IPRenewal NPEmails

From: Stuyvenberg, Andrew
Sent: Tuesday, September 06, 2011 2:11 PM
To: Julie Crocker
Cc: IPRenewal NPEmails; Logan, Dennis; Balsam, Briana; Turk, Sherwin; Gray, Dara F
Subject: FW: Entergy Comments on Draft BO
Attachments: EntergyCommentsonDraftBO.PDF

Julie – In this e-mail, I am forwarding Entergy's comments on the draft Biological Opinion to you. I have just received them. The NRC staff will submit its comments by COB today. Please let me know if you have any difficulties with this e-mail.

I have cc'd Dara Gray from Entergy to confirm that we have conveyed Entergy's comments to you.

Best,
Drew

From: Gray, Dara F [mailto:DGray@entergy.com]
Sent: Tuesday, September 06, 2011 2:06 PM
To: Stuyvenberg, Andrew; Wrona, David
Cc: Lach, David J; Dacimo, Fred R.
Subject: Entergy Comments on Draft BO

Hi Drew and David
As we just discussed, enclosed are the comments by Goodwin Procter, on behalf of Entergy, regarding NMFS' Draft Biological Opinion Associated with the License Renewal Application for IP2 and IP3. I understand that you will be forwarding them to NMFS today, as well as the NRC's comments. If you could copy me on that transmittal, I would greatly appreciate it. Thanks again

Dara Gray, REM
Chemistry/Environmental

Indian Point Energy Center
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From: Stuyvenberg, Andrew

Created By: Andrew.Stuyvenberg@nrc.gov

Recipients:
"IPRenewal NPEmails" <IPRenewal.NPEmails@nrc.gov>
Tracking Status: None
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September 6, 2011

David J. Wrona, Branch Chief
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Program
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Draft Biological Opinion for License Renewal for Indian Point Units 2 and 3

Dear Mr. Wrona:

We write on behalf of Entergy Nuclear Operations, Inc., Entergy Nuclear Indian Point 2, LLC and Entergy Nuclear Indian Point 3, LLC (collectively, "Entergy") to provide Entergy's comments on the Draft Biological Opinion issued by the National Marine Fisheries Service ("NMFS") on August 26, 2011 ("Draft Biological Opinion"). Entergy agrees with NMFS's conclusion in the Draft Biological Opinion that continued operation of Indian Point Units 2 and 3 ("IP2" and "IP3," respectively), as currently configured, under renewed Nuclear Regulatory Commission ("NRC") licenses is not likely to jeopardize the continued existence of shortnose sturgeon. To that end, Entergy provides these comments, consistent with the consultation schedule developed in conjunction with NRC and NMFS staff, to clarify certain aspects of the Draft Biological Opinion in a manner consistent with NMFS's conclusion.

Comments on Transmittal Letter

As an introductory matter, Entergy would like to address Regional Administrator Kurkul's transmittal letter accompanying the Draft Biological Opinion. Specifically, Ms. Kurkul solicited comments on: (1) whether initiation of ESA consultation is appropriate in light of ongoing adjudicatory proceedings in New York relating to the Water Quality Certification under §401 of the Clean Water Act ("WQC Proceeding") and the renewal of the State Pollutant Discharge Elimination System ("SPDES") permit for IP2 and IP3 (the "SPDES Proceeding;" collectively, the "Proceedings"); (2) the legal basis by which the NRC retains discretionary involvement or control over the action in order to reinitiate consultation, if necessary under 50 C.F.R. §402.16; and (3) the NRC's legal authority to approve and enforce conditions in the renewed operating license to minimize, monitor, and report incidental take resulting from the operation of the

facility in order to fulfill its ESA obligations. Issues No. 1 and 3 are addressed below, although we look forward to NRC's comments on all issues raised by Ms. Kurkul.

