



**Entergy Nuclear Northeast**  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249  
Tel (914) 254-2055

Fred Dacimo  
Vice President  
Operations License Renewal

NL-14-030

February 19, 2014

Ms. Lois James  
Environmental Project Manager  
Division of License Renewal  
U.S. Nuclear Regulatory Commission  
Mail Stop O-11F1  
Washington, DC 20555

U.S. Nuclear Regulatory Commission  
Document Control Desk  
11545 Rockville Pike, TWFN-2 F1  
Rockville, MD 20852-2738

**SUBJECT:** Final Supplemental Environmental Impact Statement  
Indian Point Nuclear Generating Unit Nos. 2 & 3  
Docket Nos. 50-247 and 50-286  
License Nos. DPR-26 and DPR-64

**REFERENCES:**

1. Generic Environmental Impact Statement for License Renewal of Nuclear Plants Supplement 38 Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Final Report (December 2010), Sections 4.1.1.-4.1.3, Office of Nuclear Reactor Regulation NUREG-1437, Supplement 38 ("FSEIS").
2. Appendix H (U.S. Nuclear Regulatory Commission Staff Evaluation of Environmental Impacts of Cooling System).
3. Appendix I (Statistical Analyses Conducted for Chapter 4 Aquatic Resources and Appendix H).

Dear Ms. James:

This letter is submitted by Entergy Nuclear Operations, Inc., Entergy Nuclear Indian Point Unit 2, LLC, and Entergy Nuclear Indian Point Unit 3, LLC (collectively, "Entergy"), as it relates to license renewal of Indian Point Units 2 and 3 (respectively, "IP2" and "IP3"; collectively, "IPEC"). The purpose of this letter is to provide the Nuclear Regulatory Commission ("NRC") Staff with:

IE77  
A128  
NIRR

(1) new information from regulators charged with overseeing fisheries that are relevant to NRC Staff's subsidiary findings for certain fish species in Sections 4.1.1-4.1.3 of the FSEIS and its supporting Appendices H and I ("New Information"); and (2) Entergy's identification and correction of an inadvertent discrepancy in NRC Staff's use of certain Entergy data files to reach these subsidiary findings. The New Information is referenced and described below. Discussion of the discrepancy, and Entergy's reconstruction of the NRC Staff's analysis to correct that discrepancy, is also summarized below, but further set out in detail in a report performed by leading fisheries scientist, Dr. Doug Heimbuch of AKRF, Inc. ("AKRF"; the "AKRF Report," attached).

Importantly, this New Information and AKRF Report underscore the correctness of NRC Staff's conclusion in Section 8 of the FSEIS that potential impacts to aquatic species as a result of projected entrainment and impingement at IPEC during the twenty-year license renewal period are no more than MODERATE, and likely SMALL. Nevertheless, consistent with Entergy's commitment to ensuring the accuracy of the record relating to the IPEC license-renewal proceeding and 10 C.F.R. § 51.94, Entergy hereby requests that the New Information and AKRF Report be included in the record of this proceeding, and that NRC's subsidiary findings with respect to blueback herring, hogchoker, rainbow smelt and white perch in Section 4.1.3.3. of the FSEIS be promptly corrected.

### ***Background***

The relevant FSEIS Sections and Appendices relate to NRC Staff's analysis of the effects of theoretical (or projected) impingement and/or entrainment ("I&E") of certain aquatic species in IPEC's cooling water intake structure under NRC-renewed licenses, and specifically include the subsidiary findings contained in FSEIS Appendix H Tables H-15 and 17, as well as Tables I-24, 38, 46 and 47, all as discussed in Sections 4.1.1-4.1.3 of the FSEIS (particularly Section 4.1.3.3). While NRC Staff determined that IPEC's continued operation during the license renewal period would have only SMALL or MODERATE potential impacts to the vast majority of representative Hudson River aquatic species, in FSEIS Section 4.1.3.3, NRC Staff identified five (5) species, *i.e.*, blueback herring, hogchoker, rainbow smelt, spottail shiner and white perch, the potential impacts to which NRC Staff identified as LARGE. NRC Staff's subsequent supplements to the FSEIS have reduced the LARGE finding for spottail shiner and also further addressed shortnose and Atlantic sturgeon, including based on then-new information from fisheries regulators or Entergy's previous correction of inadvertent discrepancies. See, e.g., <http://www.nrc.gov/reactors/operating/licensing/renewal/applications/indian-point.html> (discussing June 20, 2013 Supplement to FSEIS) ("This supplement includes corrections to impingement and entrainment data presented in the final SEIS, revised conclusions regarding thermal impacts based on newly available thermal plume studies, and an update of the status of the NRC's consultation under section 7 of the Endangered Species Act with the National Marine Fisheries Service regarding the shortnose sturgeon and Atlantic sturgeon."). Thus, at this time, four species retain MODERATE to LARGE findings for potential impacts, *i.e.*, blueback herring, hogchoker, rainbow smelt and white perch. See, e.g., FSEIS, Section 4.1.3.3 (as supplemented on June 20, 2013). Again, NRC Staff's findings with respect to these species are subsidiary findings that NRC Staff used to reach a general conclusion regarding I&E, a conclusion not affected by this submission.

