

Public Service
Electric and Gas
Company

Steven E. Miltenberger

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-4199

Vice President and Chief Nuclear Officer

CERTIFIED MAIL
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ARTICLE NUMBER: P 063 762 483

SEP 25 1992

NLR-E92279

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

REPORT OF IMPINGEMENT OF SEA TURTLE
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for Salem Generating Station, Public Service Electric and Gas Company (PSE&G) hereby transmits notification of a nonroutine event discovery, and documents the occurrence and removal of eight sea turtles from the Salem Generating Station circulating water intake structure.

Enclosed please find nine (9) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachments 2 thru 9, requested by the National Marine Fisheries Service (NMFS), provide more specific information regarding observance and retrieval of sea turtles.

Should you have any questions regarding this transmittal, please feel free to contact us.

Sincerely,



Attachments (9)

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- 2 -

C Mr. J. C. Stone
Licensing Project Manager

Mr. T. Johnson
Senior Resident Inspector

Mr. T. Martin, Administrator
Region I

Ms. Colleen Coogan
National Marine Fisheries Service
Habitat Conservation Branch
One Blackburn Drive
Gloucester, MA 01930-2298

Ms. Jo Ann Frier-Murza, Chief
NJ Department of Environmental Protection & Energy
Endangered and Nongame Species Program
CN 400
Trenton, NJ 08625-0400

Mr. Kent Tosch, Chief
New Jersey Department of Environmental Protection
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625

ATTACHMENT 1

IMPINGEMENT OF SEA TURTLE

REPORT:

OCCURRENCE DATES:

FACILITY: Salem Generating Station, Units 1 and 2
Public Service Electric and Gas Company
Hancocks Bridge, NJ 08038

IDENTIFICATION OF OCCURRENCE:

Five loggerhead sea turtles (Caretta caretta), two Kemp's ridley sea turtles (Lepidochelys kemp), and one green sea turtle (Chelonia mydas), were recovered from the Circulating Water System (CWS) intake trash racks at the Salem Generating Station. The loggerheads were retrieved on August 28, September 1, 9, 11, & 12, 1992. The loggerhead is federally listed as a "threatened" species under the Endangered Species Act of 1973, as amended. The two Kemp's ridleys were recovered on September 1 & 4, 1992. They are federally listed as an "endangered" species. The green sea turtle was recovered on August 31, 1992. Any green sea turtle incidentally taken at the Salem Station is considered to come from the Florida population that is federally listed as "endangered".

CONDITIONS PRIOR TO OCCURRENCE:

Both units 1 & 2 were at 100% power prior to and during each of the above occurrences

DESCRIPTION OF OCCURRENCE:

Both Kemp's ridley turtles were dead upon removal from the intake. The presence of both turtles was unknown until use of the trash rack cleaning mechanism brought them to the surface. Resuscitation procedures were performed as outlined in the Section 7, Incidental Take Statement for the Kemp's recovered on September 1. Resuscitation was ended when rigor set in after approximately twelve hours. The second Kemp's smelled of decomposition, so no resuscitation was attempted. Both Kemp's were frozen until necropsies can be performed.

The green turtle was also recovered dead. It was spotted floating upside down at the surface. The turtle had sever damage to the left side of its head which occurred prior to removal. It has also been frozen until a necropsy can be performed.

The loggerheads were recovered alive, undamaged and vigorous, and each was placed in an 800 gallon holding tank for observation. Dr. Burt Paluch DMV, responded to document physical appearance of the turtle, draw a blood sample, and drill a 3/16 inch hole in the left postcentral scute. The blood was sent to Dr. Bob George DMV, for analysis of normal blood parameters. The hole in the scute was used for attachment of transmitters to allow tracking of this turtle upon release. The turtle was also flipper tagged and released approximately three and one half miles southeast of SGS and one half mile offshore in twenty feet of water.

The Senior Shift Supervisor, Licensing and Regulation personnel, and the Marine Mammal Stranding Center (MMSC) of Brigantine, New Jersey were notified.

The following agencies have been notified regarding these occurrences:

U.S. Nuclear Regulatory Commission
U.S. National Marine Fisheries Service
New Jersey Department of Environmental Protection & Energy

APPARENT CAUSE OF OCCURRENCE:

Sea turtles are summer migrants, common to Delaware Bay. Small numbers typically occur in the lower Delaware River near Salem Generating Station from June through September. Healthy sea turtles are strong swimmers and are usually able to avoid the approach velocity of the CWS intake. Turtles which are in a weakened condition due to injury by boats or commercial fishing operations are subject to impingement. Apparently healthy turtles which become impinged may not be able to escape the approach velocity due to exhaustion or small size. Also large, apparently healthy turtles may be foraging in the intake channel. While feeding they may surface in the intake bays and if observed by plant personnel will be removed as if impinged, tagged and released.

