

2000-0108

1



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST

RESPONSE TYPE FINAL PARTIAL

REQUESTER

Scott Cullen

DATE

MAR 09 2000

PART I. -- INFORMATION RELEASED

- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments section.
- APPENDICES **A** Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.
- APPENDICES **B** Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.
- Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, NW, Washington, DC.
- APPENDICES **B** Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Comments.

PART I.A -- FEES

AMOUNT *
\$

- You will be billed by NRC for the amount listed.
- None. Minimum fee threshold not met.
- You will receive a refund for the amount listed.
- Fees waived.

* See comments for details

PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

- No agency records subject to the request have been located.
- Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.
- This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

PART I.C COMMENTS (Use attached Comments continuation page if required)

Also enclosed are copies of two previous FOIA requests, and the NRC responses, for the same type of information you are seeking. All released records were placed in the NRC Public Document Room (PDR). We have enclosed a notice which provides procedures for obtaining information from the PDR.

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Carol Ann Reed

**APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR**

<u>NO.</u>	<u>DATE</u>	<u>ACCESSION NUMBER</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.			COMPUTER PRINTOUTS OF SUBJECT RECORDS ALREADY AVAILABLE IN THE NRC PDR

**APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY**

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	04/29/94	1993 Annual Environmental Operating Report - Salem Generating Station, Units 1 & 2. (8 pages)
2.	06/17/94	Report Of Impingement Of Shortnose Sturgeon - Salem Generating Station, Units 1 & 2. (8 pages)
3.	07/22/94	Report Of Impingement Of Sea Turtle- Salem Generating Station, Units 1 & 2. (5 pages)
4.	01/09/95	1994 Summary Of Impingements- Salem Generating Station, Unit Nos. 1 & 2. (3 pages)
5.	04/28/95	1994 Annual Environmental Operating Report - Salem Generating Station, Units 1 & 2 (8 pages)
6.	07/21/95	Report Of Impingement Of Sea Turtle - Salem Generating Station, Units 1 & 2. (5 pages)
7.	04/30/96	1995 Annual Environmental Operating Report - Salem Generating Station, Unit Nos. 1 & 2. (8 pages)
8.	05/28/98	Report Of Impingement Of Shortnose Sturgeon - Salem Generating Station, Unit Nos. 1 & 2 (8 pages)
9.	07/23/98	Report Of Impingement Of Sea Turtle - Salem Generating Station, Unit Nos. 1 & 2 (5 pages)
10.	04/29/99	Report Of Impingement Of Shortnose Sturgeon - Salem Generating Station Unit No. 1. (5 pages)
11.	10/29/99	Letter to R. Hoffman from H. N. Berkow; re: Supplemental Information Regarding the Impact to Sea Turtles at the Brunswick Steam Electric Plant w/encls (15 pages)
12.	10/04/99	Letter to USNRC from K. R. Jury; re: Supplemental to Biological Assessment of Impact to Sea Turtles at Carolina Power & Light Company's Brunswick Steam Electric Plant w/encls (10 pages)

13. 02/24/99 Letter to R. Hoffman from F. Akstulewicz; re: Comments on Draft Biological Opinion Regarding Impact to Sea Turtles at the Brunswick Steam Electric Plant w/encls (11 pages)
14. 02/19/99 Letter to USNRC from K. R. Jury; re: Comments on Draft Biological Opinion Regarding Impact to Sea Turtles at the Brunswick Steam Electric Plant w/encl (7 pages)
15. 02/10/99 Letter to J. S. Keenan from D. C. Trimble; re: Draft Biological Opinion Regarding Impact to Sea Turtles at the Brunswick Steam Electric Plant w/encl (27 pages)
16. 01/26/98 Letter to USNRC from K. R. Jury; re: Biological Assessment of Impact to Sea Turtles at Carolina Power & Light Company's Brunswick Steam Electric Plant (40 pages)
17. 07/06/99 Memorandum to File: Brunswick Steam Electric Plant, Units 1 and 2 - Biological Opinion Related to Effects of Plant Operation on Sea Turtles and Sturgeon. (1 page)
18. 08/04/97 E-mail from David Trimble, NRR, to Claudia Craig, NRR, regarding Consultation re: Turtles - Endangered Species. (1 page)



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

SEPTEMBER 1999

OBTAINING COPIES OF RECORDS FROM
THE PUBLIC DOCUMENT ROOM

PLACING ORDERS FOR COPIES OF RECORDS. Copies of records maintained at the PDR may be obtained by visiting the PDR at 2120 L Street, N.W., Lower-Level, Washington, D.C., 20555; by calling the PDR, Reference Services, at (202) 634-3273 or (1-800-397-4209); writing to the PDR at Mail Stop LL-6, USNRC, Washington, DC 20555; by E-mail (PDR@NRC.GOV) or by fax at (202) 634-3343.

In ordering records identified on appendices to NRC's responses to Freedom of Information Act requests, a person may place a telephone order whenever all records are being requested, or a limited number of records from different file locations are being requested. If a requester is interested in only some of the records identified on appendices, the requester should place a check mark beside each requested record identified on the appendices and send copies of the marked pages to the PDR. The PDR staff will then arrange for the records to be copied by the copying service contractor.

PAYMENTS. Payment for reproduction services can be accomplished in several modes. For in-person requests, the on-site contractor will collect payment when the copies are given to the requester. A self-service copier is also available for a person's use. For copies which are to be mailed, an invoice will accompany the order if the total order is under \$30.00. Prepayment will be required for orders over \$30.00 for requesters without established accounts. An account may be established by contacting Accounts Receivable, Qualex International at 202-293-3222. The contractor also accepts the following credit cards: Visa, Mastercard and Discover.

INQUIRIES REGARDING ORDERS. The contractor's on-site telephone number is (202) 293-3222. Inquiries related to the status of reproduction orders should be addressed in the following manner:

1. For records ordered by a telephone call to the PDR, contact the PDR and provide the approximate date of the telephone request, the name of the entity to be billed, and the method of delivery of records to you.
2. For records ordered by an on-site visit to the PDR, contact the contractor and provide him with the following information obtained from your copy of the reproduction request form: date of order, entity to be billed, the request number and the method of delivery of records to you.
3. For records ordered by letter to the PDR, contact the PDR and reference your letter.

CHARGES. Requests for the reproduction of records at the U.S. Nuclear Regulatory Commission (NRC) Public Document Room (PDR) in Washington, D.C., are performed by a copying service contractor, Qualex International. The contract for copying services provides for the following rates for copying records maintained at the PDR.

1. Paper to paper reproduction is \$0.10 per page up to and including 11"x14". Pages 11"x17" are \$0.20 per page. Pages larger than 11"x17", including drawings, are \$1.50 per square foot. **Note:** Pages greater than legal size, 8 ½"x14", but smaller than or equal to 11"x14", shall be reduced to legal size *unless* the order specifically requests full size reproduction

A self-service copier is provided in the Reading Room at a charge of \$0.10 per page. A Qualex cash value vending card is used to access the copier. Cards can be purchased at the contractor's office for a one time fee of \$0.50; value may be added to the card as needed. The contractor will refund the unused value on the card when the card is returned to the contractor's service counter.

2. Microfiche to paper reproduction is \$0.10 per page. Aperture card to paper reproduction is \$3.00 each (reduced size, 18"x24") or \$5.00 (full size, 24"x36").
3. Electronic files (OCR, PDF, TIFF) to paper reproduction is \$0.10 per page.
4. Microfiche or aperture card reproductions are \$0.75 each.
5. *Rush Processing Service* is offered for standard size paper to paper reproduction, microfiche to paper reproduction, and electronic file to paper reproduction, excluding standing order documents and pages reproduced from bound volumes. The charge is \$0.15 per page. A request for rush processing must be indicated on the order forms.
6. All turnaround times refer only to the duplication service provided by the contractor and do not include the time spent by PDR reference staff to assist users, to identify and retrieve documents, or to prepare orders for users.
7. Facsimile (fax) service includes local, domestic, and foreign. Fax charges are: \$0.30 per page for local calls; \$0.50 per page for U.S. long distance; and \$1.00 per page for foreign long distance.

