Attachment 1
to

NRC Staff's Answer to
Entergy's Motion to Dismiss Contention RK-EC-8
(Endangered and Threatened Species) as Moot (Aug. 6, 2013)

NUREG-1437, Supplement 38, Vol. 4 (June 2013)

(Excerpted)

PART 1 of 3

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

NUREG-1437
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Generic Environmental Impact Statement for License Renewal of Nuclear Plants

Supplement 38

Regarding Indian Point Nuclear Generating Units Nos. 2 and 3

Final Report Supplemental Report and Comment Responses

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Office of Nuclear Reactor Regulation

ABSTRACT

This supplement to the final supplemental environmental impact statement (FSEIS) for the proposed license renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3 incorporates new information that the U.S. Nuclear Regulatory Commission (NRC) staff has obtained since the publication of the FSEIS in December 2010.

This supplement includes corrections to impingement and entrainment data presented in the FSEIS, 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 (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus).*

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BACKGROUND

By letter dated April 23, 2007, Entergy Nuclear Operations, Inc. (Entergy) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) to issue renewed operating licenses for Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3) for additional 20-year periods.

Under Title 10 of the Code of Federal Regulations (10 CFR) 51.20(b)(2) and the National Environmental Policy Act of 1969, as amended (NEPA), the renewal of a power reactor operating license requires preparation of an environmental impact statement (EIS) or a supplement to an existing EIS. In addition, 10 CFR 51.95(c) states that the NRC shall prepare an EIS, which is a supplement to the Commission's NUREG–1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," issued May 1996.

The NRC published its final supplemental environmental impact statement (FSEIS) for IP2 and IP3 in December 2010. After the NRC published the FSEIS, the staff identified new information that necessitated changes to its assessments in the FSEIS. This new information is derived from the following:

- Entergy provided comments on the FSEIS that included new information on the entrainment and impingement field data units of measure.
- Entergy provided comments on the Essential Fish Habitat Assessment that also included new information on the data units of measure.
- Entergy completed and submitted to the New York State Department of Environmental Conservation a new study that characterizes the IP2 and IP3 thermal plume.

To address this new information, the NRC staff has prepared this supplement to the FSEIS in accordance with 10 CFR 51.92(a)(2) and (c), which address preparation of a supplement to a final EIS for proposed actions that have not been taken, under the following conditions:

- There are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, or
- The NRC staff determines, in its opinion, that preparation of a supplement will further the purposes of NEPA.

In addition to supplementing the FSEIS for the reasons stated above, the NRC is also taking this opportunity to document the completion of the consultation process under Section 7 of the Endangered Species Act of 1973, as amended (ESA), with the National Marine Fisheries Service (NMFS) regarding the shortnose sturgeon (*Acipenser brevirostrum*) and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) population in the New York Bight.

PROPOSED ACTION

The proposed action remains the same as that stated in the FSEIS (at pages 1–6 and 1–7):

> The proposed Federal action is renewal of the operating licenses for IP2 and IP3 (IP1 was shut down in 1974). IP2 and IP3 are located on approximately 239 acres of land on the east bank of the Hudson River at Indian Point, Village of Buchanan, in upper Westchester County, New York, approximately

24 miles north of the New York City boundary line. The facility has two Westinghouse pressurized–water reactors. IP2 is currently licensed to generate 3216 megawatts thermal (MW(t)) (core power) with a design net electrical capacity of 1078 megawatts electric (MW(e)). IP3 is currently licensed to generate 3216 MW(t) (core power) with a design net electrical capacity of about 1080 MW(e). IP2 and IP3 cooling is provided by water from the Hudson River to various heat loads in both the primary and secondary portions of the plants. The current operating license for IP2 expires on September 28, 2013, and the current operating license for IP3 expires on December 12, 2015. By letter dated April 23, 2007, Entergy submitted an application to the NRC (Entergy 2007a) to renew the IP2 and IP3 operating licenses for an additional 20 years.