Issue 1 – Timing of Consultation

With respect to the first issue, we disagree with and are concerned about NMFS's suggestion that it may delay or alter the Section 7 consultation process for Indian Point. Section 7 of the ESA requires federal agencies, such as NRC, to consult with NMFS on any action authorized by the federal agency, including Indian Point's license renewal.[1] NRC's proposed action is to renew the operating licenses for IP2 and IP3 as set forth in Entergy's License Renewal Application ("LRA"), which represents Indian Point's current operating configuration. Therefore, consultation must proceed on that basis – *i.e.*, that IP2 and IP3 would continue to operate under the terms of their existing authorizations, including those relating to the operation of their cooling water intake structures and cooling systems, respectively through 2033 and 2035.[2] As with any federally licensed facility, state and local permits often are required. Congress elected not to have these (state and local) processes drive NMFS's consultation obligations, and therefore there is no legal basis for NMFS to caveat its action based upon collateral state or local proceedings.[3] Consequently, as NMFS's transmittal letter otherwise acknowledges, it is entirely appropriate – and necessary – for NMFS to base its Draft Biological Opinion upon the same federal action that NRC proposes, as it has done here.[4]

Moreover, NMFS's suggestion is impractical. The SPDES Proceeding has no direct relationship to license renewal; therefore, its consideration with respect to the LRA lacks legal or factual basis. With respect to the WQC Proceeding, NRC currently is evaluating whether the New York State Department of Environmental Conservation ("NYSDEC") has waived its rights under §401

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1 *See* 16 U.S.C. §1536(a)(2) ("Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded or carried out by such agency … is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species … .").

2 *See* Indian Point Energy Center License Renewal Application, Environmental Report, §3.0 (April 2007); Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 38 Regarding Indian Point Nuclear Generating Units Nos. 2 and 3, §2.1 – Plant and Site Description and Proposed Plant Operation During Renewal Term (December 2010).

3 Id. (requiring consultation where there is a proposed *federal* action).

4 Transmittal Correspondence from Ms. Kurkul to Mr. David J. Wrona (NRC), p. 1 ("This Opinion only analyzes the operation of Indian Point from approximately 2013 to 2035 under the same conditions that appear in the existing license and SPDES permit, and the analysis and conclusions cannot be interpreted to apply to a different time period or different set of operating conditions.").

of the Clean Water Act, in which case no further action under that proceeding is required.[5] Even if NRC does not determine that NYSDEC has waived its rights, the likelihood of a WQC determination in the near future is low. The Proceedings are combined with respect to the application of 6 NYCRR §704.5, which relates to cooling water intake structures. The SPDES Proceeding has been pending since 2003, with NYSDEC Staff's analysis under the State Environmental Quality Review Act ("SEQRA"), a necessary precursor to its tentative proposal of a technology for Entergy's SPDES permit, not yet begun. Thus, to Entergy's considerable dismay, the Proceedings on this issue are languishing. For these reasons, NMFS's suggestion not only lacks legal basis, but practical merit, and may have the unintended, but problematic effect of delaying issuance of the final Biological Opinion, when all technical work already has been completed.

Finally, an unintended consequence of NMFS's suggestion is that it could have nationwide implications dissonant with the ESA and NMFS' mission. NMFS reviews federal action daily to advance the protection of endangered species. If NMFS delays review of federal action, particularly for new projects where state and local permit proceedings often do take years to issue, adequate protection may not be achieved or may be materially delayed. Thus, we are concerned that NMFS's inclination not to reach a decision now may set a precedent that amounts to a derogation of duty with potentially severe adverse consequences to endangered species, one we expressly reject.

In short, the NRC's initiation of consultation was appropriate and consistent with its obligations under §7 of the ESA, and ensures timely and appropriate endangered species review occurs. Therefore, there is no reasonable basis not to conclude consultation with issuance of a Final Biological Opinion at this time, as previously agreed among NRC, NMFS and Entergy.

