DEC should require each of the five plants, beginning with Glenwood, to replace their antiquated cooling systems with modern technology.<sup>1</sup>

#### **B. Hempstead Harbor in Long Island Sound**

Long Island Sound is a unique estuary in that it has two connections to the sea and receives the flow of several major rivers that drain fresh water from states as far north as Massachusetts, New Hampshire and Vermont. The Sound provides feeding, breeding, nesting and nursery areas for a diversity of plant and animal life, and contributes an estimated \$8 billion (adjusted to current dollars) per year to the regional economy from boating, commercial and sport fishing, swimming, and sight-seeing. More than eight million people live in the Long Island Sound watershed, which includes the north shore of Long Island and the entire coastline of Connecticut. In 1987, the Sound was designated as an Estuary of National Significance.<sup>2</sup>

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<sup>1</sup> See "Power Plants Kill Fish - National Grid's Long Island Power Plants and their Adverse Effects on Fish," NNEC & CCE, July 2009 [http://www.citizenscampaign.org/PDFs/fishKill\\_2009.pdf](http://www.citizenscampaign.org/PDFs/fishKill_2009.pdf)

<sup>2</sup> See <http://www.epa.gov/ne/eco/lis/> ("What Makes Long Island Sound Special?")

Hempstead Harbor is located on the southern shore of the Sound and, south of Bar Beach, the Harbor is classified as Class SB surface saline waters. The best uses of Class SB waters are 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 § 701.11. This portion of the harbor contains intertidal mudflats and salt marsh, and a variety of finfish species including Atlantic silversides, Atlantic menhaden, weakfish, windowpane, winter flounder, scup, mummichog, striped killifish, and bay anchovy. Shellfish in the harbor include blue mussels, soft and hard clams, ribbed mussels, oysters, and razor clams. Crustaceans such as blue crab, shrimp, and lobster can also be found in the harbor. New York State has designated Hempstead Harbor as a Significant Coastal Fish and Wildlife Habitat Area. The New York State Audubon Society considers the harbor an "Important Bird Area of New York State," and the Long Island Sound Study designated it as one of Long Island Sound's first "Stewardship Initiative Sites."

### **C. Glenwood Power Station**

The Glenwood Power Station's two operating steam-electric power units, Units 4 and 5, were built in 1952 and 1954, respectively. They are natural gas-fired units, with oil as a secondary fuel source, and a net generation of 210 megawatts (MW) of electricity. Glenwood has recently operated as a "peaking" facility, and according to DEC's biological fact sheet, the plant's capacity factor (*i.e.*, the percentage of time it operates) has decreased from 43 percent in 2001 to 11.2 percent in 2005 and, during the next five years, the station is expected to run at an average of 14.2 percent.

The plant employs a once-through cooling system with two circulating water pumps per unit that can withdraw a plant-wide total of 179 million gallons per day (MGD) of water from Hempstead Harbor through a shoreline intake structure. The intake structure consists of a concrete curtain wall that extends eight feet below the water surface at high tide. Each unit has two separate screen bays with trash racks, "stoplog" gates and two 3/8" mesh vertical traveling screens per unit to prevent debris from entering the intake. Once cooling water has been used to condense steam exhausted from its steam turbines, the plant discharges heated water back into the harbor via a submerged discharge opening, approximately 200 feet from the intake structure.

### **D. Adverse Environmental Impacts of Glenwood's Intake Structures**

As permitting documents make clear, the Glenwood plant's withdrawal of up to 179 millions of gallons per day from Hempstead Harbor kills more than 175 million fish, eggs, and larvae annually by trapping them against intake screens ("impingement") or drawing them into the plants' cooling systems ("entrainment").<sup>3</sup> Cooling water intake structures can affect the full

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<sup>3</sup> 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

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.<sup>4</sup> As the U.S. EPA has documented, the adverse environmental impacts of the withdrawal of large quantities of cooling water by power plants include not only entrainment and impingement, but also “reductions of threatened and endangered 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.”<sup>5</sup> 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 led to concerns that some populations may be altered beyond recovery.”<sup>6</sup>

A September 2005 report of entrainment and impingement monitoring conducted at Glenwood Power Station from January 2004 to January 2005 determined that the plant entrains twenty-one distinct taxonomic groups of fish, with bay anchovy, menhaden, gobies, Atlantic silversides and winter flounder being the most frequently affected species (in fact, those species comprised 90 percent of the entrainment sample). Using the DEC’s “full-flow” calculation baseline, approximately 247 million eggs and larvae would be entrained per year if the plant operated at maximum capacity all year long. Actual entrainment is more than 175 million organisms annually. The monitoring study found that 26 species distinct species of fish were impinged, including winter flounder, mummichog, striped killifish, Atlantic menhaden, weakfish, and tautog (which made up about 87 percent of the impingement sample). Under “full flow” conditions, 16,000 fish would be impinged each year, and under actual conditions annual impingement is approximately 9,500 fish.

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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.

<sup>4</sup> 69 Fed. Reg. 41,576, 41,586 (July 9, 2004).

<sup>5</sup> *Id.*

<sup>6</sup> 66 Fed. Reg. 65,255, 65,264 (Dec. 18, 2001).

