NRR-PMDAPEm Resource

From: Julie Crocker - NOAA Federal [julie.crocker@noaa.gov]
Sent: Thursday, October 24, 2013 11:51 AM
To: Logan, Dennis; Moser, Michelle; Grange, Briana; EndangeredSpecies Resource
Cc: Julie Williams - NOAA Federal
Subject: Fwd: Entergy Monitoring Plan
Attachments: letter to Entergy re draft monitoring plan FINAL.pdf

Dennis et al.

Attached is NMFS letter to Entergy providing comments on the draft monitoring plan they submitted for Indian Point. Please let me know if you have any questions or would like to discuss. A copy will also be provided by us to NYDEC.

Julie

---------- Forwarded message ----------
From: **Mary Colligan - NOAA Federal** <mary.a.colligan@noaa.gov>
Date: Thu, Oct 24, 2013 at 11:48 AM
Subject: Entergy Monitoring Plan
To: "Gray, Dara F" <DGray@entergy.com>
Cc: Julie Crocker - NOAA Federal <Julie.Crocker@noaa.gov>, Mark Murray-Brown - NOAA Federal <Mark.Murray-Brown@noaa.gov>

Attached please find a comment letter on your proposed sturgeon monitoring plan for the cooling water intakes. As stated in the letter, please let us know if you would like to schedule a conference call to discuss these comments and next steps.

Thank you

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Mary Colligan
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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OCT 23 2013

Dara Gray
Entergy Nuclear Operations Inc.
Indian Point Energy Center
450 Broadway, Suite 1
Buchanan, New York 10511

Dear Ms. Gray,

We have reviewed the "Proposed Draft Monitoring Plan for Indian Point Energy Center Take of Atlantic and Shortnose Sturgeons by Impingement at Cooling Water Intakes," dated March 29, 2013. Submittal of the draft monitoring plan is required by the Reasonable and Prudent Measures (RPMs) and Terms and Conditions of the January 30, 2013, Biological Opinion issued by us to the Nuclear Regulatory Commission (NRC) regarding the continued operations of Indian Point Units 2 and 3, pursuant to existing licenses and proposed extended operating licenses. Thank you again for the opportunity to visit the site on June 11, 2013; seeing the site first hand and discussing the monitoring plan with you and other Entergy staff and consultants was valuable. We look forward to continuing productive discussions with Entergy and NRC as the monitoring plan continues to develop.

As currently written, the draft monitoring plan (MP) does not meet the requirements of the Incidental Take Statement (ITS). The ITS states that the monitoring plan must be designed and implemented to allow for the detection and observation of all shortnose and Atlantic sturgeon that are impinged anywhere at each of the Unit's intakes, including on the trash bars, or that are impinged at the screens or captured in the fish buckets. It also identifies more detailed components of an adequate plan. The March 2013 draft monitoring plan does not meet the overarching goal to determine the amount of listed fish taken (which includes parts thereof) and their condition as well as many of the itemized components for monitoring at the intakes. Our comments below are organized along the structure of the submitted draft monitoring plan.

2.0 Monitoring Program

2.1.1 IP2 and IP3 Trash Racks

On page 5 of the draft MP you speculate on a number of different issues related to impingement on the trash racks, including that "closure of the shad and sturgeon fisheries in the Hudson River has eliminated the fisheries by-catch mortality that was the likely source of many previously observed sturgeon impingements at IPEC." While we will not address here each point with which we disagree or that lacks a factual basis, we point out that there has never been any monitoring of impingement of sturgeon at the trash racks; therefore, we do not have direct

evidence of the condition, or the factors that might contribute to impairment, of any sturgeon impinged at the trash racks may be. As explained in the Biological Opinion on page 67, impingement on the trash bars, at a minimum, would be capture or collection under the ESA's definition of "take" due to the operation of Indian Point. We recommend that the draft MP focus solely on the methodology for monitoring the various types of take that are expected to occur at Indian Point and refrain from speculation on other possible sources of sturgeon interactions.

