



LR-E14-0122

EPP 5.4.2 Appendix B

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
ARTICLE NUMBER: 7012 1640 0000 4257 2698

SUBJECT: **REPORT OF IMPINGEMENT OF ATLANTIC STURGEON  
SALEM GENERATING STATION  
DOCKET NO. 50-272**

The Nuclear Environmental Event Report, "Report of Impingement of Atlantic Sturgeon" is being submitted pursuant to the requirements of Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG).

Please find enclosed a letter and (2) attachments with further information regarding this impingement event. This report reflects a deceased Atlantic Sturgeon collected on August 5<sup>th</sup>, 2014.

If you have any questions or require additional information, please do not hesitate to contact Kenneth Strait, Manager – Biological Programs at (856) 339-3929.

Sincerely,

A handwritten signature in black ink, appearing to read "John Garacht", with a stylized flourish at the end.

(John Garacht)  
for  
Lawrence M. Wagner  
Plant Manager - Salem  
PSEG Nuclear LLC

Attachments (2)

IE23  
NRR

## REPORT OF IMPINGEMENT OF ATLANTIC STURGEON

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the Salem Generating Station, PSEG Nuclear LLC (PSEG) hereby transmits notification of a non-routine event, and documents the occurrence and removal of an Atlantic Sturgeon (*Acipenser oxyrinchus*) from the Salem Generating Station circulating water intake structure trash bars.

Consultation pursuant to Section 7 of the Endangered Species Act of 1973 (ESA) between NRC and the National Marine Fisheries Service (NMFS) on the effects of the operation of Salem Station on threatened and endangered species has been ongoing since 1979. The most recent revision to the Biological Opinion and Incidental Take Statement issued in January 1999 exempts the specified annual take of Shortnose Sturgeon and Sea Turtles. In advance of relicensing for Salem Station, consultation pursuant to Section 7 of the ESA between NRC and NMFS was reinitiated in 2009. On April 6, 2012, the NMFS listed five Distinct Population Segments of Atlantic Sturgeon as threatened or endangered under the ESA. In May 2012, NRC requested consultation on the effects of the continued operation of Salem Station on Atlantic sturgeon. The NMFS issued a draft Biological Opinion and Incidental Take Statement (ITS) in July 2012 that, when finalized, will authorize a specified incidental take of both Atlantic Sturgeon and Shortnose Sturgeon associated with operation of the Salem Station circulating water intake system.

Pursuant to Section 5.4.2 of the Environmental Protection Plan for Salem Station, non-routine events which require reporting to other federal agencies shall be reported in accordance with the other agencies' reporting requirements. Accordingly, enclosed please find two (2) attachments. Attachment 1 provides the information requested by the NMFS in Appendix II to the current ITS and in Appendix B, Part 2, to the revised draft ITS. Attachment 2 is a copy of a Sturgeon Salvage Form verbally requested by the NMFS.

There are no commitments contained in this letter.

LR-E14-0122  
Document Control Desk

cc: Administrator - Region I  
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King of Prussia, PA 19406-2713

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U. S. Nuclear Regulatory Commission  
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Rockville, MD 20852

Ms. Lynn Lankshear  
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Salem Commitment Coordinator  
Mail Code X25

USNRC Senior Resident Inspector - Salem  
Mail Code X24

## ATTACHMENT 1 (Sturgeon)

Observer's full name: Matthew S. Parris  
Reporter's full name: Michael A. Pego

Species Identification (Key attached): Atlantic Sturgeon (Acipenser oxyrinchus)

Site of Impingement (Unit 1 or 2, CWS or DWS, Bay #, etc.): Unit 1 CWI 11A

Date animal observed: 8/5/14 Time animal observed: 0855 am  
Date animal collected: 8/5/14 Time animal collected: 0855 am  
Date rehab facility contacted: N/A Time rehab facility contacted: N/A  
Date animal picked up: N/A Time animal picked up: N/A