#### **E. Glenwood's Current SPDES Permit**

The plant's current SPDES permit, which became effective on January 1, 2005 and expires on January 1, 2010 (and has already been modified twice, on March 14, 2006 and July 6, 2007) does not limit the intake of cooling water. The permit does have limits on thermal discharges, specifically a delta T of 30 degrees F, with a maximum discharge temperature of 112 degrees F.

As part of the current permit, the permittee was required to submit a Proposal for Information Collection (PIC) that included a description of the proposed and/or implemented technologies and/or operational measures to be evaluated in a Design and Construction Technology Plan. In February 2007, KeySpan submitted a Design and Construction Technology Review for Glenwood Generating Station that failed to evaluate any technologies or operational measures designed to reduce entrainment. At DEC's direction, KeySpan supplemented its review by submitting a September 2007 report that purported to analyze flow-reduction measures but devoted only one-half of one page to discussion of closed-cycle cooling.<sup>7</sup>

#### **F. The 2008 Draft Renewed and Modified SPDES Permit**

In September 2008, DEC issued a draft renewed and modified SPDES permit for Glenwood Power Station in which the Department determined that, in combination, the following technologies represent BTA for minimizing the adverse environmental impacts from the cooling water intake structures at Glenwood:

1. Installation and operation of variable speed pumps (VSPs);
2. Continuous operation of the travelling screens and the existing fish return system; and
3. Aggressive pump shut down when one or both units are not operating.

Items 2 and 3 are measures already being implemented by the power station, and thus the only new technology selected was item 1, the VSPs. With respect to timing, the 2008 draft SPDES permit required the submission of a Technologies Installation and Operation Plan (TIOP) within three months of the effective date of the final permit. The TIOP was to include a schedule for installing the VSPs at Glenwood Units 4 and 5 and drawings and descriptions of all work to be performed.

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<sup>7</sup> See Design and Construction Technology Review for the Glenwood Generating Station – Response to Request for Supplemental Information, Prepared for Keyspan Corporation by ASA Analysis & Communication, September 2007, at 4-4.

**G. The 2009 Draft Renewed and Modified SPDES Permit**

In response to the 2008 draft SPDES permit, KeySpan requested that the permit be revised to provide that the decision to proceed with installation of the VSPs be deferred and made contingent upon the renewal of the plant's power service agreement with LIPA. DEC agreed, and thus the Department withdrew its 2008 draft permit and issued a new draft SPDES permit on July 23, 2009. The 2009 version of the draft permit makes essentially the same BTA determination as in the 2008 draft permit, except that, instead of requiring submission of a TIOP for the VSPs within three months of permit issuance, Department staff is proposing that deadline be extended to May 28, 2013. See 2009 Draft SPDES Permit, Biological Requirement B.4. DEC's current approach would thus allow National Grid to do essentially nothing for the next three years and eight months, and defer the installation of VSPs until well after May 2013.

**IV.  
DETAILED COMMENTS**

**A. Closed-Cycle Cooling is BTA for Glenwood Power Station.**

**1. Closed-Cycle Cooling is Far More Protective than Variable Speed Pumps.**

The killing of 175 million fish and other aquatic organisms each year by Glenwood Power Station is unacceptable. A closed-cycle cooling system is the best technology available to minimize that adverse environmental impact, and is therefore required under section 316(b) the federal Clean Water Act and 6 NYCRR § 704.5, because such systems require only five percent as much water as once-through cooling systems. Since aquatic mortality is directly related to the amount of water use, using a closed-cycle cooling system will cut aquatic mortality by approximately 95 percent. Given such huge reductions, closed-cycle cooling sets the standard for minimizing impacts as the U.S. EPA has made clear: “[c]losed-cycle cooling systems ... are the *most effective* means of protecting organisms from I&E [impingement and entrainment].”<sup>8</sup> Indeed, DEC admits that “[c]losed-cycle cooling would have the greatest reduction in cooling water use (95%).” 2009 Glenwood Biological Fact Sheet (“Bio Fact Sheet”) at 4.

No other mechanisms short of plant outage during entrainment season can reduce the aquatic impacts to a level commensurate with closed-cycle cooling. Since the law requires the “location, design, construction, *and capacity*” of cooling water intake structures to reflect the best technology available for minimizing adverse environmental impact, 33 U.S.C. §1326(b) (emphasis added), DEC must limit Glenwood's withdrawal capacity to closed-cycle cooling even if it uses other design measures to further reduce mortality. Given these substantial reductions, it

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<sup>8</sup> 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).

is impossible to meet the Best Technology Available standard without recirculating the water via closed-cycle cooling. Other technologies may *reduce* impacts, but they do not *minimize* them. Simply put, BTA for Glenwood Power Station is, at a minimum, closed-cycle cooling because it is the best technology for minimizing the adverse environmental impact of the plant's intake structures and is available for installation and use at Units 4 and 5.