Orders completed for mailing by the U.S. Postal Service or by a private delivery service will include an additional fee for the actual mailing, shipping or delivery service rate. Unless a user requests special packaging materials, there is no additional charge by the contractor for wrapping materials and handling.

The contractor can also reproduce diskettes, video cassettes, audio cassettes, CD Rom disks and photographic material. Contact the PDR for additional information.

FOIA/PA REQUEST

Case No: 2000-0029
Date Rec'd: 10-27-99
Action Off: Brown
Related Case: _____

October 27, 1999

Russell Powell, Chief
FOIA-LPDR Branch
Division of Freedom of Information and Publication Services
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555

BY FAX: (301) 415-5130

Dear Mr. Powell:

On behalf of Nuclear Information and Resource Service (NIRS), and pursuant to the Freedom of Information Act, 5 U.S.C. 552(b), et. seq., I hereby request that you make available copies of all documents in the U.S. Nuclear Regulatory Commission's possession which describe or discuss the takings of endangered and threatened sea turtles, as described more fully below. This request covers but is not limited to all draft and final reports, correspondence, memoranda, notes, records of telephone contacts, all types of camera images, electronic communications including fax transmissions and Email, or other written records, whether in paper or computer files, preserved via the use of any medium (e.g., paper documents, final notes, or word processors or computer discs, diskettes, hard drives, or network systems.) In addition, this request includes studies, analyses, work papers, internal or external communications of any sort, testimony, press releases, reports, memoranda of the like concerning, recording or in any way related to:

1) All communications between Carolina Power & Light's Brunswick nuclear power station and the Nuclear Regulatory Commission pertaining to reports of "incidental capture" of threatened and endangered sea turtles (Kemp's ridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) for the years 1996, 1997, 1998, and 1999. These documents would not only include actual reports not publicly filed, but also documents referencing reports and reporting requirements for both live and dead sea turtles captures. "Incidental captures" shall include, but not be limited to incidental captures, unintentional or intentional captures, detainment, maiming, injuries, killings, and/or explained or unexplained death.

2) All camera documentation (video, 16 mm, slides, disc images and photographs) of live and dead captures of threatened and endangered sea turtles (Kemp's ridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) sea turtles beginning with the commercial operation of the Brunswick units in 1977 to present in 1999.

3) All correspondence between CP&L and NRC staff pertaining to proposed limits for incidental taking, capturing and/or killing of endangered and threatened sea turtles (Kemp's ridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) for the years 1996, 1997, 1998, 1999.

4) All documents between CP&L and any state representative or employee of any state agency pertaining to the reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including 1999 that are in the possession of any employee of the NRC.

5) All documents between the NRC and the United States Fish and Wildlife Service (USFWS) pertaining to the reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including 1999.

6) All documents and correspondence between the NRC and the USFWS concerning the number of permitted takes under any federal law or statute allocated to CP&L.

7) All documents between the NRC and the United States National Marine Fisheries Service (NMFS) pertaining to reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including 1999.

8) All documents and correspondence between the NRC and the NMFS concerning the number of permitted takes under any federal law or statute allocated to CP&L.

9) All documents and correspondence exchanged within the NRC between the Office of General Counsel, the various NRC Project Managers for Brunswick and Nuclear Reactor Regulation staff pertaining to the kill or capture of endangered or threatened species of turtles at Brunswick station.

Pursuant to this request, please provide all documents and communications prepared or utilized by, in the possession of, or routed through the NRC related to items 1-9.

For any portion of the request that you deem appropriate to deny, NIRS requests that you describe the information that is denied, identify the exception to the FOIA on which you rely, and explain how that exception applies to the withheld information.

Pursuant to NRC regulations at 10 CFR 9.41, NIRS requests that any searching and copying fees incurred as a result of this search be waived, and provides the following information in response to the eight criteria listed in Section 9.41(b):

1) Purpose of request:

The purpose of the request is to gather information on the protection from capture of endangered and threatened species and regulatory compliance at nuclear power stations. The requested information is currently not available in the NRC's Public Document Room.

2) Extent to which NIRS will extract and analyze the substantive content of the records:

NIRS is qualified to make use of the requested information. The staff has demonstrated the ability to interpret information and communicate that information in a form comprehensible to the general public. Members of the NIRS staff have published articles in such national journals as The Progressive, Nuclear Times, Newsday and Bulletin of Atomic Scientists. NIRS is quoted as a reliable source of information on nuclear issues and environmental protection in newspapers across the country, including the New York Times, The Washington Post, and The San Francisco Chronicle.

NIRS has a working relationship with attorneys, physicists, nuclear engineers, medical doctors, biologists and other respected professionals who contribute to the full understanding of nuclear regulatory compliance and endangered or threatened species.

3) Nature of the specific activity or research in which the records will be used and NIRS's qualifications to utilize the information for the intended use in such a way that it will contribute to public understanding:

NIRS seeks the requested information solely to contribute to and help shape the public debate on regulatory compliance and the protection of endangered or threatened species. NIRS intends to use the information in order to advance the concerns for public understanding of nuclear regulatory compliance and protection of endangered and threatened species.

4) Likely impact on the public's understanding of the subject as compared to the level of understanding of the subject prior to disclosure:

The public understanding of the issues of nuclear regulatory compliance and environmental protection will be enhanced by the contribution of this information.

5) Size and nature of the public to whose understanding a contribution will be made:

NIRS has an active subscribing membership of over 1500 throughout the United States. Several thousand additional members periodically receive mailings from NIRS. NIRS provides resource material to electronic and print media outlets with very broad outreach to a safety conscious audience. Additionally, NIRS has a web site (www.nirs.org) which receives on average of 700 visitors per day where postings on this issue will be made available.

6) Means of distribution of the requested information:

NIRS will use its own newsletter publication The Nuclear Monitor and our media contacts in both the electronic and print media outlets to provide very broad outreach to the safety conscious public. NIRS will also share information with other interested parties concerned about regulatory compliance and endangered or threatened species. Additionally, NIRS will post information on its web site (www.nirs.org) which receives on average of 700 visitors per day.

7) Whether free access to information will be provided:

NIRS will provide the information without charge to all members of the public. Information prepared from the FOIA requested will be posted on the web site for downloading free of charge. NIRS will also provide a copy of information to all interested parties without charge.

8) No commercial interest by NIRS or any other party:

NIRS has no commercial interest in obtaining the requested information. This information is provided to all public requests without charge. The sole interest of NIRS is to promote a policy debate on nuclear regulatory compliance and the protection of endangered and threatened species.

Sincerely,



Paul Gunter, Director
Reactor Watchdog Project
Nuclear Information and Resource Service
1424 16th Street NW Suite 404
Washington, DC 20036
202-328-0002

2006150 11 5:35

RECEIVED 125



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST

RESPONSE TYPE FINAL PARTIAL

REQUESTER

Paul Gunter

DATE NOV 17 1999

PART I. -- INFORMATION RELEASED

No additional agency records subject to the request have been located.

Requested records are available through another public distribution program. See Comments section.

APPENDICES A Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.

APPENDICES B Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.

Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, NW, Washington, DC.

APPENDICES B Agency records subject to the request are enclosed.

Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.

We are continuing to process your request.

See Comments.

PART I.A -- FEES

AMOUNT * You will be billed by NRC for the amount listed. None. Minimum fee threshold not met.

\$ You will receive a refund for the amount listed. Fees waived.

* See comments for details

PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

No agency records subject to the request have been located.

Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.

This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

PART I.C COMMENTS (Use attached Comments continuation page if required)

Records subject to your request that were originated by or are of interest to the National Oceanic & Atmospheric Administration (NOAA) have been referred to that agency for direct response to you.

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Carol Ann Reed

**APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR**

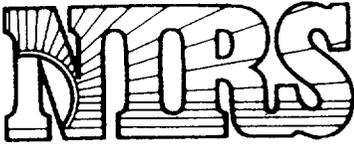
<u>NO.</u>	<u>DATE</u>	<u>ACCESSION NUMBER</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	08/01/97	9708130035	Insp reports 50-324/97-08 & 50-325/97-08 (43 pages)
2.	09/16/97	9710010341	Summary Meeting of 8/11/97 meeting regarding implementation of the endangered species Act. (3 pages)
3.	12/31/97	9802030013	"Biological Assessment of Impact to Sea Turtles at CP&L Brunswick Steam Electric Plant." (37 pages)
4.	01/26/98	9802030010	Letter to NRC from K. Jury, Brunswick Steam Electric Plant; Re: Biological assessment involving the operation of Brunswick Steam Electric Plant (41 pages)
5.	03/09/98	9803190152	Letter to C. Coogan, National Marine Fisheries Service from J. Roe, NRC; Re: Biological Assessment of Impacts to Sea Turtles at Brunswick (3 pages)
6.	02/10/99	9902160249	Letter to J. Keenan, CP&L, from S. Trimble, NRC; Re: Draft Biological Opinion regarding Impact to Sea Turtles at Brunswick (28 pages)
7.	02/19/99	9903020238	Letter to NRC from K. Jury, Brunswick Steam Elec. Plant; Re: Comments on draft Biological Opinion regarding Impact to Sea Turtles at Brunswick (7 pages)

8. 02/24/99 9905020234 Letter to R. Hoffman, National Marine Fisheries Service from F. Akstulewicz, NRC; Re: Comments on Draft Biological Opinion Regarding Impact to Sea Turtles at Brunswick (4 pages)
9. 3/11/99 9903230267 Letter to F. Akstulewicz, NRC from C. Oraverz; DOC/NOAA; Re: Draft Biological Opinion completed by the National Marine Fisheries Service (2 pages)
10. 04/30/99 9906100011 Letter to J. Roe, NRC from H. Diaz-Soltero, DOC/NOAA; Re: National Marine Fisheries Svc biological opinion based on review of continued use of cooling water intake system. (39 pages)
11. 09/03/99 9909080217 Memo to S.R. Peterson, NRC from A. Hansen, NRC; Re: Notification of 9/14/99 mtg with utility in Southport, NC to discuss Brunswick practices (4 pages)

APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY
(If copyrighted identify with *)

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	Undated	Handout at NRC public meeting with NOAA & Carolina Power & Light/Brunswick, with handwritten notes. (19 pages)
2.	06/19/97	Memo from Glen Thearling, CP&L, to David Trimble, subject: Supporting information on BSEP's Diversion Structure. (8 pages)
3.	02/04/99	E-mail from C. Craig, NRC to D. Trimble, NRC; Re: Draft Biological Opinion regarding impact to Sea Turtles at Brunswick (3 pages)
4.	02/05/99	E-mail from C. Craig, NRC to C. Sochor, NRC; Re: Draft BO (1 page)
5.	2/11/99	E-mail from C. Craig, NRC to C. Sochor, NRC; Re: Brunswick Draft BO (1 page)
6.	06/11/99	E-mail from C. Sochor, NRC to A. Hansen, NRC; Re: ITS for Brunswick (1 page)
7.	07/13/99	E-mail from A. Hansen, NRC to , B. Zalzman & C. Sochor, NRC; Re: Turtles at Brunswick (1 page)
8.	07/22/99	E-mail from C. Sochor, NRC to K. Leigh, NRC; Re: Brunswick (1 page)
9.	08/10/99	E-mail from K. Leigh, NRC to A. Hansen, NRC; Re: Turtles (1 page)
10.	08/11/99	E-mail from A. Hansen, NRC to B. Zalzman, NRC; Re: Turtles (3 pages)
11.	08/23/99	E-mail from K. Leigh, NRC to B. Zalzman, NRC Re: Brunswick (1 page)
12.	09/03/99	E-mail from M. Wohl, NRC to A. Hansen, B. Zalzman & B. Bonser, NRC; Re: Meeting notice with Carolina Power & Light Company (CP&L) (5 pages)

13. 09/08/99 E-mail from K. Cotton, NRC to B. Zalzman, J. Wilson & K. Leigh, NRC; Re: Brunswick Meeting (2 pages)
14. 09/09/99 Fax to K. Cotton, NRC from M. Turkal, CP&L/Brunswick Re: BSEP Biological Opinion (10 pages)
15. 09/14/99 Meeting agenda to discuss the biological opinion issued by National Marine Fisheries for the Brunswick Nuclear Plant, with handwritten notes. (2 pages)
16. 09/14/99 Viewgraphs: CP&L Seal Turtles at Brunswick Steam Electric Plant (16 pages)
17. 10/04/99 Letter to NRC from K. Jury, BSEP Re: Supplement to Biological Assessment of Impact to Sea Turtles at CP&L (10 pages)
18. 10/19/99 Memo to H. Berkow, NRC from C. Carpenter, NRC; Re: Comments of the Supplemental Information regarding the impact to sea turtles (25 pages)
19. 10/21/99 Meeting notification to Carolina Power & Light Company and National Marine Fisheries Service from K. Cotton, NRC; Re: Summary of Brunswick Biological Opinion Meeting of 9/14/99 (20 pages)
20. 10/22/99 E-mail from D. Turner, NRC to B. Zalzman, B. Bonser & E. Dunnington, NRC; Re: Summary of Brunswick Biological Opinion Meeting (6 pages)
21. 10/29/99 Letter to R. Hoffman, National Marine Fisheries Service from H. Berkow, NRC; Re: Supplemental Information on the impact to Sea Turtles at the Brunswick Steam Electric Plant (14 pages)



FOI/PA REQUEST

Case No: 2000-0103
Date Rec'd: 1-13-00
Action Off: Rush
Related Case: _____

Nuclear Information and Resource Service

1424 16th St. NW, Suite 404, Washington, DC 20036; 202-328-0002; Fax: 202-462-2183; E-mail: nirsnet@nirs.org; Web: www.nirs.org

January 7, 2000

Russell Powell, Chief
FOIA-LPDR Branch
Division of Freedom of Information and Publication Services
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555

BY FAX: (301) 415-5130

Dear Mr. Powell:

On behalf of Nuclear Information and Resource Service (NIRS), and pursuant to the Freedom of Information Act, 5 U.S.C. 552(b), et. seq., I hereby request that you make available copies of all documents in the U.S. Nuclear Regulatory Commission's possession which describe or discuss the takings of endangered and threatened sea turtles, as described more fully below. This request covers but is not limited to all draft and final reports, correspondence, memoranda, notes, records of telephone contacts, all types of camera images, electronic communications including fax transmissions and Email, or other written records, whether in paper or computer files, preserved via the use of any medium (e.g., paper documents, final notes, or word processors or computer discs, diskettes, hard drives, or network systems.) In addition, this request includes studies, analyses, work papers, internal or external communications of any sort, testimony, press releases, reports, memoranda of the like concerning, recording or in any way related to:

- 1) All communications between Public Service Electric and Gas Company's Salem Units nuclear generating station and the Nuclear Regulatory Commission pertaining to reports of "incidental capture" of threatened and endangered sea turtles (Kemp'sridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) for the years 1996, 1997, 1998, 1999 and to date 2000. These documents would not only include actual reports not publicly filed, but also documents referencing reports and reporting requirements for both live and dead sea turtles captures. "Incidental captures" shall include, but not be limited to incidental captures,

unintentional or intentional captures, detainment, maiming, injuries, killings, and/or explained or unexplained death.

