IPRenewalCEmails

From: Diane_Lazinsky@ios.doi.gov
Sent: Tuesday, March 17, 2009 5:01 PM
To: IndianPointEIS Resource
Cc: Anne_Secord@fws.gov; Andrew_Raddant@ios.doi.gov
Subject: U.S. DOI Comments, DEIS, Indian Point, Supp.38, NUREG-1437
Attachments: DOIComments-EISIndianPointSupp38.pdf

Greetings!

Please see attached file for the U.S. Department of the Interior's comments on Draft Supplement 38 to the Generic Environmental Impact Statement, Indian Point Nuclear Generating Units 2 & 3.
Thank you and please feel free to contact me if you have any questions. I would appreciate a confirmation of receipt of these comments.

Regards,
Diane Lazinsky

Diane Lazinsky
U.S. Department of the Interior
Office of the Secretary
Office of Environmental Policy and Compliance
408 Atlantic Avenue, Room 142
Boston, MA 02210-3334
Phone: 617-223-8565 Fax: 617-223-8569
Diane_Lazinsky@ios.doi.gov
http://www.doi.gov/oepc/boston

Federal Register Notice: 73FR80440
Comment Number: 79

Mail Envelope Properties (OFFBAFA2C0.3C19EB02-ON8525757C.006FE8B3-8525757C.00737D32)

Subject: U.S. DOI Comments, DEIS, Indian Point, Supp.38, NUREG-1437
Sent Date: 3/17/2009 5:01:26 PM
Received Date: 3/17/2009 5:01:33 PM
From: Diane_Lazinsky@ios.doi.gov

Created By: Diane_Lazinsky@ios.doi.gov

Recipients:
"Anne_Secord@fws.gov" <Anne_Secord@fws.gov>
Tracking Status: None
"Andrew_Raddant@ios.doi.gov" <Andrew_Raddant@ios.doi.gov>
Tracking Status: None
"IndianPointEIS Resource" <IndianPoint.EIS@nrc.gov>
Tracking Status: None

Post Office: ios.doi.gov

Files	**Size**	**Date & Time**
MESSAGE	689	3/17/2009 5:01:33 PM
DOIComments-EISIndianPointSupp38.pdf	89903	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue – Room 142
Boston, Massachusetts 02210-3334

March 17, 2009

9043.1
ER 09/81

Chief, Rules Review and Directives Branch
Division of Administrative Services
Office of Administration, MS TWB-05-BOI
U.S. Nuclear Regulatory Commission
Washington, DC 20555

RE: COMMENTS
Generic Environmental Impact Statement
Supplement 38, NUREG-1437
Indian Point Nuclear Generating Unit 2 & 3
Westchester County, New York

Dear Chief, Rules Review and Directives Branch:

The U.S. Department of the Interior (Department) has reviewed the December 2008, "Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Power Plants, Supplement 38", regarding the relicensing of Indian Point Nuclear Generating Unit Nos. 2 and 3. The Nuclear Regulatory Commission (NRC) has requested comments on the GEIS Supplement 38 which evaluates potential impacts from the relicensing of the Indian Point Nuclear Plants for an additional 20-year period.

This report of the Department is submitted for project planning purposes under the National Environmental Policy Act. Additional comments may be provided in the future pursuant to, and in accordance with, provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), as well as other legislation.

BACKGROUND

Indian Point Nuclear Generating Units 2 and 3 are operated by Entergy Nuclear Operations, Inc., and are located along the Hudson River in the Town of Buchanan, Westchester County, New York. Indian Point Unit 2 has operated since August 1974 and Indian Point Unit 3 has operated since August 1976. The operating licenses will expire in 2013 and 2015, respectively. Both units use Westinghouse pressurized water reactors and nuclear steam supply systems, with cooling provided by a once-through (open) cooling system that uses water from the Hudson River.

Supplement 38 (or the Supplemental Environmental Impact Statement – SEIS) for Indian Point Nuclear Units 2 and 3 serves as an addendum to the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants {GEIS}" that evaluated the environmental impacts of nuclear power generation. The GEIS identified 92 environmental issues and reached generic conclusions related to environmental impacts for 69 of these issues that apply to all plants or to plants with specific design or site characteristics. The NRC has determined that information provided during the scoping process was not new and significant with respect to conclusions in the GEIS. Therefore, the NRC concluded that the impacts of renewing licenses for Indian Point Units 2 and 3 will not be greater than the impacts identified for these 69 issues in the GEIS. Plant-specific review is required for the remaining 23 issues. Of the remaining 23 issues, those that apply to Indian Point Units 2 and 3 are addressed in the SEIS.