In contrast, DEC estimates that variable speed pumps would provide an approximately 62 percent flow reduction. But that figure overstates the actual reduction due to DEC's improper use of a hypothetical "full-flow" baseline for calculation. (See below.) This misleading accounting mechanism masks the full extent of the differences in effectiveness between the technologies. Whatever benefit VSPs might provide, they do not even begin to approach the protection offered by closed-cycle cooling, and thus they are not the Best Technology Available. Furthermore, VSPs have an environmental cost that closed-cycle cooling does not – they increase thermal discharges, while closed-cycle cooling reduces thermal discharges.<sup>9</sup>

## **2. Closed-Cycle Cooling is 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."<sup>10</sup> 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.<sup>11</sup>

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<sup>9</sup> Variable speed pumps allow a power plant to throttle back its intake pumps, thereby using less water to cool and condense the steam exhausted from the steam turbine and reducing intake flows (but not by nearly as much as closed-cycle cooling). Although the total amount of heat discharged does not change, the use of variable speed pumps increases the temperature of the water discharged because less water is used to absorb the same amount of heat from the steam.

<sup>10</sup> 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).

<sup>11</sup> 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.

Under New York State's water quality standards, Hempstead Harbor must be suitable for "fish propagation and survival," and one of the designated uses is fishing. *See* 6 NYCRR § 701.11. Given the needless destruction by Glenwood's intake structures of 175 million fish and other organisms in twenty-one distinct taxonomic groups – particularly, bay anchovy, menhaden, gobies, Atlantic silversides and winter flounder – closed-cycle cooling is also necessary to protect the designated uses of the harbor.

**3. Closed-Cycle Cooling is Feasible at Glenwood.**

**a. There is Adequate Space for Closed-Cycle Cooling Cells.**

Although DEC purportedly rejected closed-cycle cooling "due to a lack of space" (Bio Fact Sheet at 4, 8), there is adequate space to locate plume-abated mechanical draft cooling cells for both units at Glenwood Power Station. Indeed, in its discussion of the "construction" component of BTA, in the biological fact sheet accompanying the draft permit, Department staff does *not* find that there is insufficient space for closed-cycle cooling; rather it states the opposite. DEC first states that "[t]here is not adequate *open* space to site two towers (one for each unit) on KeySpan property," Bio Fact Sheet at 3 (emphasis added), but DEC then goes on to explain exactly where the cooling cells could be placed:

Construction of one tower to cool a single unit would require either locating the tower across Shore Road and pumping the cooling water to the tower and back, or demolishing an existing building (Old Station 2) on the west side of the property.

*Id.* Thus, by DEC's own admission, closed-cycle cooling cells can be located where the decommissioned power station now sits and/or across Shore Road. For that reason, DEC's purported rejection of closed-cycle cooling cannot stand and must be reversed.

Review of the site plan and aerial photographs of the site by our engineering consultant, William Powers, P.E., of Powers Engineering, likewise confirms that the cooling cells could be located in either of the two locations DEC identified. Further, it appears that an adequate number of cooling cells for *both* Glenwood units could be sited within the footprints of the old plant building on-site to the north of Units 4 and 5, without need for locating any of them across Shore Road. However, as an alternative, the cooling cells for one or both units could be located in what is now a parking lot across Shore Road. In addition, there may be other suitable locations to site the cooling cells, and even if there were space for only one unit's cooling cells, that would not provide any justification to reject closed-cycle cooling for both units.

Although we reserve our offer of proof and the submission of more detailed technical information for the issues conference and subsequent proceedings, we provide a preliminary discussion here. The type of cooling technology that we believe should be installed at Glenwood are the state-of-the-art, in-line, back-to-back, plume-abated evaporative cooling cells, known as

“ClearSky” that were recently introduced by SPX Cooling Technologies (which is the world’s leading manufacturer of cooling towers and air-cooled condensers). Attached hereto as Exhibit A is an SPX brochure, describing and depicting the technology (referred to therein as the “Marley NCWD package cooling tower”). To give a sense of what the cooling cells look like when installed at a power plant in New York, attached hereto as Exhibit B is a depiction of similar plume-abated cells at the Bethlehem Energy Center (BEC) on the Hudson River just south of Albany.<sup>12</sup> (The cooling cells are the low gray rectangular object in the back of the site, away from the river.) Because it is a much smaller plant than BEC, 210 MW compared to 747 MW, fewer cooling cells would be needed at Glenwood. Mr. Powers has estimated that three SPX ClearSky cells would be needed for each Glenwood unit, and that the six cells needed for both units would occupy a rectangle measuring 144 feet by 109 feet. On the overlay attached hereto as Exhibit C, Mr. Powers illustrates that the six cooling cells would fit in the footprint of the old unit buildings on the north end of the site. The overlay also shows that some or all of the cells would also fit in the parking lot across Shore Road.

Accordingly, there is no basis on which to conclude that closed-cycle cooling is infeasible at Glenwood due to the alleged lack of space.

**b. Closed-Cycle Cooling Will Comply with the Town Noise Code.**

DEC also purported to reject closed-cycle cooling on the basis that their operation might violate the Town of North Hempstead’s noise ordinance. This is incorrect. To begin with, DEC staff appears to have uncritically accepted on KeySpan’s “indicat[ion]” that the noise ordinance might be violated, without attempting to independently verify that assertion. DEC’s conclusory recitation of the applicant’s conclusion is not a proper basis on which to base a permitting decision. Moreover, the use of ultra low noise fans, which are available from several manufacturers, would allow Glenwood’s cooling cells to comply with the Town noise ordinance, as set forth in Chapter 38 of the Town code. Attached as Exhibit D 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<sup>13</sup> – and Howden’s case study verified that the total noise emanating from the tested cooling

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<sup>12</sup> DEC is, of course, familiar with the closed-cycle cooling retrofit at the BEC plant, as the Department permitted that project in 2002.

