

AmerGen Energy Company, LLC
Oyster Creek
US Route 9 South
P.O. Box 388
Forked River, NJ 08731-0388

December 26, 2002
2130-02-20353
2120-022-2745

National Marine Fisheries Service Northeast Region
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930
Attention: Carrie McDaniel

Subject: **OYSTER CREEK GENERATING STATION
DOCKET NO. 50-219
ANNUAL SEA TURTLE INCIDENTAL CAPTURE REPORT - 2002**

Enclosed is a copy of the 2002 Annual Sea Turtle Incidental Capture Report for the Oyster Creek Generating Station (OCGS). The report is submitted in accordance with Condition 10 of the Incidental Take Statement of the OCGS Endangered Species Act Biological Opinion.

If you have any questions concerning this submittal, please contact Mr. John Rogers, Licensing Engineer at 609-971-4893 or Mr. Malcolm Browne, Environmental Scientist, at 609-971-4124.

Sincerely,



Ernest J. Harkness P.E., Vice President
Oyster Creek Generating Station

EJH/MEB/JJR
Enclosure
Attachments

cc: NRC Document Control Desk
Administrator, Region I
NRC Project Manager
Senior Resident Inspector

IE23

OYSTER CREEK GENERATING STATION

LICENSE NO. DPR-16

DOCKET NO. 50-219

**ANNUAL REPORT OF SEA TURTLE
INCIDENTAL CAPTURES
2002**

Prepared by:

AMERGEN ENERGY COMPANY

December 2002

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The Annual Report of Sea Turtle Incidental Captures provides a summary of the incidental captures of all species of sea turtles at the Oyster Creek Generating Station (OCGS) during the past year. The report is required by Condition 10 of the Incidental Take Statement of the OCGS Endangered Species Act, Section 7 Consultation, Biological Opinion. This report covers all incidental captures which occurred during the year 2002.

Incidental Capture Reports documenting the circumstances of incidental captures of sea turtles are completed following any OCGS sea turtle incidental capture and are provided to NMFS and USNRC. Incident reports concerning the capture of endangered sea turtles entitled "Sea Turtle Incidental Capture Report 2002-1" and "2002-2" are provided as Attachments I and II, respectively. The circumstances surrounding the two incidental captures that occurred during 2002 are summarized below. In all cases the incidental captures were reported to the Nuclear Regulatory Commission and the National Marine Fisheries Service within 24 hours of capture. Inspections and cleaning of cooling water intake trash bars continue to be conducted in accordance with Conditions 1 and 4 of the Incidental Take Statement.

Annual Summary of Sea Turtle Incidental Takes

A juvenile Kemp's ridley sea turtle was captured alive in front of the circulating water system trash racks during the morning of June 29, 2002 after it was observed swimming in front of the circulating water intake structure trash bars. NRC and NMFS were notified within 24 hours of the capture and the turtle was taken to the Marine Mammal Stranding Center (MMSC) in Brigantine, NJ by OCGS Environmental personnel. MMSC personnel observed and fed the turtle and found it to be active. A scar of unknown origin was observed on the right side of the carapace but determined not to be a significant concern by MMSC personnel because the turtle was initially eating on its own and appeared healthy. The turtle subsequently died while in MMSC care and a necropsy was performed.

During the morning of July 3, 2002, a juvenile Kemp's ridley sea turtle was gently removed from in front of the dilution water system intake structure. The turtle was alive and apparently healthy at the time of capture. Although there were no obvious boat propeller wounds on the turtle or any open wounds which would have been life-threatening, the turtle had a small scrape on one of its dorsal scutes. Environmental personnel transported the turtle to MMSC the same morning and held there for care, feeding, and observation. The turtle was subsequently tagged and released July 9, 2002 near Brigantine, NJ by MMSC personnel.