The NRC has established a three-level standard of significance for evaluating the environmental impact of nuclear power plants – SMALL, MODERATE, or LARGE. Essentially, "SMALL" environmental impacts are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. "LARGE" impacts are clearly noticeable and are sufficient to destabilize important attributes of the resource.

The NRC has determined that the significance of potential environmental impacts related to operating license renewal for Indian Point Units 2 and 3 is "SMALL", with four exceptions:

- Impingement of aquatic organisms
- Entrainment of aquatic organisms
- Heat shock from the facility's heated discharge
- Impacts to aquatic endangered species

SPDES PERMIT HISTORY

Since project licensing, there have been issues relating to significant impacts to aquatic resources as a result of entrainment, impingement, and heat shock from Indian Point operations. In 1975, the U.S. Environmental Protection Agency (EPA), issued permits for Indian Point Units 2 and 3 that required the construction of cooling towers. The utility company contested the permits and requested adjudicatory hearings. As a result of subsequent hearings, the Hudson River Settlement Agreement was reached between the owners of Indian Point Units 2 and 3, Roseton, and Bowline plants, as well as a number of parties, including the EPA, New York State Department of Environmental Conservation (NYSDEC), Scenic Hudson, and the Hudson River Fisherman's Association. This agreement required mitigation to reduce fish mortality. Mitigation included seasonal outages during sensitive aquatic life stages, installation of variable speed pumps, and a biological monitoring program.

The NYSDEC, under authority from EPA, issued State Pollution Discharge Elimination System (SPDES) permits to Indian Point Units 2 and 3 in 1982, requiring the implementation of these mitigative measures. The SPDES permit expired in 1987 and the mitigative measures required under the settlement agreement have continued under consent orders as the NYSDEC and project operator strive to resolve issues.

The NYSDEC prepared an environmental impact statement in 2003 concerning SPDES permit applications from Indian Point Units 2 and 3 (and Roseton and Bowline). The NYSDEC issued a preliminary determination, in their 2003 draft SPDES permit, that closed cycle cooling is the site-specific best technology to reduce impacts on fish and shellfish.

Aquatic Resources

The Hudson River, in the project vicinity, supports a diverse assemblage of aquatic organisms. The National Marine Fisheries Service has designated the Hudson River as Essential Fish Habitat, due to its value for maintaining 34 commercially important fish species. Piermont Marsh, Iona Island, Tivoli Bays, and Stockport Flats are National Estuarine Research Reserves located within the lower Hudson River. The U.S. Fish and Wildlife Service (Service) has designated 41 sections of the Hudson River as significant habitats, including Iona Marsh and Haverstraw Bay, located in the vicinity of Indian Point (USFWS 1997). The Hudson River, in the project vicinity, supports a diversity of estuarine, freshwater, and diadromous species, including the American shad (*Alosa sapidissima*), American eel (*Anguilla rostrata*), striped bass (*Morone saxatilis*), white catfish (*Ameiurus catus*), Atlantic sturgeon (*Acipenser brevirostrum*), and Atlantic tomcod (*Microgadus tomcod*).

Endangered Species Act Comments

The GEIS (pp 3-8 dated) states that the NRC identified four Federally-listed species; the shortnose sturgeon (*Acipenser brevirostrum*), the bog turtle (*Clemmys [=Glyptemys] muhlenbergii*), the New England Cottontail (*Sylvilagus transitionalis*), and the Indiana bat (*Myotis sodalis)*. Terrestrial listed species are under the jurisdiction of the Service. The shortnose sturgeon is under the jurisdiction of the National Oceanic and Atmospheric Administration – Fisheries (NOAA-F). For additional information, the applicant should contact Mr. Stanley Gorski, Habitat and Protected Resources Division, Area Coordinator, NOAA-F, James J. Howard Marine Sciences Laboratory, 74 Magruder Road, Highlands, NJ 07732 (telephone: 908-872-3037).

The NRC has determined that the terrestrial refurbishment activities will be conducted on previously disturbed land within a short period of time, and that the proposed activities are not likely to adversely affect the continued existence of listed species or modify critical habitat.

