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LISA P. JACKSON
Commissioner

November 21, 2007

Chief, Rules and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Mail Stop T-6D59
Washington, DC 20555-0001

RE: **Hope Creek Generating Station
Extended Power Uprate Program
Lower Alloways Creek, Salem County**

Docket No. 50-354

Environmental Assessment Comments

Dear Sir or Madam:

The New Jersey Department of Environmental Protection (NJDEP) has completed its review of the Environmental Assessment (EA) for the proposed Hope Creek Generating Station (HCGS) Extended Power Uprate (EPU) Program in Lower Alloways Creek, Salem County. We offer the following comments, for your consideration.

Federal Coastal Zone Management Act - Federal Consistency

The proposed modification is subject to the Federal Consistency provisions of the Federal Coastal Zone Management Act (CZMA), and as such, a Federal Consistency determination is required. On July 3, 2007 the NJDEP's Division of Land Use Regulation issued the federal consistency certification for the proposed power project.

Natural Resources

The NJDEP's Division of Fish and Wildlife's (DFW) concerns are directed to the specific impact areas noted below.

Increased Discharge

The proposed increase in power output would result in a small increase to the

temperature of the water being discharged into the Delaware River. Although the discharge is within the limits allowed by the current permit, the DFW has concerns over potential impacts to resident and migratory fish species within the area.

Potential impacts identified by the Draft EA acknowledged that increased evaporation would leave behind more solids in the blowdown, so the concentration of total dissolved solids (TDS) in the effluent would be an average of about 9 percent higher than under current operations. While this is in compliance with the station's NJPDES permit, the Division has concerns over potential impacts to resident and migratory fish species and shellfish within the area.

Impingement and Entrainment

The potential impacts to aquatic biota from the proposed action are primarily due to operation of the cooling water system withdraws. Although no volume and/or velocity changes to the circulating water or service water systems are expected due to the proposed EPU, the DFW continues to be concerned for the destruction of fish and/or shellfish species via intake and discharge of water at this plant. While the identity of species potentially affected by entrainment, impingement, and heat shock may be inferred from ecological information about the Delaware Estuary, the species affected cannot be verified, and the numbers cannot be quantified because no environmental monitoring programs are conducted at the facility. It is expected that a percentage of impinged organisms may likely die, partially due to the fish-return system not functioning continuously to minimize mortality at present. It is expected all organisms entrained at HCGS are probably killed from exposure to heat, mechanical, pressure-related stresses, and/or biocidal treatment before being discharged to the estuary. Although the proposed action would not change the volume or rate of cooling water withdrawn, the DFW has concerns regarding the number of individual fish and shellfish, larvae and eggs destroyed by the plant and any associated temperature rise in the Delaware Estuary. The entrainment kill should be verified to species and quantified in the future to address these concerns.

It is anticipated that any new processes that are developed for the other Salem units to increase impingement survivability and decrease entrainment will be employed by this plant as well automatically.

Threatened and Endangered Species

National Marine Fisheries Service (NMFS) issued a letter dated January 26, 2007, that provided information on the endangered shortnose sturgeon; Atlantic sturgeon, a candidate species for listing; and five species of endangered or threatened sea turtles: Loggerhead, Kemp's ridley, leatherback, green, and hawksbill turtles. The Nuclear Regulatory Commission (NRC) staff investigated the effects of the HCGS operation on these species and found that the primary concern for these endangered and threatened species is the risk of impingement or entrainment due to cooling water intake by the plant. The HCGS has reported no takes of any of the endangered or threatened species listed above. Although the proposed EPU would not change the intake flow, and, therefore, would not increase impingement and entrainment of these species, the DFW remains concerned regarding potential takes

of endangered species.

Essential Fish Habitat Consultation

The EA notes that an Essential Fish Habitat (EFH) for the proposed EPU was sent to the National Marine Fisheries Service (NMFS) under separate cover to initiate an EFH consultation. We recommend that the NRC should issue no final decision on this proposal until NMFS consultations are concluded.

Avian Species

No impacts are expected to avian species.