2) All camera documentation (video, 16 mm, slides, disc images and photographs) of live and dead captures of threatened and endangered sea turtles (Kemp's ridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) sea turtles beginning with the commercial operation of the Salem units in 1969 to present in 2000.

3) All correspondence between PSE&G and NRC staff pertaining to proposed limits for incidental taking, capturing and/or killing of endangered and threatened sea turtles (Kemp's ridley, Loggerhead, Leatherback or Hawksbill and Atlantic Green) for the years 1996, 1997, 1998, 1999 and to date 2000.

4) All documents between GPUN and any state representative or employee of any state agency pertaining to the reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including 2000 that are in the possession of any employee of the NRC.

5) All documents between the NRC and the United States Fish and Wildlife Service (USFWS) pertaining to the reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including to date 2000 pertaining to Salem units.

6) All documents and correspondence between the NRC and the USFWS concerning the number of permitted takes under any federal law or statute allocated to PSE&G.

7) All documents between the NRC and the United States National Marine Fisheries Service (NMFS) pertaining to reports or communications of incidental captures of threatened or endangered sea turtles for the years from and including 1996 to and including to date 2000 at PSE&G.

8) All documents and correspondence between the NRC and the NMFS concerning the number of permitted takes under any federal law or statute allocated to PSE&G.

9) All documents and correspondence exchanged within the NRC between the Office of General Counsel, the various NRC Project Managers for Salem and Nuclear Reactor Regulation staff pertaining to the kill or capture of endangered or threatened species of turtles at Salem station.

Pursuant to this request, please provide all documents and communications prepared or utilized by, in the possession of, or routed through the NRC related to items 1-9.

For any portion of the request that you deem appropriate to deny, NIRS requests that you describe the information that is denied, identify the exception to the FOIA on which you rely, and explain how that exception applies to the withheld information.

Pursuant to NRC regulations at 10 CFR 9.41, NIRS requests that any searching and copying fees incurred as a result of this search be waived, and provides the following information in response to the eight criteria listed in Section 9.41(b):

1) Purpose of request:

The purpose of the request is to gather information on the protection from capture of endangered and threatened species and regulatory compliance at nuclear power stations. The requested information is currently not available in the NRC's Public Document Room.

2) Extent to which NIRS will extract and analyze the substantive content of the records:

NIRS is qualified to make use of the requested information. The staff has demonstrated the ability to interpret information and communicate that information in a form comprehensible to the general public. Members of the NIRS staff have published articles in such national journals as The Progressive, Nuclear Times, Newsday and Bulletin of Atomic Scientists. NIRS is quoted as a reliable source of information on nuclear issues and environmental protection in newspapers across the country, including the New York Times, The Washington Post, and The San Francisco Chronicle.

NIRS has a working relationship with attorneys, physicists, nuclear engineers, medical doctors, biologists and other respected professionals who contribute to the full understanding of nuclear regulatory compliance and endangered or threatened species.

3) Nature of the specific activity or research in which the records will be used and NIRS's qualifications to utilize the information for the intended use in such a way that it will contribute to public understanding:

NIRS seeks the requested information solely to contribute to and help shape the public debate on regulatory compliance and the protection of endangered or threatened species. NIRS intends to use the information in order to advance the concerns for public understanding of nuclear regulatory compliance and protection of endangered and threatened species.

4) Likely impact on the public's understanding of the subject as compared to the level of understanding of the subject prior to disclosure:

The public understanding of the issues of nuclear regulatory compliance and environmental protection will be enhanced by the contribution of this information.

5) Size and nature of the public to whose understanding a contribution will be made:

NIRS has an active subscribing membership of over 1500 throughout the United States. Several thousand additional members periodically receive mailings from NIRS. NIRS provides resource material to electronic and print media outlets with very broad outreach to an environmentally conscious audience. Additionally, NIRS has a web site (www.nirs.org) which receives on average of 700 visitors per day where postings on this issue will be made available.

6) Means of distribution of the requested information:

NIRS will use its own newsletter publication The Nuclear Monitor and our media contacts in both the electronic and print media outlets to provide very broad outreach to the safety conscious public. NIRS will also share information with other interested parties concerned about regulatory compliance and endangered or threatened species. Additionally, NIRS will post information on its web site (www.nirs.org) which receives on average of 700 visitors per day.

7) Whether free access to information will be provided:

NIRS will provide the information without charge to all members of the public. Information prepared from the FOIA requested will be posted on the web site for downloading free of charge. NIRS will also provide a copy of information to all interested parties without charge.

8) No commercial interest by NIRS or any other party:

NIRS has no commercial interest in obtaining the requested information. This information is provided to all public requests without charge. The sole interest of NIRS is to promote a policy debate on nuclear regulatory compliance and the protection of endangered and threatened species.

Sincerely,



Paul Gunter, Director
Reactor Watchdog Project
Nuclear Information and Resource Service
1424 16th Street NW Suite 404
Washington, DC 20036
202-328-0002



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST

2000-103

1

RESPONSE TYPE FINAL PARTIAL

REQUESTER

Mr. Paul Gunter

DATE

FEB 18 2000

PART I. -- INFORMATION RELEASED

- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments section.
- APPENDICES A** Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.
- APPENDICES** Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.
- Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, NW, Washington, DC.
- APPENDICES B** Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Comments.

PART I.A -- FEES

- AMOUNT * You will be billed by NRC for the amount listed. None. Minimum fee threshold not met.
- \$ You will receive a refund for the amount listed. Fees waived.
- * See comments for details

PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

- No agency records subject to the request have been located.
- Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.
- This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

PART I.C COMMENTS (Use attached Comments continuation page if required)

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Carol Ann Reed

M100310810282

APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR

<u>NO.</u>	<u>DATE</u>	<u>ACCESSION NUMBER</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	See attached printouts		
2.	12/7/79	7912130565	Ltr to W. Regan from T. Leitzell regarding a Biological Opinion on Endangered Species Shortnose Sturgeon.

APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY
 (If copyrighted identify with *)

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
1.	Undated	Draft ltr to L. Eliason, PSE&G from L. Olshan, NRC, Re: PSE&G proposal to delete monitoring program from NMFS incidental take permit for Salem units 1 and 2 (2 pages)
2.	Undated	Draft ltr to L. Eliason, PSE&G from T. Essig, NRC, Re: PSE&G proposal to delete monitoring program from NMFS incidental take permit for salem units 1 and 2, (3 pages)
3.	Undated	Draft ltr to A. Rosenberg, NMFS from T. Essig, NRC, Re: Request for reinitiation of consultation on Sea Turtles at Salem Nuclear generation station (2 pages)
4.	Undated	Draft ltr to L. Eliason, PSE&G from R. Capra, NRC, Re: PSE&G proposal to delete requirement to develop more definitive habitat utilization data from NMFS incidental take statement for Salem units 1 and 2 (1 page)
5.	Undated	Notes on Salem (1 page)
6.	Undated	Notes on Salem (1 page)
7.	Undated	Notes on Salem (1 page)
8.	12/05/79	Memo to G. Lear, NRC from R. Samworth, NRC, Re: Meeting with NMFS & the shortnose sturgeon recovery team (2 pages)
9.	2/14/97	Ltr to E. Keating from D. Hammond, re: NJPDES/DSW Permit No. NJ0025411 PSE&G - Hope Creek, w/enclosures (53 pages)
10.	10/26/93	Memo to S. Coordinator, NRC from J. Stone, NRC Re: Request FR publication of notice of issuance of amend 146 & 124. (2 pages)

APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY
 (If copyrighted identify with *)