The NRC determined that Indiana bats may use the project site for summer habitat (roosting and foraging habitat), especially the forested area at the north end of the site. However, the NRC states that the expansion project will not disturb the forested area of the site and, therefore, the project would not adversely affect the Indiana bat.

The Service agrees with the NRC, that if the forested area is not disturbed, that direct take of an Indiana bat is unlikely; however, we are unable to concur with the determination of not likely to adversely affect as the NRC has not provided information on the how the project may indirectly affect Indiana bats and possible foraging areas. Additional information on indirect effects should be included in the Final EIS and provided to Ms. Sandra Doran, U.S. Fish and Wildlife Service, New York Field Office, 3817Luker Road, Cortland, New York 13045 (telephone: 607-753-9334).

The NRC also determined that the site does not support suitable habitat for the bog turtle or New England cottontail. Therefore, no further consultation/coordination with the Service is required for these species.

On August 8, 2007, the bald eagle (*Haliaeetus leucocephalus*) was removed from the Federal Endangered Species list and is no longer protected under Section 7 of the Federal Endangered Species Act; however, bald eagles remain on the New York State list as a State-listed threatened species. Bald eagles are also protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712;

Ch. 128; July 13, 1918; 40 Stat. 755) and the Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d). Bald eagles are known to occur in the project area. Please visit the website of the U.S. Fish and Wildlife Service, New York Field Office, http://www.fws.gov/northeast/nyfo/es/section7.htm and follow the Bald Eagle Management Guidelines prior to commencement of work.

Evaluation of Project Impacts

Entrainment and Impingement

The SEIS describes the impacts to aquatic organisms caused by entrainment, impingement, and heat shock. These impacts are highly significant. According to NYSDEC (2003), over 1 billion fish are entrained at Indian Point annually (based on data through 1987), including 158 million striped bass, 13.4 million American shad, 243 million white perch (*Morone Americana*), and 467 million river herring [includes blueback herring (*Alosa aestivalis*) and alewife (*A. pseudoharengus*)]. The SEIS, in Figure 4-3, illustrates that 5 trillion fish were entrained at Indian Point in 1987 (the last year for which entrainment data are available). Historical records presented in the SEIS indicate that between 1.5 and 6 million fish are impinged annually at Indian Point.

We disagree with the criteria used by the NRC to evaluate impacts to aquatic resources. These criteria, "small, moderate and large", are subjectively defined and lack metrics. In modeling entrainment and impingement effects from Indian Point, the NRC used these criteria to determine whether population-level impacts were small, moderate, or large for individual species of fish and blue crabs. Data from several studies (1974 – 2005) of the lower Hudson River were evaluated to assess population trends for 18 representative important species (RIS). Based on population trends in River Segment 4 of the lower Hudson River, 13 of the 18 RIS were determined to be experiencing potentially large population declines. These species included American shad, bluefish (*Pomatomus saltatrix)*, rainbow smelt (*Osmerus mordax*), Atlantic sturgeon, Atlantic tomcod, and white perch. The SEIS then evaluated Indian Point impingement and entrainment data to determine whether Indian Point was removing the species or its prey at levels that were proportionally higher than levels found in the river studies. The combined analysis of these data was used to estimate whether Indian Point was having a small, medium, or large population-level impact. The NRC concluded that the Indian Point plants were having moderate to large impacts on fish species such as hogchoker (*Trinectec maculates*), rainbow smelt, white perch, and bluefish.

We find that this analysis is insufficiently protective of fishery resources and underestimates the potential effect of the Indian Point intakes on these fish. Although population-level impacts are an appropriate measure of ecological effects, populations are difficult to sample and population trends may be difficult to measure. We note that no pre-Indian Point data were used to perform this analysis, further clouding data interpretation. If population level impacts are measurable, it is an indication that the species is experiencing significant ecological impacts. The goal of resource agencies should be to minimize all significant stressors contributing to the declining population. It appears that the mortality associated with entrainment and impingement at Indian Point is a significant stressor. For example, we regard the annual entrainment and impingement of 13.4 million American shad at Indian Point as substantial, regardless of whether the proportion of American shad entrained or impinged is less than the proportion of American shad found in Hudson River studies.

The NYSDEC (2003) indicated that Indian Point has significant adverse impacts on Hudson River fish and that current losses of various life stages of fish are substantial. Although mortality from other stressors, such as habitat loss, fishing, and predation is also acknowledged by NYSDEC, power plant associated impacts are considered a potentially significant contributor to the decline of a number of fish species. The NYSDEC has further asserted that significant impacts to aquatic resources are not an inevitable result of electric power generation.