Regarding trends in the number of incidental sea turtle captures at the OCGS, two incidental captures occurred during 2002 which is slightly less than the longterm average of slightly over two incidental captures per year recorded over the last decade. The annual total of two incidental captures during 2002 is a reduction from the total of three sea turtles incidentally captured at OCGS during 2001. However, the annual abundance of sea turtles in this vicinity appears to be highly variable, unpredictable, and unrelated to the operation of the OCGS. There are several factors that may influence the number of sea turtle incidental captures which occur at the OCGS. Barnegat Inlet, the only tidal inlet in the vicinity of Oyster Creek, which provides access to Barnegat Bay from the Atlantic Ocean, was deepened during dredging operations in the early 1990's. Completion of the Barnegat Inlet dredging operation resulted in an increase in the tidal prism, or volume of water entering and exiting the inlet on a single tidal cycle, as well as a slightly greater tidal range at Oyster Creek. The deepening of Barnegat Inlet and associated waterway channels was completed immediately prior to 1992, when incidental captures of sea turtles began to occur at OCGS, and may partially explain the occurrence of the turtles.

It is likely that the local variability of sea turtle abundance is also related to biological factors including the abundance of organisms on which sea turtles prefer to feed, such as blue crabs, horseshoe crabs, and calico crabs. Physical factors, such as an oceanic front or an oceanic gyre occurring unusually close to Barnegat Inlet, may also play a part in the prevalence of sea turtles near Oyster Creek because oceanic fronts have been shown to be used as a migratory and forage habitat by sea turtles (Polovina et al, 2000).

Experience has also shown that the passage of a severe storm or pressure system near Barnegat Inlet can cause major increases in winds, waves, tides and tidal prism in shallow estuarine waters such as Barnegat Bay. These events could increase the likelihood of slowly swimming organisms such as sea turtles occurring in the estuary.

Many years of environmental sampling conducted near the OCGS have repeatedly demonstrated that the abundance of various marine organisms can vary considerably from year to year, often by orders of magnitude. This is particularly true for seasonal migrants, whose abundance in Barnegat Bay is highly dependent upon physical and biological factors along the migratory route. Therefore, the observed annual variation in sea turtle incidental captures at the OCGS from a minimum of zero to a maximum of five per year is not considered particularly significant. The ultimate goal of the considerable effort being put forward at the OCGS for the protection of sea turtles is to protect the turtles that do arrive at the plant, and to release as many turtles as possible to safety. The OCGS program for the protection of threatened and endangered sea turtles can be considered to be quite successful because most of the sea turtles incidentally captured at OCGS since 1992 have subsequently been released alive and well, to the Atlantic Ocean in locations free from potential cold-shock, due to the efforts of OCGS personnel.

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References

Polovina, J.J., D.R. Kobayashi, D.M. Ellis, M.P. Seki, and G.H. Balazs. 2000. Turtles on the edge: Movement of loggerhead turtles (*Caretta caretta*) along oceanic fronts in the central North Pacific, 1997-1998. *Fish. Oceanogr.*, 9: 71-82.

ATTACHMENT I

**SEA TURTLE INCIDENTAL CAPTURE REPORT
2002-1**

AmerGen Energy Company, LLC
Oyster Creek
US Route 9 South
P.O. Box 388
Forked River, NJ 08731-0388

July 2, 2002
Correspondence No. 2002-0188
File No. 02051

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Oyster Creek Generating Station
Docket 50-219
Sea Turtle Incidental Capture Report 2002-1

This report provides detailed information regarding the recent incidental capture of a juvenile Kemp's ridley sea turtle at the Oyster Creek Generating Station. The turtle was captured alive during the morning of June 29, 2002, after it was observed swimming in front of the circulating water intake structure trash bars. As indicated on the attached incident report, the turtle was taken to the Marine Mammal Stranding Center in Brigantine, NJ for examination, care, and eventual safe release.

If you have any questions or require additional information, please do not hesitate to contact Mr. Jay Vouglitois at (609) 971-4021.