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
11.	12/18/98	Ltr to H. Keiser, PSE&G from P. Milano, NRC Re: Salem Nuclear Generating Station, Unit Nos. 1 & 2 (15 pages)
12.	08/20/98	Memo to C. Dolinka, NRC from F. Gillespie, NRC, Re: Expenditures for the conservation of endangered and threatened species. (4 pages)
13.	07/07/98	Ltr to NRC from L. Storz, PSE&G Re: Additional information to revise technical specifications (11 pages)
14.	6/22/98	E-mail to P. Milano, NRC from M. Malloy, NRC Re: Ltr to PSE&G on reinitiation of consultation (1 page)
15.	06/15/98	Ltr to A. Rosenberg, National Oceanographic & Atmospheric Admin from T. Essig, NRC Re: Request for reinitiation of consultation on sea turtles at Salem and Hope Creek Nuclear generating station (3 pages)
16.	6/5/98	E-mail to P. Milano, NRC from M. Malloy, NRC, Re: TAC number for consultation with NMFS on Salem (1 page)
17.	6/4/98	E-mail to J. Wilson, NRC from P. Milano, NRC, Re: TAC number for consultation with NMFS on Salem (1 page)
18.	6/3/98	E-mail to P. Milano, NRC from J. Wilson, NRC Re: TAC number for consultation with NMFS on Salem (1 page)

APPENDIX B
RECORDS BEING RELEASED IN THEIR ENTIRETY
(If copyrighted identify with *)

<u>NO.</u>	<u>DATE</u>	<u>DESCRIPTION/(PAGE COUNT)</u>
19.	6/3/98	E-mail to T. Essig, NRC from J. Wilson, NRC, Re: Ltr to NMFS, requesting reinjitation of consultation (1 page)
20.	5/21/98	Notes on Salem (1 page)
21.	4/28/98	Notes on questions for Salem review of changes to EPP (1 page)
22.	4/22/98	E-mail to P. Milano, NRC from C. Craig, NRC, Re: Salem amendment package (1 page)
23.	05/20/99	Memo to R. Rough, NRC from D. Matthews, NRC, Re: Expenditures for the conservation of endangered and threatened species (65 pages)
24.	8/6/98	Ltr to H. Keiser from P. Milano, subject: PSE&G Proposal to Delete Requirement to Develop More Definitive Habitat Utilization Data From NMFS Incidental Take Statement, Salem, (1 page).
25.	3/17/99	Ltr to H. Keiser from P. Milano, subject: Revised Incidental Take Statement, Salem, (13 pages).
26.	Undated	Transcript of the Regular Meeting of the Board of Chosen Freeholders of the County of Cape May Held on 4/14/98, (45 pages).

==== TCON108 ===== Accession Number - 9407130001 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: 80239-297 80239-302
Size: 6pp.

Document Type: Licensee Event Report (See also R0,R0) Issued: 940707
Desc/: LER 94-021-00:on 940603,ultimate heat sink temp of 74 F was exceeded
Title: during thermal heat treatment & backwashing evolution of A & B intake
: bays.Thermal heat treatment evolution secured.Procedure will be
: revised.W/940707 ltr.

Authors: HARRIS,D.N. Northeast Nuclear Energy Co.
MILLER,D.B. Northeast Nuclear Energy Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

Licensee Event Rpt # 94-021 940603 Event Date
Other Related Number MP-94-450

File Locations: PDR ADOCK 05000245 S 940707 Package: 9407130001 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

A |)

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9801200034 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A2581-221 A2581-227
Size: 7pp.

Document Type: NRC Information Notice Issued: 980121
Desc/: NRC Info Notice 98-002, "Nuclear Power Plant Cold Weather Problems &
Title: Protective Measures."

Authors: ROE, J.W. NRC Affiliation Not Assigned

Recipients: * Consolidated Edison Co. of New York, Inc.
* Arkansas Power & Light Co.

Dockets: 05000003 50-3 Indian Point Station, Unit 1, Consolidated Edison Co. o
05000010 50-10 Dresden Nuclear Power Station, Unit 1, Commonwealth Ed
Information Notice # IEIN-98-002 960108 Event Date
Internal Tracking # IEIN-96-036 960130 Event Date

File Locations: PDR I&E * NOTICE98-002 980121 Package: 9801200034 #
PDR ADOCK 05000003 Q 980121

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9611130250 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 90723-319 90723-349
Size: 2pp.

Document Type: External correspondence Issued: 961029
Desc/: Forwards basis for study proposal covering biological
Title: studies, entrainment studies & impingement monitoring at MNPS as
: directed by Paragraph 5 of NPDES permit CT0003263.
:
Authors: SCACE, S.E. Northeast Nuclear Energy Co.
SCACE, S.E. Northeast Utilities Service Co.
Recipients: HOLBROOK, S.J. Connecticut, State of

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Other Related Number D10431

File Locations: PDR ADOCK 05000245 S 961029 Package: 9611130250 *
PDR ADOCK 05000336 S 961029

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9610070035 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 89952-078 89952-080
Size: 3pp.

Document Type: Periodic Monitoring Report - (Radiological Issued: 960320
Desc/: "Fall 1995 - Winter 1996 Refueling Outage at Millstone Nuclear Power
Title: Station Unit 1 & Extended Shut Down of all MNPS Units Relative to 1996
: Larval Winter Flounder Season."
:

Authors: * Northeast Utilities Service Co.

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Other Related Number D10154 960320 Last Date Rpt Peri

File Locations: PDR ADOCK 05000245 R 960926 Package: 9610070033 A
PDR ADOCK 05000336 R 960926

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9610070033 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 89952-075 89952-080
Size: 3pp.

Document Type: External correspondence Issued: 960926
Desc/: Forwards rept re effect of refueling outages on reducing larval winter
Title: flounder environ for plant, Units 1, 2 & 3.

Authors: WELCH, D.E. Northeast Utilities Service Co.

Recipients: HOLBROOK, S.J. Connecticut, State of

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Other Related Number D10154

File Locations: PDR ADOCK 05000245 R 960926 Package: 9610070033 *
PDR ADOCK 05000336 R 960926

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9506280160 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: 84483-344 84483-349
Size: 6pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 950613
Desc/: LER 95-011-00:on 950515,mussel shells found in recirculation spray sys
Title: heat exchanger.Caused by high density of mussel plantigrades in Spring
: 1994.Hypochlorite metering pumps installed.W/950613 ltr.

Authors: MCGUINNESS,R.L. Northeast Nuclear Energy Co.
MILLER,D.B. Northeast Nuclear Energy Co.
Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000423 50-423 Millstone Nuclear Power Station, Unit 3, Northeast Nu

Licensee Event Rpt #	95-011	950515	Event Date
Other Related Number	MP-95-186		

File Locations: PDR ADOCK 05000423 S 950613 Package: 9506280160 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9405170226 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 79373-359 79373-360
Size: pp.

Document Type: External correspondence Issued: 940114
Desc/: Informs that rept, "Feasibility Study of Cooling Water Sys
Title: Alternatives to Reduce Winter Flounder Larvae Entrainment at
: Millstone..." dtd Jan 1993 satisfies paragraph 8 of NPDES Permit
: CT0003263, as amended subject to listed conditions.
Authors: PARKER, E.C. Connecticut, State of

Recipients: MILLER, D. Northeast Nuclear Energy Co.

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu

File Locations: PDR ADOCK 05000245 P 940114 Package: 9405170226 #
PDR ADOCK 05000336 P 940114

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9501120004 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: 82341-351 82341-356
Size: 6pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 950105
Desc/: LER 94-021-01:on 940603,ultimate heat sink temp exceeded during
Title: thermal heat treatment & backwashing evolution of "A" & "B" intake
: bays.Caused by personnel error.Operating procedure will be
: revised.W/950105 ltr.
Authors: HARRIS,D.N. Northeast Nuclear Energy Co.
MILLER,D.B. Northeast Nuclear Energy Co.
Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

Licensee Event Rpt #	94-021	940603	Event Date
Other Related Number	MP-95-010		

File Locations: PDR ADOCK 05000245 S 950105 Package: 9501120004 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9408110099 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 80543-339 80543-341
Size: 3pp.