ANALYSIS OF OCCURRENCE:

The CWS intake is monitored for accumulation of debris, which is periodically removed. Any turtles which are observed in the area of the trash racks are recovered immediately. Between 1979 and present, a total of 86 sea turtles (plus two recaptures) have been collected at or in the immediate vicinity of the plant. Of the 79 turtles collected at the intake, fifty-seven (72%) have been loggerhead sea turtles, twenty (25%) were Kemp's ridley sea turtles and two (2.5%) green sea turtles.

CORRECTIVE ACTION:

During the period of June 1 thru September 31, the trash racks at Salem station are observed every two hours, twenty-four (24) hours a day specifically for sea turtles and cleaned at least once per day. After the three sea turtle mortalities, trash rack observation was increased to once an hour and the racks cleaned twice a day. Any sea turtle observed on the trash rack is removed immediately. Resuscitation will be attempted if the turtle is not unquestionably dead. In accordance with standard procedure, all dead turtles will be necropsied by a qualified individual and injured specimens will be held under appropriate conditions and may be sent to the MMSC.

ATTACHMENT 2

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Rich Gannon - Nuclear Equipment Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Loggerhead (Caretta caretta)

Site of impingement: Salem Generating Station - Unit 2
Circulating Water System; Trash Rack #22a

Date and time impingement was observed: 8/28/92, 1600 hours

Date and time animal was collected: 8/28/92, 1630 hours

Tidal stage at time of observation: 1.6 feet on tide

Date and time of last observation of screen: 1400 hours

Water temperature at site and time of impingement: 79.5 °F

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

Condition of animal: Very good. Ate blue crabs
before release on 8/31/92.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 52.3 cm (20.6 in)

Carapace width: Curved: Straight: 46.6 cm (18.3 in)

Tag number and location, if tagged: QQP942 (RF) & QQP943 (LF)
Loran coordinates: 27386.6 / 43059.8
Latitude - 39° 24.60 Longitude - 75° 27.86

Remarks: The turtle was tagged and released approximately three and one half miles southeast of Salem Generating Station, one half mile offshore in twenty feet of water. The turtle weighed 27.0 kilograms (59.5 lbs).

Results of necropsy (include stomach contents): Not applicable.

ATTACHMENT 3

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Stan Levanovich - Site Services Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Green (Chelonia mydas)

Site of impingement: Salem Generating Station - Unit 2
Circulating Water System; Trash Rack #22a

Date and time impingement was observed: 8/31/92, 1015 hours

Date and time animal was collected: 8/31/92, 1030 hours

Tidal stage at time of observation: 1.8 feet on flooding tide

Date and time of last observation of screen: 0800 hours

Water temperature at site and time of impingement: 75.1 °F

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

Condition of animal: Dead. Left side of head damaged by
unknown object.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 29.9 cm (11.8 in)

Carapace width: Curved: Straight: 24.2 cm (9.5 in)

Tag number and location, if tagged:

Remarks: Found floating upside down at surface.

Results of necropsy (include stomach contents): Turtle was
frozen. Will be necropsied in October.

ATTACHMENT 4

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Pete Jones - Nuclear Equipment Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Loggerhead (Caretta caretta)

Site of impingement: Salem Generating Station - Unit 1
Circulating Water System; Trash Rack #11a

Date and time impingement was observed: 9/01/92, 2215 hours

Date and time animal was collected: 9/01/92, 2230 hours

Tidal stage at time of observation: 0.3 feet at low slack

Date and time of last observation of screen: 2000 hours

Water temperature at site and time of impingement: 76.4 °F

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

Condition of animal: Very good. Ate blue crabs
before release.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 50.2 cm (19.8 in)

Carapace width: Curved: Straight: 42.3 cm (16.6 in)

Tag number and location, if tagged: QQP944 (RF) & QQP945 (LF)
Loran coordinates: 27390.8 / 43056.4
Latitude - 39° 25.17 Longitude - 75° 28.31

Remarks: The turtle was tagged and released approximately three and one half miles southeast of Salem Generating Station, one half mile offshore in twenty feet of water. The turtle weighed 27.0 kilograms (59.5 lbs).

Results of necropsy (include stomach contents): Not applicable.

ATTACHMENT 5

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Pete Jones - Nuclear Equipment Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Kemp's ridley (Lepidochelys kempii)

Site of impingement: Salem Generating Station - Unit 1
Circulating Water System; Trash Rack #11a

Date and time impingement was observed: 9/01/92, 2215 hours

Date and time animal was collected: 9/01/92, 2230 hours

Tidal stage at time of observation: 0.3 feet at low slack

Date and time of last observation of screen: 2000 hours

Water temperature at site and time of impingement: 76.4 °F

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

Condition of animal: Dead short time.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 25.8 cm (10.2 in)

Carapace width: Curved: Straight: 24.6 cm (9.7 in)

Tag number and location, if tagged: Not applicable

Remarks: Found while rescuing Loggerhead. Weight 2.95 kg

Results of necropsy (include stomach contents): Turtle was frozen. Will be necropsied in October.