If there are any questions concerning these comments on potential impacts to natural resources on any of the above referenced subjects, please contact Donald Wilkinson of the DFW (856-785-2711)

New Jersey Pollutant Discharge Elimination System (NJPDES)

The NJDEP's Bureau of Point Source Permitting – Region 2 issues and administers the NJPDES permit for the Hope Creek Station. The NJPDES permit authorizes the intake and discharge of cooling tower blowdown which is affected by this power output change. This Bureau offers the following comments:

Intake

This Bureau regulates the intake structure in accordance with Section 316(b) of the Clean Water Act. Under Section 316(b), the Department must determine whether the location, design, construction, and capacity of the Station's intake structure reflects the best technology available (BTA) for minimizing adverse environmental impact. As described in the Fact Sheet for the 2003 NPDES permit, Hope Creek Generating Station has a shoreline intake structure that is equipped with Ristroph traveling screens and a fish return system that includes screen panel buckets, a low pressure fish removal system, a high pressure debris removal system, and troughs to return debris and fish to the river. In the 2003 NJPDES permit, the Department determined the following with respect to Section 316(b):

“...the Department has determined that the location, design, construction, and capacity of Hope Creek's cooling water intake structure continues to reflect BTA. This technology significantly minimizes the potential mortality of aquatic life typically associated with cooling water intake structures, namely impingement and entrainment. This minimization of mortality is primarily due to the lesser amount of intake flow of closed-cycle cooling systems as compared to once-through systems.”

According to the EA, no changes to the Hope Creek Generating Station circulating water or service water systems are expected due to the proposed EPU; therefore, the proposed EPU would not increase the amount of water withdrawn from or discharged to the Delaware Estuary. As a result, the intake issue appears to be

unaffected by the power rerating.

Discharge

This Bureau also regulates the effluent discharge from the cooling tower blowdown. In addition to heat and temperature, conventional and toxic pollutants are addressed in the NJPDES permit.

According to the EA, the proposed EPU would not introduce any new contaminants to the Delaware Estuary and would not significantly increase any potential contaminants that are presently regulated by the station's NJPDES permit. The concentration of total dissolved solids (TDS) in the cooling tower blowdown would increase due to the increased rate of evaporation; however, the amount of blowdown discharged to the estuary would decrease. Although the EA states that the amount of water withdrawn from the Delaware Estuary would remain unchanged, the proposed EPU would result in a slight increase in the temperature of the cooling tower blowdown discharged to the estuary. However, the EA further states that the permittee would operate within the confines of its NJPDES permit limits and would not seek any increase.

This Bureau has determined that because the permittee is willing to comply with its current discharge limits, the regulation of the discharge via NJPDES appears to be unaffected by the power rerating. In the current NJPDES permit, there is no effluent flow limit and there is no total dissolved solids (TDS) requirement since the facility discharges to saline waters. This is due to the fact that there are currently no New Jersey Surface Water Quality Standards for TDS. Through the administering of the NJPDES program, this Bureau will continue to require effluent characterization of the cooling tower blowdown to monitor any changes to the toxic pollutants that may or may not occur due to the proposed EPU.

If there are any questions concerning these comments, please contact Susan Rosenwinkel of the Bureau of Point Source Permitting – Region 2 at (609) 292-4860.

Environmental Radiation

The NJDEP's Bureau of Environmental Radiation offers the following comments.

The information contained in the EA indicates that the power output of the reactor will increase approximately 15%. It can be concluded that this power increase will raise magnetic field emissions from the lines and therefore, elevate magnetic fields along the right-of-way. These changes will increase the magnetic field exposure of the population living closer than 400 feet from the center of the transmission line configuration.

At this point in time, the consensus among the scientific community is that there is inconclusive evidence to suggest that long-term exposure to magnetic fields from power lines would result in adverse health outcomes. However, for new or modified lines, many health-based organizations are still recommending reducing

magnetic fields if low or no-cost options exist. In a June 2007 fact sheet put forth from the World Health Organization (WHO Fact sheet No. 322), the following guidance is issued: "When constructing new facilities and designing new equipment...low-cost ways of reducing exposures may be explored." Therefore, in light of such uncertainty, if there are any changes that will be made to the power delivery system that would lower the magnetic fields from the power lines, it may be prudent to explore such options.

Air Quality Permitting

The NJDEP's Air Quality Permitting Office approved the Title V air permit modification for this project on August 7, 2007. This approval along with a request for a single source state implementation plan (SIP) for a variance to Subchapter 6 was sent to the Environmental Protection Agency (EPA) on November 2, 2007. The Air Quality Permitting Office has not yet received a response from the EPA.

Thank you for giving the NJDEP the opportunity to provide comments on the document.

Sincerely,



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