



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 29, 2012

Ms. Patricia A. Kurkul
Northeast Regional Administrator
National Marine Fisheries Service
55 Great Republic Dr.
Gloucester, MA 01930-2276

SUBJECT: REQUEST FOR CONCURRENCE ON DETERMINATION OF EFFECTS
CONCERNING ATLANTIC STURGEON AT PILGRIM NUCLEAR POWER
STATION

Dear Ms. Kurkul:

The U.S. Nuclear Regulatory Commission (NRC, the staff) is writing you to request your concurrence on the U.S. Nuclear Regulatory Commission (NRC)'s determination of effects concerning the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), which was recently listed under the Endangered Species Act of 1973, as amended (ESA), at Pilgrim Nuclear Power Station (Pilgrim).

Pilgrim is located in the Town of Plymouth, Plymouth County, Massachusetts, on the western shore of Cape Cod Bay. In a letter dated January 25, 2006, Entergy Nuclear Operations, Inc. (Entergy) submitted an application to the NRC for a renewed license, which if granted, would allow Entergy to operate Pilgrim for an additional 20 years beyond the current operating license expiration date of June 8, 2012. As part of the NRC staff's environmental review of Entergy's license renewal application, the staff assessed the potential impacts of the proposed license renewal on Federally listed species.

The NRC submitted a biological assessment to your office via letter dated December 8, 2006, to support the staff's review of Entergy's license renewal application. The biological assessment appears in Appendix E of NUREG-1437, Supplement 29, "Generic Environmental Impact Statement for License Renewal Regarding Pilgrim Nuclear Power Station," and it considers the effects of the proposed license renewal on four species of sea turtles, five species of whales, and the shortnose sturgeon (*Acipenser brevirostrum*). In the biological assessment, the staff concluded that the proposed license renewal would have no effect on any of these species, and Entergy has not reported any takes of Federally listed species at Pilgrim since the issuance of the 2006 biological assessment that would call into question these conclusions. The December 8, 2006, letter transmitting the biological assessment summarized the assessment's conclusions and requested your concurrence on the NRC's effect determinations.

On February 6, 2012, the NMFS listed five distinct population segments of the Atlantic sturgeon under the ESA (77 FR 5880; 77 FR 5914). Atlantic sturgeon in the vicinity of Pilgrim are part of the Gulf of Maine distinct population segment, which is listed as threatened. Within Massachusetts, the Atlantic sturgeon occurs in the Merrimack, Taunton, and Connecticut Rivers (NMFS 2007). Subadults and adults are expected to occur in Cape Cod occasionally during migration, but the available literature does not indicate that they are common to the Plymouth

area near Pilgrim. In the enclosed supplement, the NRC concludes that the proposed license renewal of Pilgrim would have **no effect** on the Atlantic sturgeon.

The NRC requests your concurrence on the NRC's determination concerning the Atlantic sturgeon as well as the NRC's 2006 biological assessment per 50 CFR 402.12(j). Please contact Ms. Briana Balsam, biologist, of my staff with any additional information you might need to assess the potential impacts to listed species at Pilgrim. You can reach her at 301-415-1042 or by e-mail at Briana.Balsam@nrc.gov.

I have also forwarded a copy of this letter to Ms. Julie Crocker of your office. Ms. Crocker has been NRC's main point of contact for ESA issues related to the Pilgrim license renewal review.

Sincerely,



Andrew S. Imboden, Chief
Environmental Review and
Guidance Update Branch
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure:
As stated

cc w/encl: Listserv

**Biological Assessment
Supplement**

**Pilgrim Nuclear Power Station
Proposed License Renewal**

February 2012

Docket Number 50-293

**U.S. Nuclear Regulatory Commission
Rockville, Maryland**

Prepared by:

Briana Balsam
Division of License Renewal
Office of Nuclear Reactor Regulation

ENCLOSURE

Supplement to Biological Assessment of the Potential Effects of Pilgrim's Nuclear Power Station's Proposed License Renewal on Federally Listed Species

Introduction

In December 2006 letter (NRC 2006a), the U.S. Nuclear Regulatory Commission (NRC) forwarded a biological assessment (NRC 2006b) to the National Marine Fisheries Service (NMFS) that the NRC staff prepared pursuant to compliance with the Endangered Species Act of 1973, as amended (ESA). The biological assessment considered the potential effects of the proposed license renewal at Pilgrim Nuclear Power Station (Pilgrim) on Federally listed species. The NRC staff assessed the effects of the proposed license renewal on four species of sea turtles, five species of whales, and the shortnose sturgeon (*Acipenser brevirostrum*) and concluded that the proposed license renewal would have no effect on any listed species.

In February 2012, the NMFS listed five distinct population segments (DPSs) of the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) under the ESA. This supplement to the NRC's 2006 biological assessment assesses the potential effects of the proposed license renewal on the Atlantic sturgeon, Gulf of Maine DPS.