You have determined that there are no feasible access points to assess impingement at the IP2 and IP3 trash racks by visual observation or with remote sensing equipment. You are proposing to use an ARIS system, combined with a long-handled dip net deployed from a boat, to carry out once-weekly monitoring for a two-year period. Once-weekly monitoring will not be sufficient to detect, remove and assess all sturgeon impinged at the trash bars, which is the goal of this part of the monitoring plan. We expect that impinged fish will be preyed on by scavengers and will also be displaced from the trash bars by tides or currents, particularly if intake flows vary. The monitoring plan must be revised to include more frequent monitoring to establish a baseline. Once a baseline is obtained, we can discuss whether monitoring could be scaled back in the future. Further information on the proposal to use ARIS and a dip net is necessary before we can determine if it will meet the requirements of the ITS. Specifically, a revised MP will need to:

- Explain how and why the proposed method will achieve the goals and requirements of the monitoring plan;
- Include a plan for verifying that the ARIS system will operate as intended at IP2 and IP3. This should include field verification of detecting targets and use of the long-handled dip net for removal of impinged fish;
- Explain why the revised proposed frequency of deployment is sufficient to document all sturgeon impinged at the intake. You must explain why it is reasonable to expect that an impinged sturgeon would remain impinged on the trash racks for at least that period of time, including in light of any changes in not only the flow of the river, but also the flow of water into the intake system (e.g., due to pump speed, flow direction, water levels, etc.). Field verification should include testing of the residency time of impinged fish; and,
- Provide clarification of conditions in which deploying the system will not be possible due to weather and what alternate measures will be used during those times.

2.1.2 IP1 Trash Racks

You have determined that it is not possible to effectively monitor the IP1 trash racks to detect and remove impinged sturgeon. While we agree that the amount of water withdrawn at IP1 is significantly less than at IP2 and IP3, and that we have assumed that impingement at IP1 would be proportionally smaller than at IP2 and IP3, there has never been any monitoring at the IP1 trash racks and the design of the intake is different than at IP2 and IP3, which may be a factor in actual impingements. Therefore, it is essential to carry out monitoring at the IP1 trash racks to verify the assumptions and conclusions made in the Biological Opinion and to count the number of sturgeon impinged. We note that the draft MP states that "expected impingement would be well below the typical thresholds for considering impingement impacts…" However, the ITS requires monitoring sufficient to document all impinged sturgeon, not just those sturgeon that

exceed some "typical threshold". Therefore, a complete lack of monitoring at the IP1 trash bars is not acceptable. It may be possible to construct something similar to replacing the steel diamond plate covers that are welded above the racks with grating that is hinged on one side and locked on another thereby providing access. You should investigate the possibilities of providing access through civil-works modifications. Please revise the monitoring plan to include a methodology for monitoring incidental take at the IP1 trash racks.

2.2 Forebays

You have determined that requiring monitoring for sturgeon in the forebays is not a reasonable requirement because you state sturgeon will voluntarily swim back to the river or will be collected on the traveling screens. While we agree with you, as a general matter, that sturgeon that pass through the trash racks either swim back out to the river through the trash bars or will become impinged on (or captured by) the traveling screens, we disagree that monitoring is not reasonable. We have no information on the length of time that sturgeon spend in the forebays or the collection efficiency of the traveling screens for sturgeon. You need to investigate providing safe access to the forebays through civil works modifications and using other means for detecting sturgeon in these areas if the use of imaging sonar or video is not technically feasible. The revised monitoring plan must address these issues. If full-time monitoring of these areas is not technically feasible, then studies should be designed and implemented that answer these questions about the length of time that sturgeon spend in the forebays or the collection efficiency of the traveling screens for sturgeon.

2.3.1 Traveling Screens at IP2 and IP3

You have proposed collecting all fish that that are washed off the traveling screens into the fish return sluices for one 24-hour period per week and then processing and documenting these fish after the 24-hour collection period. You propose to carry out this plan for one year and then determine if modifications are necessary for a second year.

Collection and holding of all fish washed off the traveling screens for an entire 24-hour period is not acceptable. Documentation and processing of fish must occur at least once per hour to minimize the potential for stress, injury and mortality and to accurately assess the impacts of impingement and interactions with the traveling screens and fish return system. Extended holding times increase the potential for stress, injury and mortality that would not occur otherwise.