Thermal Impacts

According to the SEIS, the discharge of heated water to the Hudson River can cause lethal or sublethal effects on fish, influence food web characteristics and structure, and create barriers to migratory fish. The NYSDEC (2003) indicated that discharges from Indian Point could raise water temperatures to a level greater than that permitted by water quality criteria, and the NRC, based on that determination, concluded that adverse heat related impacts are possible. The NRC further determined that since they did not find evidence of adverse effects on aquatic life that are "clearly noticeable and sufficient to destabilize important attributes of an aquatic resource", impacts cannot be large, but may be "small to moderate." We disagree with this conclusion, since it is based on an absence of data and is not supported by scientific evidence, such as on-site studies to objectively evaluate plant-related thermal stress to aquatic organisms.

Certain cold water fish species may be particularly vulnerable to temperature changes caused by thermal discharges from electrical plants like Indian Point. These species include Atlantic tomcod and rainbow smelt. According to the NYSDEC (2003), rainbow smelt may be disappearing from some reaches of the Hudson River, in part because of thermal discharges from electrical generating stations.

Comparison of Alternatives

The NRC compared a range of alternatives, including the proposed action (license renewal), no-action (license denial), new closed-cycle cooling, once through cooling with restoration, and development of a coal-fired power plant at an alternate site. The NRC concluded in the SEIS that, "the adverse environmental impacts of license renewal for Indian Point Units 2 and 3 are not so great that preserving the option of license renewal for energy planning decision-makers would be unreasonable."

We disagree with how the NRC compared the alternatives, in that they used the "low, moderate and large" evaluation criteria discussed elsewhere in this letter and compared dissimilar impacts between alternatives. Because these evaluation criteria are subjectively defined, it is difficult to objectively evaluate impacts for any alternative. It is also difficult to objectively compare dissimilar impact categories (e.g., air quality, terrestrial ecology, aquatic ecology, and land use). Many of the impacts evaluated for other alternatives were described as moderate or large, although they did not pose as significant an ecological impact as the moderate to large impacts described for aquatic resources as a result of entrainment, impingement, and heat shock. For example, land use impacts associated with the development of a coal-fired power plant were assessed as moderate to large, even though the impact of a 3,700 acre facility would not be likely to cause population level impacts, as was determined for a number of fish species as a result of open cycle cooling.

Conclusions and Recommendations

The Department recommends that the NRC reconsider its evaluation of alternatives to more objectively compare the environmental impacts of various alternatives. We regard the development of a closed cycle cooling system as the most environmentally protective alternative and we urge the NRC to reconsider selecting this alternative. Closed cycle cooling, according to the SEIS, would result in a 93-95% reduction in water use compared to the existing Indian Point open cycle units. This alternative would be estimated to result in an equivalent reduction in the numbers of aquatic organisms entrained and impinged.

In the event that Indian Point Units 2 and 3 continue to operate with open cycle cooling, the NRC should strive to avoid, minimize and mitigate for environmental impacts. Significant measures should be taken to minimize entrainment and impingement of aquatic organisms and heat shock-related effects. The NRC should consider issuing a license contingent on Entergy significantly reducing impacts to aquatic organisms (potentially by a combination of barrier/deterrent systems and flow reductions or shutdowns). A comprehensive monitoring plan should be implemented to assess the effects of mitigative measures. In the event that these measures do not significantly reduce impacts to aquatic organisms, the NRC should re-evaluate the option of requiring a closed cooling system. Regardless of the alternative selected, mitigation should be required as compensation for the considerable impacts to aquatic resources.

Thank you for the opportunity to review and comment on this SEIS. We hope these comments are useful during your project review. Please contact Anne L. Secord at the Service's New York Field Office, at 607-753-9334 if there are any questions regarding this letter. Please contact me at (617) 223-8565 if I can be of assistance.

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

Literature Cited

NYSDEC. 2003. Final Environmental Impact Statement by the NYSDEC Concerning the Applications to Renew New York State Pollutant Discharge Elimination System Permits for the Roseton 1 & 2, Bowline 1 & 2, and Indian Point 2 & 3 Steam Electric Generating Stations, Orange, Rockland, and Westchester Counties.