<sup>13</sup> 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).

towers measured only 39.2 dB(A) at a nearby housing area.<sup>14</sup> A sound level of 40 dB(A) is equivalent to a “quiet rural area,” according to a University of Wisconsin sound chart.<sup>15</sup> Thus, the closed-cycle cooling system would be in full compliance with the Town noise code, which contains numeric standards prohibiting only noises that are 90 dB(A) and above, measured 50 feet from the property line of the plant. Town of North Hempstead Code § 38-5.

**4. Closed-Cycle Cooling is Practical, Affordable, and Cost-effective, and Will Not Cause any Significant Adverse Impacts.**

Although DEC referred only to space and noise considerations in rejecting closed-cycle cooling, we wish to dispel here several other concerns that opponents or skeptics of the technology sometimes raise.

Closed-cycle Cooling is Cost-Effective. Our engineering consultant, Bill Powers estimates that the “all-in” cost of building and installing closed-cycle cooling at Glenwood would be in the range of \$25 million for plume-abated cooling cells at both units (plus any cost to demolish existing buildings on site, if necessary). At less than \$120 per kilowatt (kW), that capitol cost is readily affordable, *i.e.*, the costs can be reasonably borne by the company. It is also cost-effective in that it is a small price to pay if National Grid chooses to keep Glenwood available as a peaking power resource.

Closed-Cycle Cooling Will Not Noticeably Increase Electricity Rates. The low cost of closed-cycle cooling can likely be absorbed by National Grid without any increase in the cost of electricity to homeowners. Even if the costs are passed on, the resulting increase on 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 \$500 million cost to upgrade that plant would result in an increase to ratepayers of only 6 to 18 cents per month – less than the cost of the postage stamp needed to mail the electric bill!

Closed-Cycle Cooling Cells are Visually Unobtrusive. The plume-abated cooling cells would be only 50 to 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 BEC plant in Exhibit B shows just how small and unobtrusive cooling cells are at a power plant site. (Again, fewer cells would be necessary at Glenwood than at BEC). Further, because of the availability of plume-abated cooling cells, there would be no visible steam plumes from those cells.

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<sup>14</sup> See also [http://www.evapco.com/evapco\\_videos.asp?vID=lssl](http://www.evapco.com/evapco_videos.asp?vID=lssl) and [http://www.districtenergy.org/08CoolingConference/Proceedings/4A2\\_HOETICKXGood\\_Cooling\\_Tower\\_Practises.pdf](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).

<sup>15</sup> See <http://trace.wisc.edu/docs/2004-About-dB/>

No Groundwater or Municipal Water Use Would Be Necessary. Although the water for closed-cycle recirculating cooling cells can come from a variety of sources, including treated effluent, municipal drinking water supplies, or groundwater, the simplest solution for Glenwood would be to re-use the same intake structure that the plant currently uses, and to continue to withdraw water from Hempstead Harbor, but in far lower volumes – less than five percent of the current withdrawal volume of 179 MGD, likely around 6 MGD. Changing the source water, if feasible, would completely eliminate entrainment and impingement (*i.e.*, it would eliminate the last five percent of the impact), but would not be necessary to achieve the overwhelming majority of the benefits of closed-cycle cooling.

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 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 2 to 4 MW as a result of the conversion to cooling cells. If this 2 to 4 MW is generated by a natural gas-fired combined-cycle plant, the annual NO<sub>x</sub> and PM<sub>10</sub> emissions from this output would be a relatively modest 0.1 to 0.2 tons per year (3.5 to 7 lbs/day) and 0.05 to 0.1 tons per year (2 to 4 lbs/day), respectively, assuming a 15 percent plant usage rate.<sup>16</sup> Better yet, 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.<sup>17</sup>

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<sup>16</sup> 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 NO<sub>x</sub> and SO<sub>2</sub>.

<sup>17</sup> *See* NATURAL GAS & ELECTRICITY, August 2009, 8-13, Bill Powers, “CEC Cancels Gas-Fed Peaker, Suggesting Rooftop Photovoltaic Equally Cost-Effective.”

**B. BTA Measures Should Be Required Immediately, Not in 2013.**

For the reasons discussed above, DEC should determine that closed-cycle cooling represents the best technology available for minimizing adverse environmental impacts from the cooling water intake structures at Glenwood, and require the installation and use of that technology (or require flow reduction consistent with such technology) in the shortest possible time. Immediately commencing the design and construction planning of closed-cycle cooling at Glenwood would cause no undue hardship to National Grid, despite any uncertainty concerning post-2013 operation, for two important reasons. First, the lead time for designing, constructing, and connecting both units to closed-cycle cooling is likely to be five years, and thus the operational decision would be made well in advance of the retrofit. Second, the draft permit gives National Grid until November 2012 to propose alternative measures that would achieve the same or greater protective benefits as the technologies determined to be BTA. See Draft Permit, Biological Requirement B.2.c. Thus, the permit includes a built-in mechanism allowing National Grid to evaluate other measures of equivalent effectiveness before final implementation.