Environmental conditions at time of observation (i.e., tidal stage, weather):  
Air Temp.-22.0°; sal.-7.0ppt; Wind - NW; Sky - partly cloudy; Wave - slight; Tide - Ebb1 (91.5ft)

Date and time of last inspection of screen: 08/05/2014 at 0140 am  
Water temperature (°C) at site and time of observation: 25.5° C

Number of pumps operating at time of observation: Unit 1 6 Unit 2 6  
Average percent of power generating capacity achieved per unit at time of observation:

Unit 1 100 Unit 2 100

Average percent of power generating capacity achieved per unit over the 48 hours previous to observation:  
Unit 1 100 Unit 2 100

### Sturgeon Information:

Species Atlantic Sturgeon (Acipenser oxyrinchus)

Fork length (or total length) 76.0 cm (estimated total) Weight 19.8 kg

### Condition of specimen/description of animal

On 08/05/2014 at approximately 0805 a deceased animal carcass was discovered floating in front of the Salem Generating Station Trash Racks. The carcass was recovered, and despite missing both the head and tail portions we were able to identify it as an Atlantic Sturgeon based on other distinct characteristics.

Fish Decomposed: NO SLIGHTLY MODERATELY SEVERELY  
Fish tagged: YES / NO Please record all tag numbers. Tag # \_\_\_\_\_

Photograph attached: YES / NO  
(please label species, date, geographic site and vessel name on back of photograph)