You have not provided justification for why one 24-hour period per week is sufficient to assess the total number and condition of all impinged shortnose and Atlantic sturgeon. Because there has been no monitoring since 1990, more frequent monitoring is critical to determine an accurate number of shortnose and Atlantic sturgeon that are impinged at IPEC. We note that at Entergy's Fitzpatrick facility, impingement monitoring sampled three 24-hour periods per week with fish processing occurring once per hour. A similar schedule should serve as the minimum to be considered here. Any proposal for less than 100% monitoring must include an analysis demonstrating that the monitoring can reasonably be expected to produce an accurate and precise determination of the total number of shortnose and Atlantic sturgeon impinged annually and the condition of these fish.

The MP must contain more details on the holding tank and the conditions that will be maintained. Monitoring and maintenance of appropriate temperature, pH and dissolved oxygen levels will be critical to ensure that handling mortality is minimized. The revised monitoring plan must contain a detailed description of the holding tank along with procedures to ensure that appropriate water quality can be maintained during all weather conditions as well as prevent access by avian predators. Design drawings should be submitted to NMFS for review.

We note that the MP appears to only consider holding and sampling material that is washed into the fish return sluice. Monitoring of the debris sluice is also necessary. We note that you have documented fish in the debris return at IP (Fletcher 1990) and at your Fitzpatrick facility. The revised MP must include monitoring of fish collected in the debris sluice at IP2 and IP3 to document the total number of shortnose and Atlantic sturgeon collected annually and the condition of these fish. There has not been any post-installation survival study of impinged sturgeon at IP. Therefore, it is critical to document all impinged sturgeon and accurately determine the impingement survival rate at the traveling screens.

We also note that the MP does not include any proposal to determine collection efficiency (i.e., the fraction of fish that enter the intake structure but do not make it into impingement collections). This component is required by the ITS and must be included in a revised MP.

The MP must also include monitoring of fish that are residing/delayed in the fish return sluice. Systematic inspection of the fish return sluice must occur in order to adequately document the number of fish that are temporarily residing or delayed in the fish return sluice. This request is a result of our site visit in which we saw a number of fish swimming in the inlet area of the fish return sluice just behind the traveling screens. This monitoring is necessary in order to determine if sturgeon are residing or being delayed in the fish return sluice and whether changes to the sluice and/or a handling and removal plan or other measures are necessary to minimize the effects of residence or delay on sturgeon.

2.3.2 Traveling Screens at IP1

We disagree with your statement that it is "not worth the time and effort to monitor..." for impingement at IP1. Monitoring incidental take is required by the Endangered Species Act, regardless of what determinations have been, or are proposed to be made, under the Clean Water Act. The MP must include monitoring of the fish return and debris sluice at IP1. This information is critical to verify assumptions made in the Biological Opinion and to monitor take at IP1. Furthermore, because the intakes and screen systems are different between IP1 compared to IP2 and IP3, the "same information" cannot be obtained necessarily by monitoring just IP2 and IP3. Without monitoring of the traveling screens at IP1 sufficient to document the total number of shortnose and Atlantic sturgeon collected annually and the condition of these fish, the MP will be considered inadequate to satisfy the conditions of the ITS.

2.3.3 Traveling Screen Monitoring Implementation Schedule, Modifications, and Permitting

The following steps should be included in the revised MP:

- Submit concept drawings or proposed modifications for NMFS review and comment;
- Submit 60% drawings for NMFS review and comment;

- Submit 90% drawings for NMFS review and comment;
- Submit Final drawings to NMFS; and,
- Invite NMFS to witness system testing once constructed.

2.4 Fish Handling Procedures

2.4.1 Live Fish

As discussed at the June 11 meeting, photographs must be taken of all shortnose and Atlantic sturgeon, not just sturgeon smaller than 250 mm TL. The only tagging that is required by the ITS is insertion of PIT tags into un-tagged fish. No other tags should be inserted unless the biologist holds an appropriate ESA Section 10 research permit authorizing other tag insertion for fish collected at Indian Point. At this time, we are not aware of any such authorizations. Therefore, we request that you remove the insertion of Floy dart tags from the MP.

2.4.2 Dead Fish

The MP must include criteria that will be used to determine if a dead sturgeon was freshly killed or dead prior to impingement. Photographs must be taken of any injuries. We recommend that you make arrangements for qualified individuals to carry out necropsies on dead sturgeon prior to implementation of the MP. NMFS does not currently have any facilities for retaining dead sturgeon or for carrying out necropsies. We can assist you in finding qualified individuals with appropriate qualifications. Details of transfer and necropsy arrangements must be included in the MP.