Furthermore, the Glenwood plant should immediately begin installing the variable speed drive pumps as an interim protective measure while the closed-cycle cooling retrofits are being designed, planned, and constructed. There is no legal or practical justification for the draft permit's compliance schedule, which gives National Grid until May 2013 to submit its designs and a schedule for installation of those pumps. First, as a practical matter, deferring the installation of the new pumps will allow Glenwood to destroy public resources with impunity for at least three more years. Second, as a legal matter, there appears to be no authority for DEC to include a compliance schedule in a SPDES permit to comply with section 316(b), given that the statutory deadline for implementing BTA has long passed. Even if a compliance schedule were allowed for this purpose in this permit, the schedule would have to require BTA as soon as possible, not in 2013 or thereafter.

This legal issue can be briefed at a later stage, but we herein provide a synopsis of the argument. To begin with, compliance schedules are forbidden for technology-based limitations like BTA, as opposed to water quality-based effluent limitations (WQBELs), because several CWA provisions relating to WQBELs explicitly allow for them, whereas the provisions requiring BTA and BAT do not.<sup>18</sup> Second, EPA's regulations make clear that "[a]ny schedules of compliance under this section shall require compliance . . . *not later than the applicable statutory deadline under the CWA.*"<sup>19</sup> Because the applicable statutory deadline for existing

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<sup>18</sup> Compare CWA sections 301(b)(1)(C) and 303(e)(3)(A) & (F) with sections 316(b) and 301(b)(2). Where Congress includes particular language in one section of a statute but not in another, courts presume that the disparate drafting was intentional. See *Bates v. United States*, 522 U.S. 23, 29-30 (1997).

<sup>19</sup> 40 C.F.R. § 122.47(a)(1) (emphasis added).

facilities under section 316(b) was March 31, 1989,<sup>20</sup> compliance schedules under section 316(b) are prohibited after that date. Likewise, because the CWA's deadline for meeting WQS was July 1, 1977,<sup>21</sup> compliance schedules are also prohibited for meeting either 6 NYCRR § 704.5 (if that section is considered a water quality standard)<sup>22</sup> or any limitations more stringent than BTA necessary to meet other WQS, such as the designated habitat and fishing uses discussed above. Fourth, even the most permissive interpretation of where compliance schedules may still be used – *i.e.*, for meeting WQS that were promulgated after July 1, 1977, if the WQS itself allows compliance schedules<sup>23</sup> – (if it is correct) nevertheless prohibits their use here because DEC promulgated section 704.5 in 1974.<sup>24</sup> Moreover, even if the test set forth in the *Star-Kist* case were met (and valid), it would only authorize use of a compliance schedule to meet the incremental aspect of the water quality-based limitation that is more stringent than would be required by the technology-based BTA limitation alone. If the water quality-based limitation and the technology-based limitation are coextensive, or if no water quality-based limitation is necessary because the technology-based limitation is stricter, then *Star-Kist* does not allow any compliance schedules.

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<sup>20</sup> *In Re Brunswick Steam Electric Plant*, U.S. EPA, Decision of the General Counsel, EPA GCO 41 (June 1, 1976) (§ 316(b) determinations are [temporally] bound only by § 301(b)(2)(A) which requires that effluent limitations shall require compliance with best available technology economically achievable not later than July 1, 1983 [subsequently extended to March 31, 1989].”).

<sup>21</sup> By that date, dischargers were required to meet “any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations . . . or required to implement any applicable water quality standard established pursuant to this Act.” CWA § 301(b)(1)(C); 33 U.S.C. § 1311(b)(1)(C).

<sup>22</sup> Section 704.5 is codified in New York State's WQS even though it essentially repeats the technology-based BTA standard.

<sup>23</sup> *See, e.g., In re Star-Kist Caribe, Inc.*, 3 E.A.D. 172 (Adm'r 1990) (“*Star-Kist I*”), *modification denied*, 4 E.A.D. 33 (EAB 1992) (“*Star-Kist II*”); *In re District of Columbia Water and Sewer Authority*, 13 E.A.D. 33 n.42 (EAB March 19, 2008); *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits*, May 10, 2007 memorandum from EPA Headquarters (“May 10, 2007 EPA Guidance”). *Star-Kist Caribe* found that states could include compliance schedules in NPDES permits *only* when: (1) the effluent limitation to which the compliance schedule applies is based on a water quality standard developed or newly interpreted after July 1, 1977, and (2) the applicable state water quality standard explicitly authorizes compliance schedules. 3 E.A.B. 172; *see also* May 10, 2007 EPA Guidance at 1 (describing *Star-Kist*'s interpretation of CWA § 301(b)(1)(C). Neither condition is met here. It should also be noted that the interpretation in *Star-Kist* and its progeny allowing compliance schedules after 1977 has never been affirmed by a court of law, and appears to be incorrect.

<sup>24</sup> Moreover, DEC's regulation purporting to allow compliance schedules, 6 NYCRR § 750-1.14 is not in the state water quality standards, which are codified at 6 NYCRR §§ 700-706, but is rather part of the general SPDES regulations.