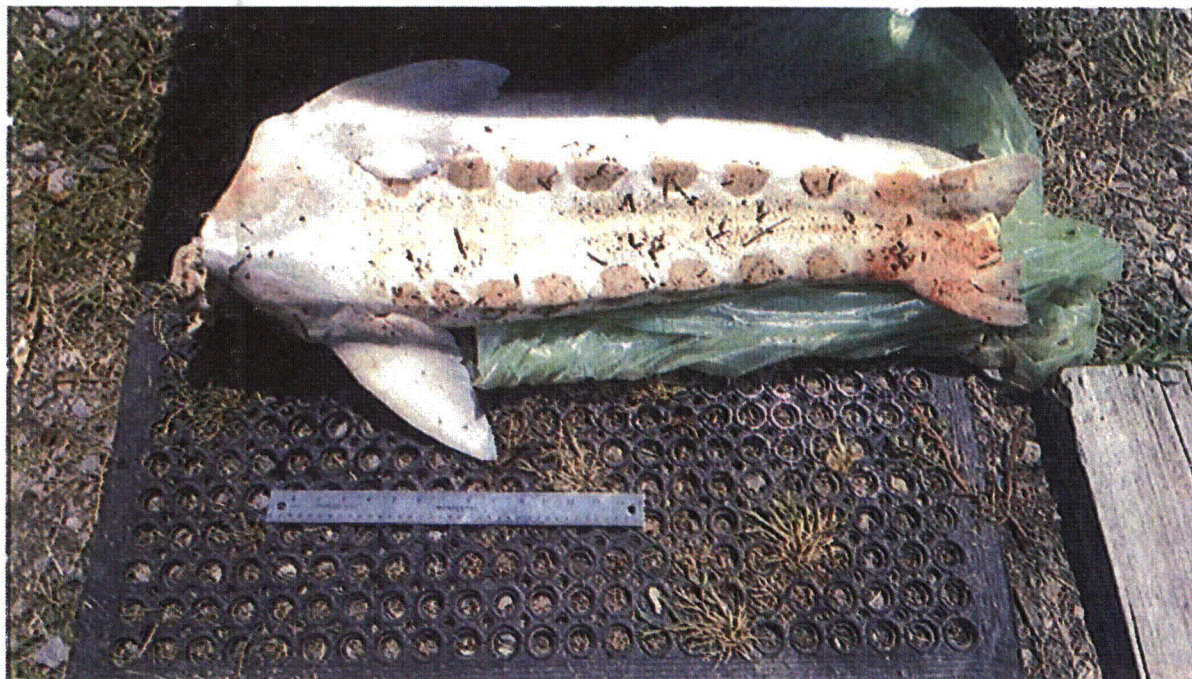


**ATTACHMENT 1 (Sturgeon) continued**

**Photographs**



View showing the size and condition of the deceased Atlantic Sturgeon (*Acipenser oxyrinchus*), retrieved at 08:55 on 08/05/14 by Salem Yard Crew personnel during routine trash rack cleaning at the Salem CWIB. The specimen was in poor condition at the time of retrieval, with both the head and tail portions missing (08/05/14).



This photo provides a ventral view of the specimen, and shows the existing damage that was observed at the time of retrieval (08/05/14).



**ATTACHMENT 1 (Sturgeon) continued**



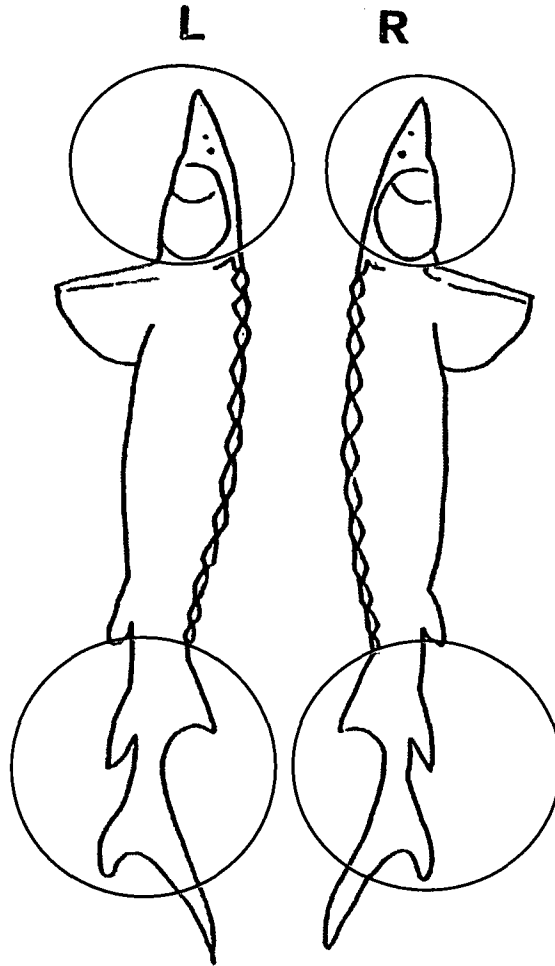
This view reveals that the gills remain intact, and that only minor decomposition has occurred in the dorsal region (08/05/14).



This view shows damage and minor decomposition occurring at the posterior end of the specimen. In addition to the entire caudal fin, both the dorsal fin and the anal fins were also observed to be missing. Although the cause of damage to the specimen is unknown at this time, photos and observations indicate that the specimen has been deceased for only a short period of time (08/05/14).

### ATTACHMENT 1 (Sturgeon) continued

Draw wounds, abnormalities, tag locations on diagram and briefly describe below



#### Description of fish condition:

The specimen was deceased at the time of initial observation and collection by Salem personnel. Significant damage was observed with both the head and tail portions missing. Minor decomposition was observed in these areas. Based on these observations it appears that the specimen was recently deceased, however there is no indication that the death was caused by plant operations.



# STURGEON DATA COLLECTION FORM

For use in documenting sturgeon injury or mortality incidental to a federal action

## OBSERVER'S CONTACT INFORMATION

Name: First Douglas Last Potts  
Agency Affiliation PSEG subcontractor Email dpotts@ecsi-del.com  
Address 100 South Cass Street, Middletown, DE 19709  
Area code/Phone number (302) 378-9881

SEC 7 UNIQUE IDENTIFIER (PCTS  
No. Assigned by NMFS)

## DATE REPORTED:

Month 08 Day 05 Year 2014

## DATE EXAMINED:

Month 08 Day 05 Year 2014

## SPECIES: (check one)

- ☐ shortnose sturgeon  
☒ Atlantic sturgeon  
☐ Unidentified *Acipenser* species  
Check "Unidentified" if uncertain.  
See reverse side of this form for aid in identification.