Issue 3 – NRC Authority to Establish License Conditions

With respect to the NRC's legal authority to approve and enforce conditions in the renewed operating licenses to minimize, monitor, and report incidental take resulting from the operation of IP2 and IP3, we defer to NRC. However, we note that NRC's practice is to require adherence to the Terms and Conditions set forth in the Incidental Take Statement of a Biological Opinion (*e.g.*, by including such a requirement in the Environmental Technical Specifications that are incorporated as conditions to an operating license).

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[5] *See* Correspondence from Fred R. Dacimo (Entergy) to Brian E. Holian (NRC), re: NYSDEC's Waiver of Section 401 WQC, dated June 21, 2011 (with attachments). Additional correspondence from Entergy and NYSDEC has been submitted to NRC, and is available on request.

We further note that any taking of shortnose sturgeon not in compliance with the terms and conditions specified in the Incidental Take Statement is considered a prohibited taking.[6] Entergy takes seriously its obligations under its federal, state and local authorizations, and will treat the Incidental Take Statement included in the final Biological Opinion with the same federally mandated rigor and attention.

Technical Comments on the Draft Biological Opinion

The Draft Biological Opinion properly concludes – based upon the best information available – that continued operation of IP2 and IP3 during their respective license renewal periods is not likely to jeopardize the continued existence of shortnose sturgeon in the Hudson River.[7] This conclusion is soundly supported in the record and, in Entergy's view, is the only reasonable conclusion to be drawn from that record. Thus, the following comments are targeted at specific aspects of the Draft Biological Opinion, none of which changes its conclusion.[8]

A. The incidental take limits should apply only to injury or mortality caused by the operation of IP2 and IP3.

The proposed Incidental Take Statement exempts the taking of 104 and 58 shortnose sturgeon by impingement at IP2 and IP3 during their respective license renewal periods. These totals appear to apply to sturgeon whether they are dead or alive before they are impinged.[9] They also appear to apply whether or not sturgeon are harmed or killed. As detailed below, Entergy respectfully

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6 *See* 16 U.S.C. §1536(o).

7 *See* Draft Biological Opinion, p. 52 ("After reviewing the best available information on the status of endangered and threatened species under NMFS jurisdiction, the environmental baseline for the action area, the effects of the proposed action, interdependent and interrelated actions and the cumulative effects, it is NMFS' biological opinion that the proposed action may adversely affect but is not likely to jeopardize the continued existence of shortnose sturgeon. No critical habitat is designated in the action area; therefore, none will be affected by the proposed action.").

8 The early pages of the Draft Biological Opinion provide a summary of the history of prior NRC consultations, the application of §316(b) of the Clean Water Act to IP2 and IP3, the history of NPDES/SPDES permitting for IP2 and IP3, and the status of the SPDES and WQC Proceedings to which NMFS is not a party. Entergy respectfully asserts that the history provided in these early pages of the Draft Biological Opinion is irrelevant to the issue to be addressed – *i.e.*, whether the proposed federal action (*i.e.*, the renewal of the NRC operating licenses for IP2 and IP3 under their currently authorized configurations) is likely to jeopardize the continued existence of the shortnose sturgeon in the Hudson River – and outside of NMFS' authority or knowledge. Thus, Entergy is not commenting on NMFS' recitation of that history, and expressly reserves its rights to take any legal or factual position in any ongoing or future administrative or judicial proceeding related to IP2 and/or IP3.

9 *See* Draft Biological Opinion, pp. 53-54.

asserts that these take limits should apply only to the impingement of healthy, live fish, as opposed to dead or moribund fish, resulting in serious injury or death. Stated simply: Takings should be assigned to IP2 or IP3 only when they have been caused by IP2 or IP3, and result in harm or mortality.

Takings regulated under Incidental Take Statements or Incidental Take Permits are those which are incidental to the carrying out of an otherwise lawful activity – in this case, incidental to the operation of IP2 and IP3.[10] As stated in the Draft Biological Opinion, the incidental takings of concern here are impingement events that "will cause injury and mortality to the affected individuals."[11] NMFS addresses the two locations where these impingement events might occur – the trash bars and the modified Ristroph screens.