Moreover, other mandatory requirements for the use of compliance schedules have not been met here. First, compliance schedules must “require compliance as soon as possible.”<sup>25</sup> Deferring the deadline for National Grid to submit a Technologies Installation and Operation Plan for the variable speed pumps until May 28, 2013 (and thus deferring the actual installation and operation of those pumps beyond that date) is not “as soon as possible.” Second, under the CWA, compliance schedules lasting more than a year must include enforceable interim requirements and the dates for their achievement, with the time between interim dates *not exceeding one year*, unless the time necessary for completion is not readily divisible into stages, in which case the permit must specify interim dates for the submission of progress reports, which must also be no more than a year apart.<sup>26</sup> DEC’s regulation is even stricter, requiring intervals *not exceeding nine months*.<sup>27</sup> Here, DEC intends to allow National Grid to do nothing with respect to the variable speed pumps for more than three years, with no interim milestones or progress reports due during that period. That too is improper.

### C. DEC Should Use an Actual-Flow, not a Full-Flow, Baseline.

Further, DEC’s “full-flow” calculation baseline to calculate impingement and entrainment reductions is improper and misleading and should not be used. No power plant, not even a baseload nuclear plant, actually operates at “full flow” or 100 percent pumping capacity of the system. Using hypothetical full flow conditions to determine impingement and entrainment reduction levels thus represents an enormous departure from reality that would allow the plants to receive credit for reductions in environmental impacts which have not occurred and have no basis in fact. For this reason, the variable speed pumps will not actually achieve a 62 percent reduction of the 175 million organisms currently being entrained annually.

To illustrate the point, using a full-flow baseline, DEC estimate that Glenwood would entrain 247 million organisms per year if it operated 100 percent of the time. DEC then used that baseline to calculate that VSPs would reduce entrainment by 62 percent, *i.e.*, to approximately 94 million organisms per year. But, in fact, the station is actually entraining 175 million organisms per year under its actual operating conditions. Therefore, the variable speed pumps are only expected to reduce entrainment by 81 million organisms. The reduction of 72 million more organisms which DEC is crediting to VSPs is instead merely a result of the plant’s capacity factor (and the timing of its operation). Using DEC’s data and assumptions (other than the full-

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<sup>25</sup> 40 C.F.R. § 122.47(a)(1); *see also* May 10, 2007 EPA Guidance at 2, ¶¶ 1, 6 (“In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet (40 C.F.R. § 124.8), that a compliance schedule is ‘appropriate’ and that compliance with the final WQBEL is required ‘as soon as possible.’” *See* 40 C.F.R. §§ 122.47(a), 122.47(a)(1).”).

<sup>26</sup> 40 C.F.R. § 122.47(a)(3)(i)&(ii); *see also* May 10, 2007 EPA Guidance at 2, ¶ 1.

<sup>27</sup> 6 NYCRR § 750-1.14(b).

flow baseline), the VSPs can only be expected to actually reduce entrainment by approximately 46 percent (81 million divided by 175 million) and not the 62 percent DEC claims. In contrast, closed-cycle cooling would actually reduce entrainment by 95 percent or more from the current 175 million entrainment figure, reducing entrainment to less than nine million organisms per year. Put another way, the plant will kill *more than ten times as many* organisms with variable speed pumps than it would with closed-cycle cooling. DEC's full-flow baseline wholly distorts reality and should not be used.

If a calculation baseline is used at all,<sup>28</sup> then it must reflect some reasonable measure of the plant's actual water usage and actual fish kills.

**D. DEC Should Not Defer All Monitoring Until 2013.**

In addition, the permit should not defer all impingement and entrainment monitoring until well after 2013, as it currently does. The last monitoring studies at Glenwood were conducted in 2004. DEC is proposing to defer additional monitoring until after the VSPs are installed, which, under the draft permit would not be until sometime after the TIOP is submitted in May 2013 (i.e., the pumps would be installed in 2014 or 2015). This decade-long delay between monitoring studies is unacceptable. Instead, DEC should require Glenwood Power Station to commence impingement and entrainment monitoring during the first spawning season following issuance of the permit and to continue such monitoring until at least two years after all BTA measures have been implemented.

**E. Substratum Intake Systems Should Not Be Ruled Out.**

An additional point relates to an intake technology under development on Long Island known as a Substratum Intake System (SIS). A technical report associated with the Long Island Power Authority's Draft Electric Resource plan 2009-2018 states that LIPA "is partnering with NYSERDA and National Grid to test a new technology patented by a local firm." See Appendix A of LIPA's Draft Electric Resource Plan 2009-2018. The report states that SIS "could dramatically reduce biological impacts from surface water use as well as increase power plant efficiency." Appendix A of the plan further explains that "using water from a saline aquifer for cooling, as opposed to surface waters, has environmental and operational advantages, including reductions in impacts to fish eggs and larvae, increased thermal efficiency, and reduced maintenance." The LIPA-NYSERDA-National Grid evaluation "is assessing the potential of a

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<sup>28</sup> Indeed, neither a calculation baseline, nor a target reduction percentage, is necessary or even desirable in determining BTA because minimizing adverse environmental impacts requires reducing those impacts *as much as possible*, not reducing them by some arbitrary percentage below a fictional, or even actual, baseline measure. Further, BTA can be articulated with reference to specific technologies rather than percentage reductions.

pilot demonstration and whether the technology can be scaled up to commercial availability as a method to reduce impacts and improve efficiency.”<sup>29</sup>

DEC rejected SIS technologies as infeasible for Glenwood because the technology is under development. However, if DEC is to give National Grid until 2013 to submit its technology plan, then there may be ample time for SIS to be adequately developed and it should not be taken off the table now, while DEC gives National Grid many years to implement BTA at Glenwood. However, we must emphasize that, notwithstanding the possibility that SIS technologies may ultimately prove feasible, the design and construction planning for closed-cycle cooling at Glenwood should commence immediately and not await the development of new technologies.