Life History

The Atlantic sturgeon is an anadromous bony fish that can grow to 14 ft (4.3 m) and weigh up to 800 lbs (370 kg) (Gilbert 1989; NOAA 2012). Atlantic sturgeon are similar in appearance to shortnose sturgeon—bluish-black to olive brown dorsally with pale sides and underbelly—but are larger in size and have a smaller and differently shaped mouth (NOAA 2012). Females reach maturity at 7 to 30 years of age, and males reach maturity at 5 to 24 years of age, with those fish inhabiting the southern range maturing earlier (ASMFC 2007).

Atlantic sturgeon larvae hatch in freshwater, and larvae migrate downstream from freshwater to brackish estuarine environments, where they remain for a few months to a few years (NOAA 2012). Juveniles and non-spawning adults inhabit estuaries and coastal marine waters dominated by gravel and sand substrates (NOAA 2012). Adults return to their natal rivers to spawn.

Distribution

Historically, the Atlantic sturgeon has inhabited riverine, estuarine, and coastal ocean waters from St. Lawrence River, Canada to St. John's River, Florida (ASMFC 2009). Within the U.S., the species was present in approximately 38 rivers from St. Croix, Maine to Saint John's River, Florida. Currently, the species resides in 36 U.S. rivers and spawns in at least 20 of these rivers (ASSRT 2007). Within Massachusetts, the Atlantic sturgeon occurs in the Merrimack, Taunton, and Connecticut Rivers. No evidence exists of spawning in any of these three rivers (ASSRT 2007).

Population Status

Atlantic sturgeon have been commercially fished from as early as 1628, though a substantial Atlantic sturgeon fishery did not appear until the late 1800s (Shepard 2006). Overfishing and habitat degradation caused a decline in landings beginning in the early

1900s; however, landings increased from 1950 to 1980, specifically in the Carolinas, and ranged from 45 metric tons per year (mt/yr) to 115 mt/yr (Shepard 2006). In 1998, the Atlantic States Marine Fisheries Commission (ASMFC), which manages the commercial harvest of the species, instituted a moratorium on Atlantic sturgeon harvest in U.S. waters (NOAA 2012). Today, the species is still caught as bycatch. Based on data from 2001 to 2006, the ASMFC (2007) estimated that in U.S. waters, between 2,752 and 7,904 individuals per year are caught as bycatch in sink gillnets, and 2,167 to 7,210 individuals per year are caught as bycatch in trawls.

Information is unavailable on the current estimated population size of the Gulf of Maine DPS or its subpopulations. In the U.S., estimates exist for only the Hudson River, New York (870 spawning adults/year) and the Altamaha River, Georgia (343 spawning adults/year) (75 FR 61872). These two rivers are considered to have the healthiest subpopulations (ASSRT 2007); therefore, the Gulf of Maine DPS subpopulations are predicted to have fewer spawning adults per year than either of these.

ESA Listing History

In 2007, the NMFS considered listing the Atlantic sturgeon under the ESA, but concluded that listing was not warranted at that time. In 2009, the Natural Resources Defense Council (NRDC) petitioned for the NMFS to reconsider the listing of the species (NRDC 2009). The NMFS accepted the NRDC's petition in a 90-Day Finding on January 6, 2010 (75 FR 838). On October 6, 2010, the NMFS published Proposed Listing Determinations for five Atlantic sturgeon DPSs (75 FR 61872; 75 FR 61904). On February 6, 2012, the NMFS listed the five Atlantic sturgeon DPSs under the ESA (77 FR 5880; 77 FR 5914). Atlantic sturgeon in the vicinity of Pilgrim are part of the Gulf of Maine DPS, which is listed as threatened.

Determination of Effects

Within Massachusetts, the Atlantic sturgeon occurs in the Merrimack, Taunton, and Connecticut Rivers (ASSRT 2007). Subadults and adults are expected to occur in Cape Cod occasionally during migration, but the available literature does not indicate that they are common to the Plymouth area near Pilgrim.

Per NRC regulations, Entergy must report events or situations related to protection of the environment to the NRC for which notification to other government agencies has been or will be made (10 CFR 50.72(b)(2)(xi)). Incidental takes of Federally listed species would constitute an event that Entergy must report to the NRC per this regulatory requirement. The NRC staff reviewed event reports for Pilgrim and found none that indicated that a take of Atlantic sturgeon has occurred at Pilgrim since it began operating in 1972.

Conclusion

Based on the available information on the distribution of Atlantic sturgeon and the absence of any record of incidental takes of the species at Pilgrim since it began operating, the NRC concludes that the proposed license renewal of Pilgrim will have **no effect** on the Atlantic sturgeon.