Document Type: Non-Recurring Technical Report (Environmen Issued: 940731
Desc/: "Winter-Spring 1994 Refueling Outage at MNPS Unit 1 Relative to Larval
Title: Winter Flounder Season."

Authors: * Northeast Utilities Service Co.

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

File Locations: PDR ADOCK 05000245 P 940720 Package: 9408110093 A

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9408110093 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 80543-337 80543-341
Size: 2pp.

Document Type: External correspondence Issued: 940720
Desc/: Forwards rept, "Winter-Spring 1994 Refueling Outage at MNPS Unit 1
Title: Relative to Larval Winter Flounder Season." Rept re timing of
: scheduled refueling outage & effects on reducing larval winter
: flounder entrainment.

Authors: MILLER,D.B. Northeast Nuclear Energy Co.

Recipients: KEENEY,T. Connecticut, State of

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

Other Related Number D07790

File Locations: PDR ADOCK 05000245 P 940720 Package: 9408110093 *
PDR STPRG ESGCT 940720

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

<Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON108 ===== Accession Number - 9812180140 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A6350-349 A6350-352
Size: 4pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 981210
Desc/: LER 98-044-00:on 981111,manual reactor trip initiated when
Title: differential pressure between "A" & "B" CWS condensers measured
: greater than 2 inches water gauge.Caused by high levels of debris
: impinging.Modified procedures.
Authors: DODSON,D.W. Northeast Nuclear Energy Co.

Recipients:

Dockets: 05000423 50-423 Millstone Nuclear Power Station, Unit 3, Northeast Nu

Licensee Event Rpt # 98-044 981111 Event Date

File Locations: PDR ADOCK 05000423 S 981210 Package: 9812180137 A

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9906180003 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A8536-344 A8536-350
Size: 7pp.

Document Type: NRC Information Notice Issued: 990623
Desc/: NRC Info Notice 99-019, "Rupture of Shell Side of Feedwater Heater at
Title: Point Beach Nuclear Plant."

Authors: MARSH, L.B. NRC Affiliation Not Assigned

Recipients: * Consolidated Edison Co. of New York, Inc.
* Arkansas Power & Light Co.

Dockets: 05000003 50-3 Indian Point Station, Unit 1, Consolidated Edison Co. o
05000010 50-10 Dresden Nuclear Power Station, Unit 1, Commonwealth Ed
Information Notice # IEIN-99-019 830307 Event Date
990118 Event Date

File Locations: PDR I&E * NOTICE99-019 990623 Package: 9906180003 #
PDR ADOCK 05000003 Q 990623

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9812220038 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A6301-327 A6301-331
Size: 5pp.

Document Type: Incoming Correspondence Issued: 981217
Desc/: Forwards figures for investigations of impingement of aquatic
Title: organisms at CCNPP,1975-1995,associated with license renewal
: application.Figures should be inserted in Enclosure B of impingement
: rept.

Authors: MONTGOMERY,B.S. Baltimore Gas & Electric Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000317 50-317 Calvert Cliffs Nuclear Power Plant, Unit 1, Baltimore
05000318 50-318 Calvert Cliffs Nuclear Power Plant, Unit 2, Baltimore
Internal Tracking # TAC MA1524
Internal Tracking # TAC MA1525

File Locations: PDR ADOCK 05000317 P 981217 Package: 9812220038 #
PDR ADOCK 05000318 P 981217

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9707160001 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 93816-174 93816-176
Size: 3pp.

Document Type: NPDES Noncompliance Notification Issued: 970710
Desc/: NPDES noncompliance notification: on 970613, found dead sea turtle on
Title: trash racks of CCNPP. Cause indeterminate.

Authors: KATZ, P.E. Baltimore Gas & Electric Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000317 50-317 Calvert Cliffs Nuclear Power Plant, Unit 1, Baltimore
05000318 50-318 Calvert Cliffs Nuclear Power Plant, Unit 2, Baltimore
970613 Event Date

File Locations: PDR ADOCK 05000317 S 970710 Package: 9707160001 #
PDR ADOCK 05000318 S 970710

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9509010115 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: 85344-355 85344-360
Size: 6pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 950828
Desc/: LER 95-003-00:on 950730 & 31,entered TS 3.0.3 due to high bay water
Title: temps.Administration limit for bay water temp raised & current Unit 1
: & Unit 2 SW tube type HXs will be replaced.W/950828 ltr.

Authors: MILBRADT,M.D. Baltimore Gas & Electric Co.
CRUSE,C.H. Baltimore Gas & Electric Co.
Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000317 50-317 Calvert Cliffs Nuclear Power Plant, Unit 1, Baltimore

Licensee Event Rpt # 95-003	950730	Event Date
	950731	Event Date

File Locations: PDR ADOCK 05000317 S 950828 Package: 9509010115 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9712090063 ===== Start ===== End ===
Availability: PDR Format: * Microfilm Address: A1373-157 A1373-159
Size: 3pp.

Document Type: NPDES Noncompliance Notification Issued: 971126
Desc/: NPDES noncompliance notification: on 971029, discovered approx forty
Title: dead fish floating in plant river water discharge. Caused by prior
: fish migration into discharge canal earlier in yr. Performed
: investigation & reviewed plant operations.
Authors: KINKEL, P.H. Consolidated Edison Co. of New York, Inc.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000247 50-247 Indian Point Station, Unit 2, Consolidated Edison Co.

971029 Event Date

File Locations: PDR ADOCK 05000247 S 971126 Package: 9712090063 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9610070035 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 89952-078 89952-080
Size: 3pp.

Document Type: Periodic Monitoring Report - (Radiological Issued: 960320
Desc/: "Fall 1995 - Winter 1996 Refueling Outage at Millstone Nuclear Power
Title: Station Unit 1 & Extended Shut Down of all MNPS Units Relative to 1996
: Larval Winter Flounder Season."

Authors: * Northeast Utilities Service Co.

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Other Related Number D10154 960320 Last Date Rpt Peri

File Locations: PDR ADOCK 05000245 R 960926 Package: 9610070033 A
PDR ADOCK 05000336 R 960926

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9610070033 ===== Start ===== End ===
Availability: PDR Format: * Microfilm Address: 89952-075 89952-080
Size: 3pp.

Document Type: External correspondence Issued: 960926
Desc/: Forwards rept re effect of refueling outages on reducing larval winter
Title: flounder environ for plant, Units 1, 2 & 3.

Authors: WELCH, D.E. Northeast Utilities Service Co.

Recipients: HOLBROOK, S.J. Connecticut, State of

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Other Related Number D10154

File Locations: PDR ADOCK 05000245 R 960926 Package: 9610070033 *
PDR ADOCK 05000336 R 960926

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9506280160 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: 84483-344 84483-349
Size: 6pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 950613
Desc/: LER 95-011-00:on 950515,mussel shells found in recirculation spray sys
Title: heat exchanger.Caused by high density of mussel plantigrades in Spring
: 1994.Hypochlorite metering pumps installed.W/950613 ltr.

Authors: MCGUINNESS,R.L. Northeast Nuclear Energy Co.
MILLER,D.B. Northeast Nuclear Energy Co.
Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000423 50-423 Millstone Nuclear Power Station, Unit 3, Northeast Nu

Licensee Event Rpt #	95-011	950515	Event Date
Other Related Number	MP-95-186		

File Locations: PDR ADOCK 05000423 S 950613 Package: 9506280160 #

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9405170226 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 79373-359 79373-360
Size: pp.