**F. Glenwood Power Station’s SPDES Compliance Record Should be Explained and Considered in Connection with the SPDES Permit Renewal.**

In addition, NNEC and CCE are concerned about the poor compliance record of the Glenwood plant’s owner and operator, currently National Grid. EPA’s ECHO database reports that Glenwood has been out of compliance with its SPDES permit for 11 of the past 12 quarters (through March 2009).<sup>30</sup> While it appears that many of the recent violations are reporting violations, rather than discharge violations, the timely and accurate submission of discharge monitoring reports (DMRs) and other required reports is itself a critical component of compliance. Indeed, it the cornerstone of the Clean Water Act’s regulatory scheme; without accurate self-monitoring information neither the Department, nor the public, know what pollutants are being discharged in what quantities or whether a facility is meeting discharge limits.

The issue of whether the Department should grant to persons who have acted in violation of the state law is addressed in a DEC policy document entitled *DEE-16: Record of Compliance Enforcement Policy*.<sup>31</sup> That policy recognizes the Department’s “general authority to modify, deny, suspend, condition or revoke permits and to refuse to contract with persons or their investors who are found to be unsuitable. Suitability includes such factors as past compliance records, criminal and civil violations.” It further provides that an applicant’s compliance record

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<sup>29</sup> See also [www.subintake.com](http://www.subintake.com), [www.eeaconsultants.com/news/spring2005/](http://www.eeaconsultants.com/news/spring2005/), and [http://pepei.pennnet.com/display\\_article/346402/6/ARTCL/none/none/1/Substratum-Intake-System:-Once-Through-Cooling-Hybrid/](http://pepei.pennnet.com/display_article/346402/6/ARTCL/none/none/1/Substratum-Intake-System:-Once-Through-Cooling-Hybrid/)

<sup>30</sup> See <http://www.epa-echo.gov/cgi-bin/get1cReport.cgi?tool=echo&IDNumber=NY0005916>; see also <http://projects.nytimes.com/toxic-waters/polluters/new-york/glenwood-landing> (same).

<sup>31</sup> See <http://www.dec.ny.gov/regulations/25244.html>; see also *Matter of Bio-Tech Mills Inc. v. Williams*, 105 A.D.2d 301 (3d Dept. 1985), aff’d, 65 N.Y.2d 855 (1985); *Olsen v. Town Board of Saugerties*, 161 A.D.2d 1077 (3rd Dept. 1990).

for the last ten years should be considered a basis for exercising the Department's discretion in denying, suspending, modifying or revoking that permit, particularly a permittee or applicant have been determined in an administrative, civil or criminal proceeding to have violated and environmental law, regulation or permit, and where those violations are part of a pattern of noncompliance. Further, where such violations are merely alleged, and have not yet been determined in a proceeding, such allegations may be included in any administrative action to modify a permit. In this SPDES renewal and modification proceeding, the Department should review the compliance history, require the applicant to explain its previous failures to comply, and condition issuance of the permit on a vastly improved compliance record.

## V. REQUEST FOR 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). Such determination shall be based on whether the comments raise substantive and significant issues relating to any findings or determinations the department is required to make [pursuant to the ECL], including the reasonable likelihood that a permit ... can be granted only with major modifications to the project because the project as proposed may not meet statutory or regulatory criteria or standards." 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.* (emphasis added); *see also* 6 NYCRR § 621.8(b) (same).

Public hearings on SPDES permits must be held according to the provisions of Part 624, which provide that the first portion of the hearing process is a "legislative hearing" during which unsworn statements are received from the public and the parties. *See* 6 NYCRR §§ 624.2(t), 624.4(a). Following the legislative hearing, but prior to an adjudicatory hearing, the administrative law judge (ALJ) must schedule an issues conference in order to, *inter alia*: (1) narrow or resolve disputed issues of fact without resort to taking testimony; (2) determine whether disputed issues of fact that are not resolved meet the standards for adjudicable issues; and (3) determine whether legal issues exist whose resolution is not dependent on facts that are in substantial dispute and, if so, to hear argument on the merits of those issues.<sup>32</sup> 6 NYCRR § 624.4(b)(2).