PURPOSE AND NEED FOR ACTION

The purpose and need for action remains the same as stated in the FSEIS (at page 1–7):

> Although a licensee must have a renewed license to operate a reactor beyond the term of the existing operating license, the possession of that license is just one of a number of conditions that must be met for the licensee to continue plant operation during the term of the renewed license. Once an operating license is renewed, State regulatory agencies and the owners of the plant will ultimately decide whether the plant will continue to operate based on factors such as the need for power or matters within the State's jurisdiction—including acceptability of water withdrawal, consistency with State water quality standards, and consistency with State coastal zone management plans—or the purview of the owners, such as whether continued operation makes economic sense.
>
> Thus, for license renewal reviews, the NRC has adopted the following definition of purpose and need (GEIS Section 1.3):
>
> > The purpose and need for the proposed action (renewal of an operating license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by State, utility, and where authorized, Federal (other than NRC) decision makers.
>
> This definition of purpose and need reflects the Commission's recognition that, unless there are findings in the safety review required by the Atomic Energy Act of 1954, as amended, or findings in the NEPA environmental analysis that would lead the NRC to reject a license renewal application, the NRC does not have a role in the energy–planning decisions of State regulators and utility officials as to whether a particular nuclear power plant should continue to operate. From the perspective of the licensee and the State regulatory authority, the purpose of renewing the operating licenses is to maintain the availability of the nuclear plant to meet system energy requirements beyond the current term of the plant's licenses.

1.0 INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) staff prepared this supplement to the final supplemental environmental impact statement (FSEIS) for Indian Point Nuclear Generating Units 2 and 3 (IP2 and IP3) in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 51.92(a)(2) and (c), which address the preparation of a supplement to an FSEIS for proposed actions that have not been taken, if the following conditions apply:

- There are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, or
- The NRC staff determines, in its opinion, that preparation of a supplement will further the purposes of NEPA.

The NRC staff prepared this supplement to the FSEIS because it received new data, analyses, and comments from several sources that potentially changed, and in some cases did change, the staff's conclusions in the FSEIS. This supplement contains the text, tables, and figures that changed as the result of this new information.

Three sources provided information that changed the staff's conclusions in the FSEIS.

First, in comments to the NRC dated March 29, 2011, Entergy Nuclear Operations, Inc. (Entergy) (Entergy 2011b, AKRF 2011b) provided new information regarding the entrainment and impingement field data that it had previously provided to the NRC for its aquatic resource impact assessment in Entergy (2007), a December 2007 supplement to its license renewal application. In its letter dated March 29, 2011, Entergy (2011b) said that these changes would:

> ...not alter, but rather confirm, NRC's ultimate conclusion in the FSEIS that potential impacts to aquatic species as a result of theoretical entrainment and impingement at IPEC are no more than MODERATE.

Second, comments submitted on behalf of Entergy (Goodwin Proctor 2011, AKRF 2011a) on the FSEIS and the NRC staff's Essential Fish Habitat Assessment contained related new information. When the NRC staff considered this information, the staff found that the information necessitated some minor changes to the aquatic ecology findings in Sections 4.1.2 through 4.1.3 of the FSEIS and Appendices H and I. Chapter 2 of this supplement provides corrected tables and conclusions resulting from the NRC staff's analysis of the new information. Where specific changes or corrections to FSEIS information occur, this supplement references the affected FSEIS section, page, and line numbers.

Third, since the publication of the FSEIS, Entergy submitted to the New York State Department of Environmental Conservation (NYSDEC) a triaxial plume study (Swanson et al. 2011a) as part of its State Pollutant Discharge Elimination System (SPDES) permit renewal application. Entergy undertook this study in response to the NYSDEC's 2010 Notice of Denial (NYSDEC 2010). Based on this new information, as well as Entergy's response to the NYSDEC staff's comments on the study (Mendelsohn et al. 2011, Swanson et al. 2011b) and the NYSDEC staff's conclusions regarding its review of the study and response to comments (NYSDEC 2011), the NRC staff has revised its conclusions regarding the impacts of heat shock to aquatic species. Chapter 3 of this supplement presents these revised conclusions.

In addition to supplementing the FSEIS for the reasons stated above, the staff is also taking this opportunity to update the status of consultations under Section 7 of the Endangered Species Act of 1973, as amended (ESA) with the National Marine Fisheries Service (NMFS). Chapter 4 of this supplement updates the information contained in Section 4.6.1 of the FSEIS to

document the completion of consultation regarding the shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus)* in the New York Bight (NYB), and summarizes the biological opinion and associated incidental take statement (ITS) (NMFS 2011e) that NMFS issued in January 2013 as a result of that consultation.

The NRC staff issued a draft supplement to the FSEIS on June 26, 2012, which was made available for public comment for 45 days. Based on comments received, the NRC staff amended the draft supplement to the FSEIS, as necessary, and published this final supplement to the FSEIS. The comments received, and the NRC staff's responses to those comments, are presented in Appendix A of this supplement.

Where appropriate, bold text indicates specific text corrections or additions to the FSEIS and bold strikeout indicates deletions from the text. Change bars (vertical lines in the page margin) indicate changes that were made to the text of the draft supplement to the FSEIS, prior to issuing this final supplement.