Document Type: External correspondence Issued: 940114
Desc/: Informs that rept, "Feasibility Study of Cooling Water Sys
Title: Alternatives to Reduce Winter Flounder Larvae Entrainment at
: Millstone...", dtd Jan 1993 satisfies paragraph 8 of NPDES Permit
: CT0003263, as amended subject to listed conditions.
Authors: PARKER, E.C. Connecticut, State of

Recipients: MILLER, D. Northeast Nuclear Energy Co.

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu

File Locations: PDR ADOCK 05000245 P 940114 Package: 9405170226 #
PDR ADOCK 05000336 P 940114

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9812180140 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A6350-349 A6350-352
Size: 4pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 981210
Desc/: LER 98-044-00:on 981111,manual reactor trip initiated when
Title: differential pressure between "A" & "B" CWS condensers measured
: greater than 2 inches water gauge.Caused by high levels of debris
: impinging.Modified procedures.
Authors: DODSON,D.W. Northeast Nuclear Energy Co.

Recipients:

Dockets: 05000423 50-423 Millstone Nuclear Power Station, Unit 3, Northeast Nu

Licensee Event Rpt # 98-044 981111 Event Date

File Locations: PDR ADOCK 05000423 S 981210 Package: 9812180137 A

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9811040120 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A5786-309 A5786-314
Size: 6pp.

Document Type: Licensee Event Report (See also A0,R0) Issued: 981022
Desc/: LER 98-016-02:on 980223,potential air/gas intrusion in chemical &
Title: volume control sys was noted.Caused by inadequate initial design.Added
: vent valves to high points in gravity boration pathways.

Authors: SMITH,D.A. Northeast Nuclear Energy Co.

Recipients:

Dockets: 05000423 50-423 Millstone Nuclear Power Station, Unit 3, Northeast Nu

Licensee Event Rpt #	98-016	980223	Event Date
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File Locations: PDR ADOCK 05000423 S 981022 Package: 9811050115 A

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9906180003 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A8536-344 A8536-350
Size: 7pp.

Document Type: NRC Information Notice Issued: 990623
Desc/: NRC Info Notice 99-019, "Rupture of Shell Side of Feedwater Heater at
Title: Point Beach Nuclear Plant."

Authors: MARSH, L.B. NRC Affiliation Not Assigned

Recipients: * Consolidated Edison Co. of New York, Inc.
* Arkansas Power & Light Co.

Dockets: 05000003 50-3 Indian Point Station, Unit 1, Consolidated Edison Co. o
05000010 50-10 Dresden Nuclear Power Station, Unit 1, Commonwealth Ed
Information Notice # IEIN-99-019 830307 Event Date
990118 Event Date

File Locations: PDR I&E * NOTICE99-019 990623 Package: 9906180003 #
PDR ADOCK 05000003 Q 990623

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9906100011 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A8326-290 A8326-328
Size: 39pp.

Document Type: Incoming Correspondence Issued: 990430
Desc/: Forwards Natl Marine Fisheries Svc biological opinion based on review
Title: of continued use of cooling water intake sys at BSEP.Rept reviews
: effects of activity on loggerhead,Kemps ridley,green,hawksbill &
: leatherback sea turtles.
Authors: DIAZ-SOLTERO,H. Commerce, Dept. of, National Marine Fisheries Servic
Recipients: ROE,J.W. NRC Affiliation Not Assigned

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

File Locations: PDR ADOCK 05000324 P 990430 Package: 9906100011 #
PDR ADOCK 05000325 P 990430

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9903020238 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A7032-027 A7032-033
Size: 7pp.

Document Type: Incoming Correspondence Issued: 990219
Desc/: Forwards CP&L comments on draft biological opinion re impact to sea
Title: turtles at Brunswick Steam Electric Plant, Units 1 & 2.

Authors: JURY, K.R. Carolina Power & Light Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318
Other Related Number BSEP 99-0023

File Locations: PDR ADOCK 05000324 P 990224 Package: 9903020234 A
PDR ADOCK 05000325 P 990224

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9903020234 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A7032-023 A7032-033
Size: 4pp.

Document Type: Outgoing correspondence Issued: 990224
Desc/: Forwards NRC comments on draft biological opinion re impact to sea
Title: turtles at Brunswick Steam Electric Plant from National Marine
: Fisheries Service.CP&L written comments provided to NRC by ltr dtd
: 990219,also encl.

Authors: AKSTULEWICZ,F. NRC Affiliation Not Assigned

Recipients: HOFFMAN,R. National Marine Service, Inc.

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 990224 Package: 9903020234 *
PDR ADOCK 05000325 P 990224

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9902160249 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A6844-036 A6844-063
Size: 28pp.

Document Type: Outgoing correspondence Issued: 990210
Desc/: Forwards Biological Opinion for CP&L review & comment re impact on
Title: endangered sea turtles of operation of Brunswick Steam Electric Plant.

Authors: TRIMBLE,D.C. NRC Affiliation Not Assigned

Recipients: KEENAN,J.S. Carolina Power & Light Co.

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 990210 Package: 9902160249 #
PDR ADOCK 05000325 P 990210

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9803190152 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A2675-167 A2675-210
Size: 3pp.

Document Type: Outgoing correspondence Issued: 980309
Desc/: Requests initiation of formal consultation re taking of endangered &
Title: threatened species of sea turtles at BSEP, located in North Carolina.

Authors: ROE, J.W. NRC Affiliation Not Assigned

Recipients: COOGAN, C. Commerce, Dept. of, National Marine Fisheries Ser

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 980309 Package: 9803190152 #
PDR ADOCK 05000325 P 980309

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9802030013 ===== Start ===== End ===
Availability: PDR Format: * Microfilm Address: A2018-236 A2018-272
Size: 37pp.

Document Type: General External Technical Reports Issued: 971231
Desc/: "Biological Assessment of Impact to Sea Turtles at CP&L Brunswick
Title: Steam Electric Plant."

Authors: WARD, B.J. Carolina Power & Light Co.

Recipients:

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

File Locations: PDR ADOCK 05000324 P 980126 Package: 9802030010 A
PDR ADOCK 05000325 P 980126

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON23 ===== Accession Number - 9802030010 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A2018-233 A2018-272
Size: 3pp.

Document Type: Incoming Correspondence Issued: 980126
Desc/: Forwards "Biological Assessment of Impact to Sea Turtles at CP&L
Title: Brunswick Steam Electric Plant," to support Endangered Species Act
: Section 7 consultation between NRC & National Marine Fisheries Svc.

Authors: JURY, K.R. Carolina Power & Light Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Other Related Number BSEP 97-0537

File Locations: PDR ADOCK 05000324 P 980126 Package: 9802030010 *
PDR ADOCK 05000325 P 980126

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON123 ===== Accession Number - 9802190274 ===== Start ===== End ===

Availability: PDR Format: TXT Microfilm Address: A2230-009 A2230-021

Size: 13pp.

Document Type: Inspection report, NRC-generated Issued: 980206

Desc/: Insp repts 50-245/97-85,50-336/97-85 & 50-423/97-85 on

Title: 971001-17,1120-21 & 1204-12.No violations noted.Major areas

: inspected:simulator portion of annual operating tests of licensed

: operator requalification training programs.

Authors: * Region 1 (RI, Post 820201)

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu

Inspection Report # 50-245/97-85

Inspection Report # 50-336/97-85

File Locations: PDR ADOCK 05000245 Q

980206 Package: 9802190264 A

PDR ADOCK 05000336 Q

980206

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON123 ===== Accession Number - 9801200034 ===== Start ==== End ===

Availability: PDR Format: TXT Microfilm Address: A2581-221 A2581-227

Size: 7pp.