Very truly yours,



Ron J. DeGregorio
Vice President, Oyster Creek

RJD/JJV/JJR

Enclosure

cc: Ms. Carrie McDaniel
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Marine Fisheries Service Northeast Region
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930

cc: **Mr. Hubert Miller, Administrator, Region 1**
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Peter Tam
US Nuclear Regulatory Commission
Senior Project Manager
Washington, DC 20555

Mr. James Wilson, Mailstop O-11-F1
US Nuclear Regulatory Commission
Washington, DC 20555

Senior Resident Inspector
Oyster Creek Generating Station
PO Box 388
Forked River NJ 08731

Mr. Dave Jenkins
NJ Department of Environmental Protection
Division of Fish, Game, and Wildlife
P.O. Box 400
Trenton, NJ 08625-0400

OYSTER CREEK GENERATING STATION

Sea Turtle Incidental Capture Report 2002-1

At approximately 0200 hours on Saturday June 29, 2002, an Oyster Creek Generating Station (OCGS) operator performing a routine inspection of the trash racks noticed a sea turtle swimming freely in Bay #5 and Bay #6 of the circulating water intake structure. The turtle was carefully dip-netted from Bay #6 as quickly as possible and found to be apparently healthy and moving about normally. OCGS Environmental personnel who took custody of the turtle confirmed it to be a juvenile Kemp's ridley sea turtle (Lepidochelys kempi). The water temperature at the time of the incidental capture was approximately 79.2 F (26.2 C) and OCGS was in operation at full power with four circulating water pumps and two dilution pumps in operation. Although it is impossible to say precisely how long the turtle had been in the vicinity of the intake structure, the circulating water trash racks had been cleaned approximately four hours prior to the turtle's capture, at 2200 hours on June 28. The turtle was not observed during that trash rack cleaning process.

The turtle measured 10.0 in (25.4 cm) carapace length straight line and 9.5 in (24.1 cm) carapace width straight line. Sex was not determined. A scar was observed on the right side of the carapace; no tags were observed on the animal. USNRC and NMFS personnel were notified of the capture within 24 hours on June 29, 2002.

The turtle was taken to the Marine Mammal Stranding Center (MMSC) in Brigantine, NJ at approximately 0455 hours on June 29. At the MMSC, the turtle was examined and fed. The wound on the carapace was determined not to be a significant concern. The turtle will be held at the MMSC for a few days before it is tagged and released into near-shore waters around Brigantine, NJ.

SEA TURTLE STRANDING AND SALVAGE NETWORK - STRANDING REPORT

PLEASE PRINT CLEARLY AND FILL IN ALL APPLICABLE BLANKS. Use codes below. Measurements may be straight line (calliper) and/or over the curve (tape measure). Measure length from the center of the nuchal notch to the tip of the most posterior marginal. Measure width at the widest point of carapace. CIRCLE THE UNITS USED. See diagram below. Please give a specific location description. INCLUDE LATITUDE AND LONGITUDE.

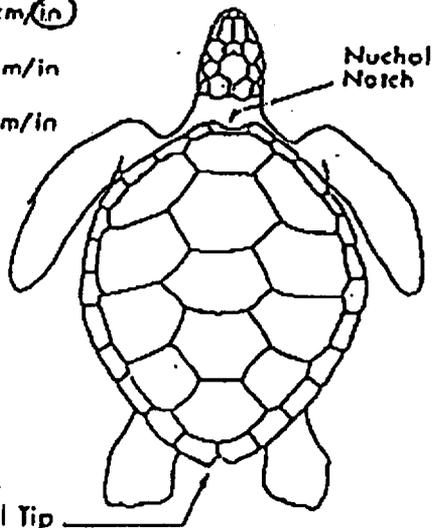
Observer's Full Name MARINE MAMMAL STRANDING CENTER Stranding Date 02 - 06 - 29
 Address / Affiliation Brigantine, N.J.
 Area Code / Phone Number 609-266-0538
 Species LK Turtle Number By Day 02-055
 Reliability of I.D.: (CIRCLE) Unsure Probable Positive Species Verified by State Coordinator? Yes No
 Sex: (CIRCLE) Female Male Undetermined How was sex determined? necropsy
 State NEW JERSEY County Ocean
 Location (be specific and include closest town) Forked River, on the intake pipe at Oyster Creek Nuclear Power Plant
 Latitude 39° 48' 56.3" N Longitude 74° 12' 25.8" W
 Condition of Turtle (use codes) 0 Final Disposition of Turtle (use codes) 7
 Tag Number(s) (include tag return address and disposition of tag) _____