## LOCATION FOUND: ☐ Offshore (Atlantic or Gulf beach) ☒ Inshore (bay, river, sound, inlet, etc)

River/Body of Water Delaware River City Hancocks Bridge State NJ  
Descriptive location (be specific Removed from Circulating Water Intake Structure (CWIS)  
intake trash racks, intake bay 11A, during routine trash rack cleaning at the Salem Generating  
Station, PSEG Nuclear LLC.

Latitude 39° 27'38.17 N (Dec. Degrees) Longitude 75° 32'10.08 W (Dec. Degrees)

## CARCASS CONDITION at time examined: (check one)

- ☒ 1 = Fresh dead  
☐ 2 = Moderately decomposed  
☐ 3 = Severely decomposed  
☐ 4 = Dried carcass  
☐ 5 = Skeletal, scutes & cartilage

## SEX:

- ☒ Undetermined  
☐ Female ☐ Male  
How was sex determined?  
☐ Necropsy  
☐ Eggs/milt present when pressed  
☐ Borescope

## MEASUREMENTS:

Circle unit  
Fork length NM cm / in  
Total length NM cm / in  
Length ☐ actual ☒ estimate ~ 76.0 cm  
Mouth width (inside lips, see reverse side) NM cm / in  
Interorbital width (see reverse side) NM cm / in  
Weight ☒ actual ☐ estimate 19.8 kg

TAGS PRESENT? Examined for external tags including fin clips? ☒ Yes ☐ No Scanned for PIT tags? ☒ Yes ☐ No

Tag #

Tag Type

Location of tag on carcass

## CARCASS DISPOSITION: (check one or more)

- ☐ 1 = Left where found  
☐ 2 = Buried  
☐ 3 = Collected for necropsy/salvage  
☒ 4 = Frozen for later examination  
☐ 5 = Other (describe) \_\_\_\_\_

## Carcass Necropsied?

☐ Yes ☒ No

Date Necropsied: \_\_\_\_\_

Necropsy Lead: \_\_\_\_\_

## PHOTODOCUMENTATION:

Photos/video taken? ☒ Yes ☐ No

Disposition of Photos/Video PSEG Nuclear  
Environmental Affairs and Nuclear  
Regulatory Affairs personnel.

## SAMPLES COLLECTED? ☐ Yes ☒ No

Sample

How preserved

Disposition (person, affiliation, use)