Pursuant to NRC Staff's definition of LARGE impacts, the effects of I&E would have to be "sufficient to destabilize" those fish populations to result in LARGE findings. FSEIS, p. 1-3. As documented in the New Information discussed further below, LARGE findings are not appropriate for and cannot be reconciled with the findings in published fisheries reports for blueback herring and rainbow smelt. Furthermore, as documented in the AKRF Report, the New Information prompted Entergy to again review NRC Staff's analysis, which resulted in our identifying another inadvertent discrepancy in NRC Staff's use of Entergy's data files. When these discrepancies are corrected (employing NRC Staff's methodology) with updated data to align with the New Information, none of the LARGE findings remain appropriate. Thus, and importantly, with these corrections, NRC Staff's analysis in the FSEIS will conform to the current findings of other expert agencies for the species in question.

### ***New Information***

As NRC Staff is aware, ongoing fisheries management work is continuously performed by a variety of regulators expert in aquatic issues, including with respect to certain fish species that are the subject of the FSEIS. Certain of this information, specifically scientific analysis of species resident in or that migrate into the Hudson River, warrants highlighting because of the robustness of the datasets and the import of those regulatory analyses for the FSEIS. Specifically, Entergy has identified the following public documents issued by regulators after issuance of the FSEIS that bear directly on species analyzed by NRC Staff in the FSEIS:

- The National Marine Fisheries Service ("NMFS") considered, but ultimately refused to list as threatened or endangered, blueback herring, including within the Hudson River. See, e.g., 78 Fed. Reg. 48944 (August 12, 2013). NMFS compiled – with the assistance of the Atlantic States Marine Fisheries Commission ("ASMFC") – a massive dataset, including data through 2011, to perform its analysis. Based on this analysis, NMFS was unable to conclude that population trends were currently declining. Further, after performing that analysis, NMFS and ASMFC determined that the sources of mortality for blueback herring were known and could be ranked. Specifically, NMFS and ASMFC ranked all cooling water intake structure impacts, such as I&E, in conjunction with a variety of other industrial impacts that may occur throughout the species' range, as a cumulative "medium low" threat to blueback herring throughout its range. These twin NMFS findings cannot readily be reconciled with a LARGE impact finding from a specific CWIS, and therefore suggest that reconsideration of that finding is warranted.
- The New York State Department of Environmental Conservation ("NYSDEC") also contemporaneously reviewed the Hudson River blueback herring population. Employing data through 2010, NYSDEC concluded that the blueback herring population, although variable, was stable, even with existing mortality imposed through in-river fishing harvests. See, e.g., *Sustainable Fishing Plan for New York River Herring Stocks* (2011). NYSDEC's findings, in conjunction with NMFS's official determination (above), underscore the importance of reconsideration of a LARGE finding for blueback herring that is grounded on a reported declining trend that neither NMFS, nor NYSDEC determined to be real, particularly to the extent correlated to projected CWIS impacts.

- A consortium of regulators, including from the National Oceanic and Atmospheric Administration, in conjunction with fisheries regulators from Massachusetts, New Hampshire and Maine (collectively, "NOAA"), performed a comprehensive analysis of the migratory range of rainbow smelt. NOAA employed current datasets, and determined that the anecdotal Hudson River population (in the 1870's) has been effectively extirpated, in part because smelt's habitat range long ago shifted north, and no longer includes the Hudson River (all, for identified reasons unrelated to I&E). See, e.g., *Rainbow Smelt: An Imperiled Fish in a Changing World* (2010); *A Regional Conservation Plan for Anadromous Smelt* (2012) (reporting its comprehensive data analysis from 2006 through 2012, including its analysis of Hudson River data collected by Entergy and its predecessors). NOAA's determination that a population has not existed in the Hudson River for several decades (at least) cannot be reconciled with a finding of future LARGE impacts to that species during the license renewal period, and therefore suggest that reconsideration of that finding is warranted.