References

References that appear with an Agencywide Document Access and Management System (ADAMS) accession number can be accessed through NRC's web-based ADAMS at the following URL: <http://adams.nrc.gov/wba/>.

10 CFR Part 50. *Code of Federal Regulations*, Title 10, *Energy*, Part 50, "Domestic licensing of production and utilization facilities."

75 FR 838. National Oceanic and Atmospheric Administration. "Endangered and Threatened Wildlife; Notice of 90-Day Finding on a Petition to List Atlantic Sturgeon as Threatened or Endangered under the Endangered Species Act (ESA)." *Federal Register* 75(3):838-841. January 6, 2010.

75 FR 61872. National Oceanic and Atmospheric Administration. "Endangered and Threatened and Plants; Proposed Listing Determinations for Three Distinct Population Segments of Atlantic Sturgeon in the Northeast Region." *Federal Register* 75(193):61872-61904. October 6, 2010.

75 FR 61904. National Oceanic and Atmospheric Administration. "Endangered and Threatened Wildlife and Plants; Proposed Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon in the Southeast Region." *Federal Register* 75(193):61904-61929. October 6, 2010.

77 FR 5880. National Oceanic and Atmospheric Administration. "Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Northeast." *Federal Register* 77(24):5880-5912. February 6, 2012.

77 FR 5914. National Oceanic and Atmospheric Administration. "Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Southeast." *Federal Register* 77(24):5914-5982. February 6, 2012.

[ASMFC] Atlantic States Marine Fisheries Commission. 2007. *Estimation of Atlantic Sturgeon Bycatch in Coastal Atlantic Commercial Fisheries of New England and the Mid-Atlantic*. Special Report to the ASMFC Atlantic Sturgeon Management Board. August 2007. Available at <<http://www.asmfc.org/speciesDocuments/sturgeon/bycatchReportAug07.pdf>> (accessed 14 February 2012).

ASSRT (Atlantic Sturgeon Status Review Team). 2007. *Status Review of Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus)*. Report to National Marine Fisheries Service, Northeast Regional Office. February 23, 2007. Available at <<http://www.nmfs.noaa.gov/pr/pdfs/statusreviews/atlanticsturgeon2007.pdf>> (accessed 14 February 2012).

Gilbert CR. 1989. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Mid-Atlantic)—Atlantic and Shortnose Sturgeons*. U.S. Fish and Wildlife Service Biological Report 82(11.122). U.S. Army Corps of Engineers TR EL-82-4. December 1989. Available at <http://www.nwrc.usgs.gov/wdb/pub/species_profiles/82_11-122.pdf> (accessed 14 February 2012).

[NOAA] National Oceanic and Atmospheric Administration. 2012. "Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*).". Available at <http://www.nmfs.noaa.gov/pr/species/fish/atlanticsturgeon.htm> (accessed 14 February 2012).

[NRC] U.S. Nuclear Regulatory Commission. 2006a. Letter to Colosi PD, Assistant Regional Administrator for Habitat Conservation, NMFS, from Kuo PT, Acting Division Director of License Renewal. Subject: Biological assessment and essential fish habitat assessment for license renewal of Pilgrim Nuclear Power Station. December 8, 2006. ADAMS No. ML063390166.

[NRC] U.S. Nuclear Regulatory Commission. 2006b. *Biological Assessment for License Renewal of Pilgrim Nuclear Power Station*. Appendix E to NUREG-1437, Supplement 29, *Generic Environmental Impact Statement for License Renewal Regarding Pilgrim Nuclear Power Station*. December 2006. 29 p. ADAMS No. ML063260173.

[NRDC] Natural Resources Defense Council. 2009. *Before the Secretary of Commerce, Petition to List Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus) as an Endangered Species, or List Specified Atlantic Sturgeon DPSs as Threatened and Endangered Species, and to Designate Critical Habitat*. September 30, 2009. Available at http://www.nmfs.noaa.gov/pr/pdfs/species/petition_atlanticsturgeon_nrdc.pdf (accessed 14 February 2012).

Shepard G. 2006. "Status of Fishery Resources off the Northeastern U.S.: Atlantic and Shortnose Sturgeons." December 2006. Available at http://www.nefsc.noaa.gov/sos/spsyn/af/sturgeon/archives/42_Atlantic_ShortnoseSturgeons_2006.pdf (accessed 14 February 2012).

Letter to P. Kurkul from A. Imboden dated March 1, 2012

SUBJECT: REQUEST FOR CONCURRENCE ON DETERMINATION OF EFFECTS
CONCERNING ATLANTIC STURGEON AT PILGRIM NUCLEAR POWER
STATION

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area near Pilgrim. In the enclosed supplement, the NRC concludes that the proposed license renewal of Pilgrim would have **no effect** on the Atlantic sturgeon.

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Sincerely,

/RA/

Andrew S. Imboden, Chief
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Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure:
As stated

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