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<sup>32</sup> Where substantive and significant legal issues are not dependent on substantially disputed facts, adjudication is unnecessary and the ALJ may direct DEC staff to revise the draft permit to comport with the law. *See, e.g.*, IN THE MATTER OF MODIFICATION OF STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) PERMITS PURSUANT TO ENVIRONMENTAL CONSERVATION LAW ARTICLE 17 AND 6 NYCRR PARTS 621, 624 AND 750 FOR FOURTEEN PUBLICLY OWNED SEWAGE TREATMENT PLANTS OPERATED BY THE CITY OF NEW YORK'S DEPARTMENT OF ENVIRONMENTAL PROTECTION, Ruling on Proposed Adjudicable Nitrogen Issues and Party Status (March 16, 2007) at 22 (identifying a "legal and

A proposed issue is adjudicable if it is both substantive and significant. 6 NYCRR § 624(c)(1)(iii). The regulations further provide that, “an issue is substantive if there is sufficient doubt about the applicant’s ability to meet statutory or regulatory criteria applicable to the project, such that a reasonable person would require further inquiry.” *Id.*, § 624(c)(2). “An issue is significant if it has the potential to result in . . . a major modification to the proposed project or the imposition of significant permit conditions in addition to those proposed in the draft permit.” *Id.*, § 624(c)(3).

The issues raised in this comment letter meet the criteria for substantive and significant issues requiring an adjudicatory hearing, in addition to a legislative hearing, to be held. In particular, and among other things, NNEC and CCE contend herein that closed-cycle cooling reduces water withdrawals and mortality by 95 percent or more, is the best technology available to minimize the adverse environmental impact of the Glenwood plant’s cooling water intake structures, and is feasible for installation and use at Glenwood. The issue is significant because it would require DEC to alter the terms of the Glenwood draft SPDES permit to require closed-cycle cooling as BTA. The issue is substantive because the certain and superior protectiveness of closed-cycle cooling would prompt a reasonable person to inquire further as to whether any other technology, and in particular, the technologies required or suggested by the draft permit are sufficient to comply with the federal Clean Water Act and state law requirements. Further, we cast sufficient doubt on DEC’s finding of infeasibility such that a reasonable person would require further inquiry into National Grid’s ability to comply with the BTA standard without closed-cycle cooling. Since we can demonstrate that the proposed permit does not meet statutory or regulatory criteria or standards, our comments raise a reasonable likelihood that the permit can be granted only with major modifications or the imposition of significant additional permit conditions.

For those reasons, we maintain that we are entitled to legislative and adjudicatory public hearings on the Glenwood draft SPDES permit.

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policy matter” as substantive and significant with no factual issues in dispute and directing DEC staff to revise draft SPDES permits).

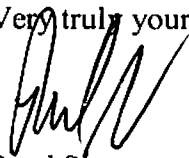
## VI. CONCLUSION

Based on the foregoing, CCE and NNEC request that DEC:

- (a) Make a determination that the Best Technology Available for minimizing the adverse environmental impacts of Glenwood Power Station's cooling water intake structures includes, at a minimum, a closed-cycle recirculating cooling system (or any other technology or operational measures capable of reducing intake flows to a level commensurate with such a system);
- (b) In light of that determination, and consistent with the effectiveness of closed-cycle cooling, require the Glenwood Power Station to achieve a minimum of 95 percent reductions in both impingement mortality and entrainment;
- (c) In calculating reductions in impingement mortality and entrainment, utilize and require Glenwood Power Station to use a baseline that reflects real-world conditions, *i.e.*, actual water usage and actual fish kills, rather than hypothetical and unrealistic "full-flow" conditions;
- (d) Require Glenwood Power Station to immediately commence the design and construction planning process for the installation and operation of closed-cycle cooling in the shortest possible time;
- (e) Require Glenwood Power Station to immediately install and operate variable speed pumps (VSPs) as an interim flow reduction measure until the closed-cycle cooling system is fully operational;
- (f) Require Glenwood Power Station to commence impingement and entrainment monitoring during the first spawning season following issuance of the permit and to continue such monitoring until at least two years after all BTA measures have been implemented;
- (g) If Glenwood Power Station is given an opportunity to propose other feasible alternative measures or technologies that meet the impingement mortality and entrainment reductions, or if it is allowed to defer the implementation of any BTA technology or measure until its power service agreement is renewed (which deferral we contend is impermissible), require Glenwood Power Station to reevaluate the feasibility of a substratum intake system in connection with its proposal or during the deferral; and
- (h) Consider Glenwood Power Station's SPDES compliance history in evaluating the suitability of the permittee for the proposed permit renewal.

Kevin A. Kispert  
NYSDEC Region I  
September 25, 2009  
Page 22

Very truly yours,



Reed Super

cc (by email):

Congressman Gary Ackerman  
Congressman Steve Israel  
Congressman Timothy Bishop  
Senator Kenneth LaValle  
Senator Carl Marcellino  
Assemblyman Charles Lavine  
Assemblyman Marc Alessi  
Assemblyman Robert Sweeney  
DEC Regional Director Peter Scully  
Chuck Nieder, DEC Steam Electric Unit Leader, Albany  
Vincent Frigeria, National Grid  
Kevin Law, CEO, LIPA  
Eric Swenson, Hempstead Harbor Protection Committee  
Carol DiPaolo, Coalition to Save Hempstead Harbor  
Kyle Rabin & Peter Hanlon, NNEC  
Adrienne Esposito & Maureen Dolan Murphy, CCE  
William Powers, P.E., Powers Engineering