This New Information prompted Entergy to retain AKRF to review the subsidiary findings for these two species. During that review, AKRF identified an inadvertent discrepancy in NRC Staff's use of data files Entergy had provided to NRC Staff for its use. That discrepancy, and Entergy's correction and updating of the information to be consistent with the New Information identified above, is summarized below and detailed in the AKRF Report.

#### ***Summary of the AKRF Report***

The AKRF Report consists of two complimentary sections. First, the AKRF Report outlines an observed discrepancy in the use of data files employed by NRC Staff to reach its subsidiary findings for fish species identified in the FSEIS, including the effects of that discrepancy on those subsidiary findings. Second, the AKRF Report corrects the discrepancy (employing NRC Staff's methodology) and updates the datasets to be consistent with the New Information identified above, so that direct comparison by NRC Staff of information provided by federal and state agencies is possible. Both elements of the AKRF Report are outlined below.

First, AKRF discusses the inadvertent misapplication by NRC Staff, in its development of fish species trends reflected in the subsidiary findings, of Entergy's Hudson River Biological Monitoring program ("HRBMP") data files relating to the time and level of effort involved in sampling aquatic organisms. Briefly, Entergy's data files reflect the number of organisms caught in various boat-towed nets on an annual basis, provided (for completeness purposes) in a manner that reflects all weeks sampled during the entire study period. The HRBMP collections protocols are designed to address multiple species (some of which are only present, particularly at certain life stages, for a specific timeframes during the year), and have been collected for multiple decades, with certain protocol changes over time as a function of NYSDEC's direction in overseeing the HRBMP. Thus, knowing the weeks sampled in each year, and the distribution of tows, for a specific fish species is essential to perform trends analyses of the abundance of a particular species of fish, e.g., blueback herring, rainbow smelt, alewife or bay anchovy.

An example illustrates the dynamic: If 100 net tows collected 5,000 bay anchovy larvae during specific months in one year, the average catch per tow (a measure of bay anchovy larval abundance for the year) would be 50. If, in the next year, 100 net tows collected 5,000 bay

anchovy larvae during the same months, but the sampling period was then extended for an additional two months for white perch, during which 100 additional tows collected no bay anchovy larvae (because none were expected to be and were there), the average bay anchovy catch per tow would appear to be 25, unless corrected to reflect the correct level of effort during the period when bay anchovy are actually present. Absent understanding the discrepancy, and its cause, the data files could be erroneously interpreted as a decline in bay anchovy larval abundance from the previous year which did not, in fact, occur.

For River-wide abundance estimates, NRC Staff mistakenly did not account for when sampling occurred on a year-over-year basis for specific species. As a result, some of NRC Staff's population estimates appear to show declining population trends, but in fact are only showing mistaken calculations employing incorrect level of effort (or Catch Per Unit Effort) values derived from application of the data files without accounting for species presence.

Second, AKRF corrected this discrepancy, using the methods employed by NRC Staff in the FSEIS (Appendix H, Tables H-15 and 17, Tables I-24, 38, 46 and 47) and bringing the dataset current in a manner that allows NRC Staff the considerable benefit of direct comparison to the New Information (*i.e.*, AKRF analyzed the 27-year period from 1985 through 2011). Having done so, AKRF has concluded that the MODERATE-LARGE and LARGE subsidiary findings in Section 4.1.3.3 (pp. 4-21 through 4-22) of the FSEIS (and the associated Tables enumerated in the prior sentence) must be revised. The correct findings for the species with MODERATE-LARGE or LARGE findings are:

- **Blueback Herring** changed from LARGE to SMALL.
- **Hogchoker** changed from LARGE to MODERATE.
- **Rainbow Smelt** changed from MODERATE-LARGE to SMALL.
- **White Perch** changed from LARGE to SMALL.

Revisions to NRC Staff's current subsidiary findings for species other than blueback herring, hogchoker, rainbow smelt and white perch (where the LARGE subsidiary findings in Section 4.1.3.3. of the FSEIS are clearly in error), are as noted in the AKRF Report.