1. Impingement at the Trash Bars

With respect to sturgeon that may be impinged at the trash bars, NMFS appears to agree with Entergy that it is virtually certain that any sturgeon found at the trash bars was dead or moribund before encountering the trash bars (*i.e.*, their injury or mortality was not incidental to IP2 and IP3 operations). As noted in the Draft Biological Opinion:

> healthy shortnose sturgeon (yearlings and older) are expected to be able to readily avoid an intake with an approach velocity of 1.0 fps or less. Therefore, any shortnose sturgeon impinged at the trash bars, where the velocity is 1.0 fps or less depending on operating condition, are likely to already be suffering from injury, or illness which has impaired their swimming ability.[12]

In other words, shortnose sturgeon impinged at the trash bars would be capable of swimming away from the bars if alive and healthy. Thus, the impingement of shortnose sturgeon at the trash bars would not be the result of Indian Point operations but rather the dead or moribund condition of the sturgeon. Because the purpose of the incidental take limit is to limit the impact *of the facility* on the sturgeon population, and/or because the impingement of a dead or moribund fish has no impact on the population, the impingement of dead or moribund fish should not be limited as though it does have such an impact. Certainly, Entergy can agree to the requirements of the Draft Biological Opinion with respect to the collection and processing of sturgeon

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[10] *See* 16 U.S.C. §1536(b)(4)(B) (addressing takings "incidental to the agency action"); §1539(a)(1)(B) (authorizing permits for a "taking which is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity").

[11] Draft Biological Opinion, p. 53.

[12] Draft Biological Opinion, p. 37.

observed to be impinged at the trash bars as a means of advancing the knowledge of the species generally, but such collections should not count toward Indian Point's incidental take limits.[13]

2. Impingement at the Modified Ristroph Screens

Both IP2 and IP3 are equipped with modified Ristroph screens and fish return systems that are designed to automatically return impinged fish to the Hudson River in a continuous stream of flowing river water through an approved fish return system. As indicated in prior submissions to NRC and NMFS, these screens and fish returns have reduced impingement mortality by approximately 90% for species with a hardiness similar to shortnose sturgeon.[14] Indeed, the U.S. Environmental Protection Agency ("EPA") has determined that systems of the type installed at IP2 and IP3 constitute the best technology available for minimizing impingement mortality, ascribing to them an average impingement survival rate of 88% across species.[15] Thus, any healthy sturgeon impinged at the modified Ristroph screens has a very high likelihood of returning to the river unharmed. The return of an uninjured sturgeon to the river in this fashion should not count toward the incidental take limits, which are based on the assumption that every impinged sturgeon will die.[16]

Of course, it could also be the case that a smaller sturgeon capable of passing through the trash bars and being impinged at the modified Ristroph screens was dead or moribund before it was impinged. As with sturgeon impinged at the trash bars, the impingement of such sturgeon at the modified Ristroph screens should not count toward Indian Point's incidental take limits because their mortality or injury was not incidental to IP2's and IP3's operation.

Accordingly, the monitoring program to be developed in conjunction with NMFS should include procedures for evaluating whether sturgeon impinged at the modified Ristroph screens were (a) dead or moribund before impingement, or (b) injured or killed as a result of being impinged. Those in the former category should not count toward the impingement limit, while those in the later category should count toward the limit.

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13 It is Entergy's understanding that neither the Roseton nor the Danskammer facilities on the Hudson River include trash bar/rack impingement in their incidental take numbers.

14 *See Shortnose Sturgeon: A Technical Assessment Pursuant to the Endangered Species Act* (April 2011) (enclosed with correspondence from Fred R. Dacimo (Entergy) to Mr. Andrew Stuyvenberg (NRC) and Ms. Patricia A. Kurkul (NMFS), dated April 28, 2011), p. 20.