ATTACHMENT 6

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Nuclear Equipment Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Kemp's ridley - (Lepidochelys kempii)

Site of impingement: Salem Generating Station - Unit 1
Circulating Water System; Trash Rack
Date and time impingement was observed:

Date and time impingement was observed: 9/4/92, 1139 hours

Date and time animal was collected: 9/4/92, 1139 hours

Tidal stage at time of observation: 0.6 feet on ebbing tide

Date and time of last observation of screen: 1000 hours

Water temperature at site and time of impingement: 75.3°F

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

Condition of animal: Dead moderately short time. Smelled of decomposition.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 25.8 cm (10.2 in)

Carapace width: Curved: Straight: 24.6 cm (9.7 in)

Tag number and location, if tagged: Not applicable

Remarks: Found while cleaning trash bars. Weight 1.6 kg (3.5 lb)

Results of necropsy (include stomach contents): Turtle was frozen. Will be necropsied in October.

ATTACHMENT 7

REPORTING REQUIREMENTS:

Appendix II to Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observes full name: Mike Geuertz - Nuclear Shift Supervisor

Reporters Full name: Mike Haberland - Licensing & Regulation

Species Identification: Loggerhead (Caretta caretta)

Site of impingement: Salem Generating Station - Unit 1
Circulating Water System; Trash Rack

Date and time impingement was observed: 9/9/92, 1715 hours

Date and time animal was collected: 9/9/92, 1730 hours

Tidal stage at time of observation: 0.7 feet on flooding tide

Date and time of last observation of screen: 1600 hours

Water temperature at site and time of impingement: 76.6 °F

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

Condition of animal: Very good. Ate blue crabs before release
on 9/12/92.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 59.4 cm (23.4 in)

Carapace width: Curved: Straight: 54.4 cm (21.4 in)

Tag number and location, if tagged: QQP901 (RF) & QQP902 (LF)

Loran Coordinates: 27391.7 / 43049.7

Latitude - 30° 24.63 Longitude - 75° 28.80

Remarks: The turtle was tagged and released approximately three and one half miles southeast of Salem Generating Station, one half mile offshore in twenty feet of water. The turtle weighed 34.5 kilograms (76.0 lbs).

ATTACHMENT 8

REPORTING REQUIREMENTS:

Appendix II Section 7 Consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers full name: Pete Jones - Nuclear Equipment Operator

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Loggerhead (Caretta caretta)

Site of impingement: Salem Generating Station - Unit 2
Circulating Water System; Trash Rack 22a

Date and time impingement was observed: 9/11/92, 0015

Date and time animal was collected: 9/11/92, 0030

Tidal stage at time of observation: 5.3 on ebbing tide

Date and time of last observation of screen: 2200 hours

Water temperature at site and time of impingement: 77.1 °F

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

Condition of animal: Very good. Ate blue crabs
before release on 9/14/92.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 50.6 cm (19.9 in)

Carapace width: Curved: Straight: 43.2 cm (17.0 in)

Tag number and location, if tagged: QQP903 (RF) & QQP904 (LF)
Loran coordinates: 27390.3 / 43052.3
Latitude - 39°24.83 Longitude - 75°28.41

Remarks: The turtle was tagged and released approximately three
and one half miles southeast of Salem Generating Station, one
21.5 kilograms (47.3 lbs).

ATTACHMENT 9

REPORTING REQUIREMENTS:
Appendix II Section 7 consultation

Photographs should be taken and the information requested below should be collected in association with all protected species (sea turtles and shortnose sturgeon) impingements. This documentation should be sent to the National Marine Fisheries Service, Habitat Conservation Branch
One Blackburn Drive, Gloucester, MA 01930-2298

Protected Species Impingements,
Salem and Hope Creek Generating Stations

Observers Full Name: Mike Geurtz - Nuclear Shift Supervisor

Reporters full name: Mike Haberland - Licensing & Regulation

Species Identification: Loggerhead (Caretta caretta)

Site of impingement: Salem Generating Station - Unit 1
Circulating Water System; Trash Rack #12b

Date and time impingement was observed: 9/12/92 1820 hours

Date and time animal was collected: 9/12/92 1835 hours

Tidal stage at time of observation: 2.3 on flooding tide

Date and time of last observation of screen: 1600 hours

Water temperature at site and time of impingement: 75.8 °F

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

Condition of animal: Very good. Ate blue crabs
before release on 9/16/92.

Sea Turtle Measurements (indicate cm. or in.):

Carapace length: Curved: Straight: 48.8 cm (19.2 in)

Carapace width: Curved: Straight: 41.3 cm (16.2 in)

Tag number and location, if tagged: QQP905 (RF) & QQP906 (LF)
Loran coordinates: 27389.7 / 43054.2
Latitude - 39°25.00 Longitude - 75°28.23

Remarks: The turtle was tagged and released approximately three and one half miles southeast of Salem Generating Station, one half mile offshore in twenty feet of water. The turtle weighed 17.3 kilograms (38.1 lbs).