Importantly, this corrected dataset is consistent with the New Information, which provides added support for NRC Staff's subsidiary findings of mostly SMALL impacts from IPEC's license-renewed operations in the FSEIS. Again and importantly, correction of the inadvertent discrepancies does not alter, but rather confirms NRC Staff's ultimate conclusion in the FSEIS that potential impacts to aquatic species as a result of theoretical I&E at IPEC over the twenty-year license-renewal period are no more than MODERATE, and likely SMALL.

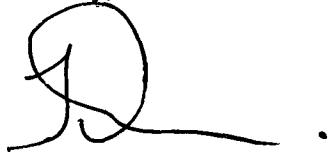
Finally, Entergy has employed NRC Staff's methodology in an effort to isolate the importance of the inadvertent discrepancies in a non-controversial manner. To that end, however, Entergy hereby advises NRC Staff that its use of NRC Staff's methodology for this purpose does not act, and should not be interpreted, as a waiver of Entergy's prior comments with respect to the methodology and NRC Staff's subsidiary findings.

In summary, Entergy submits this correspondence identifying relevant New Information and the AKRF Report to the NRC Staff, consistent with Entergy's commitment to ensuring the accuracy of the record relating to the IPEC license-renewal proceeding and 10 C.F.R. § 51.94.

Consequently, Entergy hereby requests that this information both be included in the record of this proceeding and that NRC Staff's current LARGE subsidiary findings in Section 4.1.3.3 with respect to blueback herring, hogchoker, rainbow smelt and white perch be corrected at NRC Staff's earliest convenience. Importantly, the AKRF Report provides corrected versions of FSEIS Appendix H Tables H-15 and 17, as well as Tables I-24, 38, 46 and 47, all as discussed in Sections 4.1.1-4.1.3 of the FSEIS (including Section 4.1.3.3), in order to provide a clear road map for NRC Staff in its consideration of this matter.

Finally, Entergy's request for correction of NRC Staff's FSEIS findings is particularly appropriate, because NYSDEC and New York State Department of State ("NYSDOS") staff have advised Entergy that they will rely on the FSEIS in their respective proceedings. See, e.g., Correspondence from Mark D. Sanza, Assistant Counsel for NYSDEC to ALJs Villa and O'Connell, Administrative Law Judges for NYSDEC, *re: Entergy Nuclear Indian Point Units 2 and 3, CWA Section 401 WQC Application Proceeding*. The NYSDEC proceeding addresses, among other things, the potential aquatic impacts of Indian Point's continued operations during the license-renewal period. For this reason, inadvertent discrepancies in the FSEIS, if uncorrected, have potential ramifications larger than Indian Point's NRC license renewal proceeding, supporting prompt FSEIS correction.

Sincerely,

A handwritten signature consisting of a stylized 'S' enclosed in a circle, followed by a long horizontal line extending to the right.

FRD/rw

Attachments and cc: See next page

Attachment:

1. AKRF Report – “Update of Aquatic Impact Analyses Presented in NRC’s FSEIS (December 2010) Regarding Potential Impacts of Operation of Indian Point Units 2 and 3”
2. 78 Fed. Reg. 48944 (August 12, 2013);  
Sustainable Fishing Plan for New York River Herring Stocks (2011);  
Rainbow Smelt: An Imperiled Fish in a Changing World (2010);  
A Regional Conservation Plan for Anadromous Smelt (2012); and,  
Correspondence from Mark D. Sanza, Assistant Counsel for NYSDEC to ALJs Villa and O’Connell, Administrative Law Judges for NYSDEC, *re: Entergy Nuclear Indian Point Units 2 and 3, CWA Section 401 WQC Application Proceeding*.

cc: Mr. William Dean, Regional Administrator, NRC Region I  
Mr. Sherwin E. Turk, NRC Office of General Counsel, Special Counsel  
Ms. Kimberly Green, NRC Sr. Project Manager, Division of License Renewal  
Mr. Douglas Pickett, NRR Senior Project Manager  
Dr. Dennis Logan, NRC Aquatic Biologist, Division of License Renewal  
Ms. Bridget Frymire, New York State Department of Public Service  
NRC Resident Inspector’s Office  
Mr. Francis J. Murray, Jr., President and CEO NYSERDA