15 *See National Pollutant Discharge Elimination System—Cooling Water Intake Structures at Existing Facilities and Phase I Facilities*, 76 Fed. Reg. 22174, 22282 (April 20, 2011).

16 *See* Draft Biological Opinion, p. 53 ("All of these sturgeon are expected to die, immediately or later, as a result of interactions with the facility.").

For these reasons, Entergy respectfully requests that NMFS clarify that the incidental take limits established in the proposed Incidental Take Statement apply to impingement of live, non-moribund sturgeon at the modified Ristroph screens resulting in injury or mortality. Indeed, the Draft Biological Opinion's Reasonable and Prudent Measure ("RPM") #3 and Terms and Conditions ("TC") #3 have been justified by NMFS as being "essential for monitoring the level of incidental take associated with the proposed action *and in determining whether the death was related to the operation of the facility*."[17] Entergy agrees with this focus on takes incidental to its operations and believes the incidental take limits should have a similar focus.

B. The monitoring program to be developed for NMFS approval should be sensitive to the potential for additional injury or mortality associated with handling stress.

Entergy agrees that an appropriate monitoring program should be developed with NMFS' oversight for documenting incidental takes, and looks forward to that process.

At this time, however, Entergy would simply like to note that, as discussed above, both IP2 and IP3 are equipped with modified Ristroph screens and fish return systems that are designed to automatically return impinged fish to the Hudson River with little or no adverse effect, particularly with respect to hardy species such as shortnose sturgeon. Additional handling of these fish for the purpose of monitoring will increase the potential for injury and could result in inadvertent mortality, thereby frustrating the very purpose of the installation and operation of the screens and fish returns. As such, Entergy looks forward to developing a monitoring program that is sensitive to the potential for additional handling stress on individual fish – one that reduces mortality.

C. The deadline for submittal of the annual reports should be revised.

On page 55, under TC #6, the deadline for submittal of the annual report is set for January 1. If the annual report is intended to cover the prior calendar year, the deadline should be moved to February 15 or later to allow processing of information collected during December of the previous year.

D. Stenographic Corrections and Clarifications

The remainder of Entergy's comments focus on stenograph corrections or clarifications of certain issues in the Draft Biological Opinion, and follow in chronological order by page number for ease of reference.

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[17] Draft Biological Opinion, p. 56 (emphasis supplied).

1. The operation of the modified Ristroph screens and fish returns is inaccurate.

On page 9, the Draft Biological Opinion describes the operation of the modified Ristroph screens and fish return systems at Indian Point. That description indicates that fish contained in the water-filled buckets on the screen are washed onto a "mesh," which is not correct. Any fish contained in the water-filled buckets is washed out by the low-pressure spray of ambient river water into a fiberglass sluice which carries the fish in flowing water through the fish return system to the Hudson River. The screens themselves consist of fine mesh to reduce the potential for abrasion, but the fish are not washed onto a mesh after exiting the water-filled fish bucket.

2. The location of Indian Point along the Hudson River is inaccurate in certain instances.

On page 10, the Draft Biological Opinion (in the "Action Area" section) indicates that IP2 and IP3 are located 24 miles north of New York City. IP2 and IP3 are located at river mile 43 (*i.e.*, 43 miles upstream) from Battery Park at the southern tip of Manhattan. Similarly, on page 20, the location of Indian Point should be river mile 43, rather than 38.

3. For context, the location of Germantown should be included in the text.

On page 22, the Draft Biological Opinion references Germantown without river-mile location. Germantown is located at River Mile 106 (km 171).