Remarks (note if turtle was involved with tar or oil, gear or debris entanglement, wounds or mutilations, propellor damage, papillomas, epizoa, etc.) continue on back if necessary

Turtle had a crack on the dorsal right side of its carapace. It was eating on its own, and appeared to be swimming well. It was found dead in the ppen, and necropsy was performed (over) Field # 02-055

MEASUREMENTS: CIRCLE UNITS

Straight Length 10.5 (est) cm/in
 Straight Width 9.75 (est) cm/in
 Curved Length _____ cm/in
 Curved Width _____ cm/in



Mark wounds, abnormalities, and tag locations

CODES:

SPECIES:

- CC = Loggerhead
- CM = Green
- DC = Leatherback
- EI = Hawksbill
- LK = Kemp's ridley
- UN = Unidentified

CONDITION OF TURTLE:

- 0 = Alive
- 1 = Fresh dead
- 2 = Moderately decomposed
- 3 = Severely decomposed
- 4 = Dried carcass
- 5 = Skeleton, bones only

FINAL DISPOSITION OF TURTLE:

- 1 = Pointed, left on beach
- 2 = Buried: on beach / off beach
- 3 = Salvaged specimen: all / part
- 4 = Pulled up on beach or dune
- 5 = Unpointed, left on beach
- 6 = Alive, released
- 7 = Alive, taken to a holding facility

All tissues surrounding the cracked area were necrotic.

ATTACHMENT II

**SEA TURTLE INCIDENTAL CAPTURE REPORT
2002-2**

AmerGen Energy Company, LLC
Oyster Creek
US Route 9 South
P.O. Box 388
Forked River, NJ 08731-0388

July 8, 2002
2130-02-20189

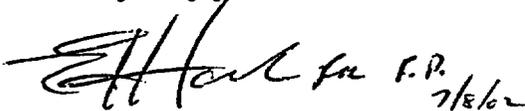
US Nuclear Regulatory Commission
Document Control Desk - NRC
Washington, DC 20555

Subject: Oyster Creek Generating Station
Docket 50-219
Sea Turtle Incidental Capture Report 2002-2

This report provides detailed information regarding the recent incidental capture of a juvenile Kemp's ridley sea turtle at the Oyster Creek Generating Station. The turtle was captured alive during the morning of July 3, 2002 after it was observed swimming in front of the dilution water intake structure trash bars. As indicated on the attached incident report, the turtle was taken to the Marine Mammal Stranding Center in Brigantine, New Jersey for examination, care, and eventual safe release.

If you have any questions or require additional information, please do not hesitate to contact Mr. Malcolm Browne at (609) 971-4124.

Very truly yours,



Ron J. DeGregorio
Vice President, Oyster Creek

RJD/MEB/JJR
Enclosure

cc: Ms. Carrie McDaniel
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Marine Fisheries Service Northeast Region
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930

Page 2 of 2

cc: **Mr. Hubert Miller, Administrator, Region 1**
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King of Prussia, PA 19406

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US Nuclear Regulatory Commission
Senior Project Manager
Washington, DC 20555

Mr. James Wilson, Mailstop O-11-F1
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Oyster Creek Generating Station
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Mr. Dave Jenkins
NJ Department of Environmental Protection
Division of Fish, Game, and Wildlife
P.O. Box 400
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OYSTER CREEK GENERATING STATION

Sea Turtle Incidental Capture Report 2002-2

At approximately 0755 hours on Wednesday July 3, 2002, an Oyster Creek Generating Station (OCGS) operator performing a routine inspection of the trash racks noticed a sea turtle swimming freely in Bay # 5 of the dilution water intake structure. The turtle was carefully dip-netted from Bay #5 as quickly as possible and found to be apparently healthy and moving about normally. OCGS Environmental personnel who took custody of the turtle confirmed it to be a juvenile Kemp's ridley sea turtle (Lepidochelys kempi). The water temperature at the time of the incidental capture was approximately 82.8 °F (28.2 °C) and OCGS was in operation at 100% power with four circulating water pumps and two dilution pumps in operation. Although it is impossible to say precisely how long the turtle had been on the trash bars prior to removal, the dilution water trash racks had been cleaned earlier the same day at 0500 hours. The turtle was not observed during that trash rack inspection and cleaning.