2.4.3 Genetic Samples

Please see the enclosed Appendix that details procedures for transmitting genetic samples. All genetic samples must be transmitted to the NOAA archives.

2.5.2 Water Velocity

We disagree with your characterization of the purpose of water velocity monitoring. The purpose of water velocity monitoring is to verify the information provided to NMFS that we used in the development of the Biological Opinion and to verify assumptions and conclusions made by NMFS in determining the likelihood of impingement. However, we agree that, as you note, velocity will differ over the face of both the bar racks and the trash racks in Item Number 7 of your "reasons why this would be a futile effort" list. This is part of the reasoning for the study requirement. Although you have submitted to us the average water velocities through the structures, it is possible that there are "hotspots" that far exceed the average velocities and/or a wide range of overall velocities that produce the average.

The MP should include monitoring sufficient to verify all reported velocities relied on in the Biological Opinion. This includes: all data collected including approach and through rack velocity at the trash racks, velocity in the intake forebays and approach and through-screen velocity at the traveling screens for all three units. The reported data must include high and low velocities and not just averages. This monitoring must occur over the range of tidal and weather conditions and pump operations so that it can be considered to represent all expected scenarios. This monitoring should be done over a proposed point grid across the face of the structures in order to properly define any "hotspots" that may exist. We propose a 2ft horizontal by 2ft

vertical point grid across the structure. Approach velocity measurements should be taken as close to the structures as possible but not more than 1 foot away; preferably within 3 to 6 inches. Through velocities can be calculated based upon the measured approach velocities.

Additional Comments

We note that the draft MP contains unnecessary commentary and speculation (e.g., discussion of bycatch of sturgeon in the shad fishery), with which we disagree or do not find supported by evidence. We recommend you revise the document to ensure it is consistent with the Biological Opinion and to focus on the plan for monitoring. We understand that Entergy's draft MP focuses on a 2-year period. While scaling back monitoring after an initial intensive monitoring period may be appropriate in the future, any MP must clearly document the decision points and process for determining whether changes in the MP are appropriate. Any proposed reduction in monitoring frequency for the future can only occur if sufficient data has been collected that allows a reduced frequency design to be implemented that still allows for documenting the total number of shortnose and Atlantic sturgeon collected annually and the condition of these fish. It is our understanding that you are proposing a shorter-term (i.e., 1 to 2 year) monitoring protocol to establish a baseline from which less frequent/intense monitoring could be scaled from in the future. The MP must also include protocols for this long-term monitoring or, at least protocols for how long-term monitoring plans will be developed.

The MP is being developed to satisfy the requirement of our Biological Opinion and ITS and therefore focuses on collecting data on interactions between the IP facilities and shortnose and Atlantic sturgeon. However, we strongly encourage Entergy to consider including procedures for documenting the number and condition of all fish captured during impingement monitoring. We believe that valuable insights on the effects of IP operations on sturgeons' ecosystem and the success of the traveling screens and fish return system can be gained by recording information on all fish collected during impingement monitoring. Such information would be particularly valuable as no impingement monitoring has occurred since the current screening system became fully operational. Information on the number and condition of other species collected during impingement sampling may be useful in understanding more about the impingement of shortnose and Atlantic sturgeon.

Conclusions

My staff is available to discuss these recommendations. Please contact Julie Crocker (Julie.Crocker@noaa.gov or 978-282-8480) to schedule a conference call. We will provide a copy of this letter to the NRC and to the New York Department of Environmental Conservation to keep them informed of the status of our review of the monitoring plan. Please provide a revised monitoring plan to us within 45 days of your receipt of this letter. We look forward to continuing to work with Entergy and your consultants to develop a monitoring plan that meets the requirements of the ITS provided with our January 30, 2013 Biological Opinion.

Sincerely,

for John K. Bullard
Regional Administrator

EC: Colligan, Crocker, Dow -F/NER3
Williams – GCNE
Nieder – NYDEC
Grange, Logan, Moser – NRC

PCTS: NER-2012-619