4. The described location of sturgeon larvae within the estuary is incorrect.

On page 22, the Draft Biological Opinion states that shortnose sturgeon larvae "are found throughout the Hudson River estuary." Shortnose sturgeon larvae are found only in the freshwater portion of the Hudson River as they avoid salt water.[18]

5. The references to IP1 and IP2, and the former intake screen sizes, should be corrected.

On page 23, directly under the heading "Impacts of the Historical Operation of the Indian Point Facility," the reference to "IP1 and IP2" should be to "IP2 and IP3." Also, to the extent the screen mesh size mentioned in that paragraph is intended to refer to the mesh size of the screens in place *prior* to the installation of the current modified Ristroph screens, those older screens had a mesh size of 3/8 inch by 3/8 inch (as opposed to the current size of 1/4 inch by 1/2 inch).

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[18] *See Shortnose Sturgeon: A Technical Assessment Pursuant to the Endangered Species Act* (April 2011) (enclosed with correspondence from Fred R. Dacimo (Entergy) to Mr. Andrew Stuyvenberg (NRC) and Ms. Patricia A. Kurkul (NMFS) dated April 28, 2011), p. 15 (*citing* Van Eenennaam (1996)).

6. The list of permittees under scientific research permit #1580 is incomplete.

On page 26, the Draft Biological refers to scientific research permit #1580 (originally issued as #1254, for the Hudson River Biological Monitoring Program) as "issued to Dynegy." Entergy notes that, by letter dated September 14, 2001, NMFS added Entergy and Mirant Bowling to this permit as additional permitted agents.

7. The critique of the CORMIX thermal model from the 1999 modeling study is incomplete.

On page 41, the Draft Biological Opinion summarizes prior thermal modeling studies involving the CORMIX model. In addition to the operative critique that the 1999 models assumed conditions *that could not occur* in the Hudson River and therefore are not realistic, Swanson (2008)[19] identified two specific shortcomings in the modeling that occurred in 1999. First, the 1999 modeling was performed on the assumption that the timing of slack water conditions (*i.e.*, the time during which currents within the river are at or below the 10th percentile of all current speeds) coincides with low tide. Swanson demonstrated that, in fact, the slack water condition occurs closer to the mean tide at Indian Point. This is an important error in the modeling because it assumes that a smaller volume of water is available to receive the thermal discharge offshore of Indian Point during slack water conditions than is actually the case, thus overstating thermal effects. Second, Swanson demonstrated that the steady-state assumptions used in the CORMIX model effectively treated the slack water condition as though it persisted indefinitely when, in fact, the slack water condition lasts for only 15 minutes. This error is similarly important because it dramatically overstates the scope and extent of the thermal plume.

Moreover, Entergy notes that the 1999 thermal studies have been superseded by the recently completed tri-axial thermal study and hydrodynamic modeling from 2009 and 2010, which are referenced in the Draft Biological Opinion, and have been reviewed and approved by NYSDEC as in compliance with New York State thermal water quality standards. Thus, the discussion and conclusions drawn from the 1999 studies are neither an accurate nor a current representation of the thermal conditions associated with Indian Point.

8. Certain text appears to have been duplicated inadvertently.

It appears that the text of the last paragraph on page 49 is a verbatim copy of the text in the middle of the second paragraph on page 48. To the extent that was not intentional, the last paragraph on page 49 could be deleted.

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[19] *See* Declaration of J. Craig Swanson, Ph.D., In the Matter of Entergy Nuclear Indian Point 2, LLC, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear Operations, Inc. before the Nuclear Regulatory Commission, Docket Nos. 50-247, 50-286 (January 18, 2008).

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Entergy appreciates this opportunity to provide these comments on the Draft Biological Opinion, and looks forward to the completion of consultation and the issuance of the Final Biological Opinion on the schedule agreed to by NMFS, NRC and Entergy. Entergy likewise looks forward to final resolution of the monitoring program, as proposed in the Draft Biological Opinion, and expressly reserves its rights to take any legal or factual position in any ongoing or future administrative or judicial proceeding related to IP2 and/or IP3. If you have any questions regarding these comments, please do not hesitate to contact me.

Sincerely,

Elise N. Zoli