The turtle measured 14.0 in (35.6 cm) carapace length straight line and weighed 13.3 lb (6.0 kg). Sex was not determined. A small scrape less than 1 cm long was observed on one of the dorsal scutes of the carapace. No tags were present on the turtle when captured. USNRC and NMFS personnel were notified of the capture within 24 hours on July 3, 2002.

The turtle was taken to the Marine Mammal Stranding Center (MMSC) in Brigantine, NJ at approximately 1015 hours on July 3. At the MMSC, the turtle was examined and fed. The scrape on the carapace was determined not to be a significant concern. The turtle will held at the MMSC for a few days before it is tagged and released into near-shore waters around Brigantine, NJ.

SEA TURTLE STRANDING AND SALVAGE NETWORK - STRANDING REPORT

PLEASE PRINT CLEARLY AND FILL IN ALL APPLICABLE BLANKS. Use codes below. Measurements may be straight line (caliper) and/or over the curve (tape measure). Measure length from the center of the nuchal notch to the tip of the most posterior marginal. Measure width at the widest point of carapace. CIRCLE THE UNITS USED. See diagram below. Please give a specific location description. INCLUDE LATITUDE AND LONGITUDE.

Observer's Full Name MARINE MAMMAL STRANDING CENTER Stranding Date 02 - 07 - 03
year month day

Address / Affiliation Brigantine, N.J.

Area Code / Phone Number 609-266-0538

Species FK Turtle Number By Day 02-057

Reliability of I.D.: (CIRCLE) Unsure Probable Positive Species Verified by State Coordinator? Yes No

Sex: (CIRCLE) Female Male Undetermined How was sex determined? tail length

State NEW JERSEY County Ocean

Location (be specific and include closest town) Forked River, on the intake of dilution trash racks at Oyster Creek Power Plant

Latitude 39° 48' 56.3" N Longitude 74° 12' 25.8" W

Condition of Turtle (use codes) 0 Final Disposition of Turtle (use codes) 7

Tag Number(s) (include tag return address and disposition of tag) _____

Remarks (note if turtle was involved with tar or oil, gear or debris entanglement, wounds or mutilations, propellor damage, papillomas, epizoo, etc.) continue on back if necessary

Slight knock on left side of carapace near head. Active and alert. Swimming and eating well. Tagged monel ear tag #SSL127 right front flipper and released on 9 July 2002 in Brigantine, NJ Field # 02-057

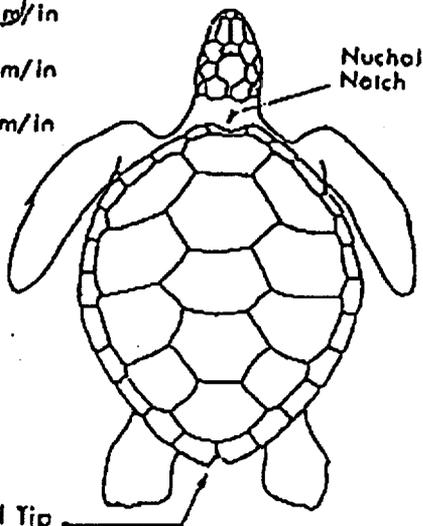
MEASUREMENTS: CIRCLE UNITS

Straight Length 34 cm/in

Straight Width 32.5 cm/in

Curved Length _____ cm/in

Curved Width _____ cm/in



Mark wounds, abnormalities, and tag locations

CODES:

SPECIES:

- CC = loggerhead
- CM = Green
- DC = leatherback
- EI = Hawksbill
- FK = Kemp's ridley
- UN = Unidentified

CONDITION OF TURTLE:

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FINAL DISPOSITION OF TURTLE:

- 1 = Pointed, left on beach
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