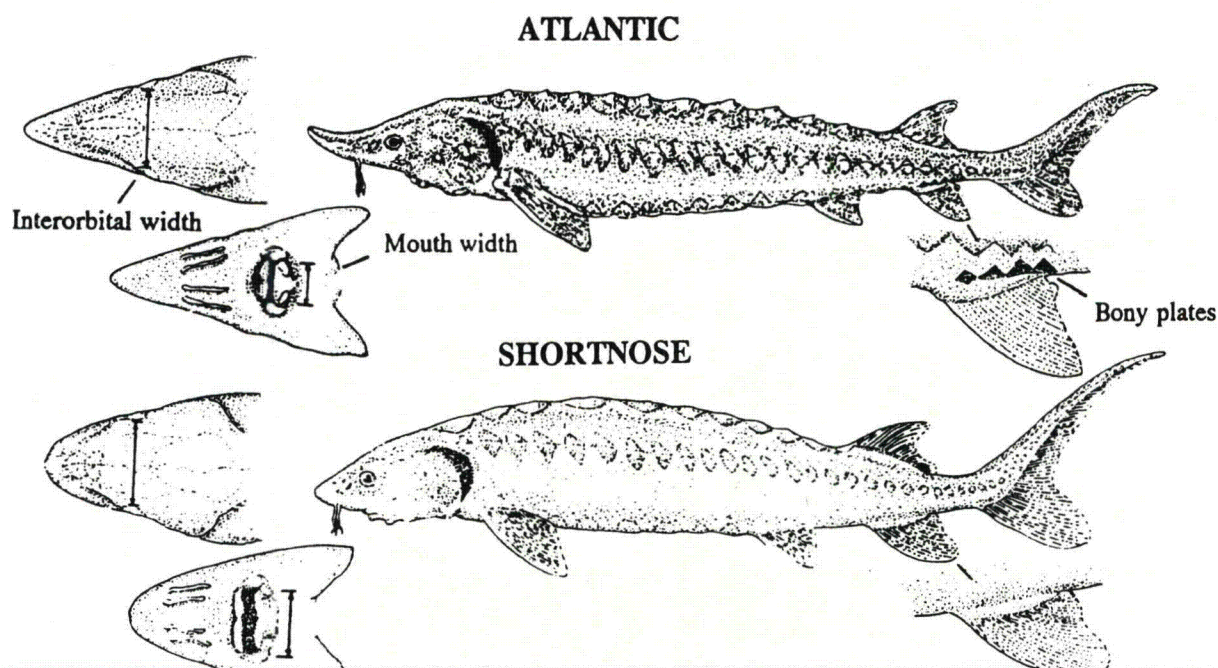
Comments: The deceased Atlantic sturgeon was collected from outside the Salem Circulating Water Intake Structure during routine trash rack cleaning on 08/5/14, at 08:55am. Positive identification was made by Environmental Consulting Services personnel at 10:30am. The specimen was severely damaged, missing both the head and tail. The remaining torso portion was measured, photographed, and inspected for tags, but none were found. The State of New Jersey DEP, Division of Fish and Wildlife, and National Marine Fisheries (NMFS) were contacted in regards to the incidental take at 09:57am and 09:59am respectively. Upon completion of processing, the specimen was placed on ice and was transported off-site to the ECSI main office in Middletown, DE for frozen storage. Transfer of custody of the specimen from ECSI to Delaware DNREC occurred at 14:00 on 08/14/14.



# Distinguishing Characteristics of Atlantic and Shortnose Sturgeon (version 07-20-2009)

Characteristic	Atlantic Sturgeon, <i>Acipenser oxyrinchus</i>	Shortnose Sturgeon, <i>Acipenser brevirostrum</i>
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
*Pre-anal plates	Paired plates posterior to the rectum & anterior to the anal fin.	1-3 pre-anal plates almost always occurring as median structures (occurring singly)
Plates along the anal fin	Rhombic, bony plates found along the lateral base of the anal fin (see diagram below)	No plates along the base of anal fin
Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

\* From Vecsei and Peterson, 2004



Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). **Please note if no wounds / abnormalities are found.**

**The specimen was deceased at the time of initial observation and collection by Salem personnel. Significant damage was observed with both the head and tail portions missing. Minor decomposition was observed in these areas. Based on these observations it appears that the specimen was recently deceased, however there is no indication that the death was caused by plant operations.**

Data Access Policy: Upon written request, information submitted to National Marine Fisheries Service (NOAA Fisheries) on this form will be released to the requestor provided that the requestor credit the collector of the information and NOAA Fisheries. NOAA Fisheries will notify the collector that these data have been requested and the intent of their use.

Submit completed forms (within 30 days of date of investigation) to: Jessica Pruden, Shortnose Sturgeon Recovery Coordinator, NOAA Fisheries Northeast Region, 55 Great Republic Drive, Gloucester, MA 01930  
Phone: 978-282-8482; Fax: 978-281-9394; E-Mail [Jessica.Pruden@noaa.gov](mailto:Jessica.Pruden@noaa.gov)