Document Type: NRC Information Notice Issued: 980121
Desc/: NRC Info Notice 98-002, "Nuclear Power Plant Cold Weather Problems &
Title: Protective Measures."

Authors: ROE, J.W. NRC Affiliation Not Assigned

Recipients: * Consolidated Edison Co. of New York, Inc.
* Arkansas Power & Light Co.

Dockets: 05000003 50-3 Indian Point Station, Unit 1, Consolidated Edison Co. o
05000010 50-10 Dresden Nuclear Power Station, Unit 1, Commonwealth Ed
Information Notice # IEIN-98-002 960108 Event Date
Internal Tracking # IEIN-96-036 960130 Event Date

File Locations: PDR I&E * NOTICE98-002 980121 Package: 9801200034 #
PDR ADOCK 05000003 Q 980121

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON123 ===== Accession Number - 9712030290 ===== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A1286-061 A1286-195
Size: 136pp.

Document Type: Inspection report, NRC-generated Issued: 971121
Desc/: Insp repts 50-245/97-203,50-336/97-203 & 50-423/97-203 on
Title: 970722-1001.Violations noted.Major areas inspected:maint,
: engineering,plant support & conduct of operations.

Authors: DURR,J.P. Region 1 (RI, Post 820201)

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu
05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu
Inspection Report # 50-423/97-203
Inspection Report # 50-245/97-203

File Locations: PDR ADOCK 05000245 Q 971121 Package: 9712020205 B
PDR ADOCK 05000336 Q 971121

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON123 ===== Accession Number - 9703070183 ===== Start ==== End ===

Availability: PDR Format: TXT Microfilm Address: 92002-078 92002-165

Size: 90pp.

Document Type: Inspection report, NRC-generated Issued: 970224

Desc/: Insp repts 50-245/96-09,50-336/96-09 & 50-423/96-09 on

Title: 961026-1231.Violations noted.Major areas inspected:

: operations,maint,engineering & plant support.

Authors: * Region 1 (RI, Post 820201)

Recipients:

Dockets: 05000245 50-245 Millstone Nuclear Power Station, Unit 1, Northeast Nu

05000336 50-336 Millstone Nuclear Power Station, Unit 2, Northeast Nu

Inspection Report # 50-245/96-09

Inspection Report # 50-336/96-09

File Locations: PDR ADOCK 05000245 Q

970224 Package: 9703070167 B

PDR ADOCK 05000336 Q

970224

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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=== TCON123 ===== Accession Number Search =====Domain ALL ==
Search Criteria: 9602150195 Select Count: 1

Accession Number	Title/Description		
9602150195	LER 96-002-00: on 960108, determined that ice plug in common line resulted in inability to backwash svc water strainers. Caused by mod to backwash line piping. Ice plug removed, restoring ability to backwash. W/960205 ltr.		
	Issue Date...: 960205	Authors	
	Document Type: TRLER	EUTNENE LUTZI, P.J.	
	Text Format...: TXT	EUTNENE DACIMO, F.R.	
	Fiche Address: 87190-281		
	: 87190-284		
	Dockets	Domains	Recipients
	05000336	LER	NIRCTQ *

Use Arrows To Scroll, ENTER To Display - Then ENTER To Select, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9903260361 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A7386-343 A7386-352
Size: 10pp.

Document Type: Incoming Correspondence Issued: 990121
Desc/: Responds to NRC 980615 request to reinitiate consultation with
Title: National Marine Fisheries Service, pursuant to section 7 of Endangered
: Species Act, to remove study requirement from incidental take statement
: for Salem & Hope Creek plants.
Authors: DIAZ-SOLTERO, H. Commerce, Dept. of, National Marine Fisheries Service
Recipients: ESSIG, T.H. NRC Affiliation Not Assigned

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Service
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Service

File Locations: PDR ADOCK 05000272 P 990317 Package: 9903260358 A
PDR ADOCK 05000311 P 990317

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCAPE To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON92 ===== Accession Number - 9902080076 ===== Start ===== End ==

Availability: PDR Format: * Microfilm Address: A6824-306 A6824-315

Size: 10pp.

Document Type: Incoming Correspondence

Issued: 990121

Desc/: Responds to NRC 980615, request to reinitiate consultation with

Title: National Marine Fisheries Service, per Section 7 of Endangered Species

: Act, to remove study requirement from Incidental Take Statement for
: SNGS & HCGS.

Authors: DIAZ-SOLTERO, H. Commerce, Dept. of

Recipients: ESSIG, T.H. NRC Affiliation Not Assigned

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi

05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

File Locations: PDR ADOCK 05000272 P

990121 Package: 9902080076 #

PDR ADOCK 05000311 P

990121

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON66 ===== Accession Number - 9905120022 ===== Start ===== End ==

Availability: PDR Format: TXT

Microfilm Address: A8108-005 A8108-023

Size: 19pp.

Document Type: Inspection report, NRC-generated Issued: 990503
Desc/: Insp repts 50-272/99-03 & 50-311/99-03 on 990315-19.No violations
Title: identified.Major areas inspected:operations,maint & corrective
: actions.

Authors: *

Region 1 (RI, Post 820201)

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Inspection Report # 50-272/99-03
Inspection Report # 50-311/99-03

File Locations: PDR ADOCK 05000272 Q
PDR ADOCK 05000311 Q

990503 Package: 9905120021 A
990503

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9807310143 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A4518-079 A4518-083
Size: 5pp.

Document Type: NPDES Noncompliance Notification Issued: 980723
Desc/: NPDES noncompliance notification: on 980727, dead sea turtle was removed
Title: from circulating water sys intake trash racks. Based on turtle being
: badly decomposed, licensee disposed of turtle in trash dumpster.

Authors: POWELL, D.R. Public Service Electric & Gas Co. of New Jersey

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Other Related Number LR-E980351 980727 Event Date

File Locations: PDR ADOCK 05000272 S 980723 Package: 9807310143 #
PDR ADOCK 05000311 S 980723

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9806220105 ===== Start ===== End ===
Availability: CF Format: * Microfilm Address: 73756-228 73756-233
Size: 6pp.

Document Type: Outgoing correspondence Issued: 980615
Desc/: Forwards copy of rept,dtd June 1997, "Evaluation of Macrohabitat
Title: Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic
: & Satellite Tracking Techniques." W/o encl.

Authors: ESSIG,T.H. NRC Affiliation Not Assigned

Recipients: ROSENBERG,A.A. Commerce, Dept. of, National Marine Fisheries Ser

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Internal Tracking # TAC MA2004
Internal Tracking # TAC MA2016

File Locations: CF ADOCK 05000272 980615 Package: 9806220105 #
CF ADOCK 05000311 980615

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON92 ===== Accession Number - 9708040032 ===== Start ==== End ==

Availability: PDR Format: * Microfilm Address: 94694-202 94694-276

Size: 75pp.

Document Type: General External Technical Reports Issued: 970630
Desc/: "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in
Title: Delaware Estuary Using Sonic & Satellite Tracking Techniques."

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

File Locations: PDR ADOCK 05000272 P 970730 Package: 9708040031 A
PDR ADOCK 05000311 P 970730

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9708040031 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 94694-199 94694-276
Size: 3pp.

Document Type: Incoming Correspondence Issued: 970730
Desc/: Forwards "Evaluation of Macrohabitat Utilization by Loggerhead Sea
Title: Turtles in Delaware Estuary Using Sonic & Satellite Tracking
: Techniques," supporting proposal to delete Habitat Utilization Study.

Authors: POWELL,D.R. Public Service Electric & Gas Co. of New Jersey

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Other Related Number LR-E970424

File Locations: PDR ADOCK 05000272 P 970730 Package: 9708040031 *
PDR ADOCK 05000311 P 970730

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON92 ===== Accession Number - 9906160305 ===== Start ==== End ===

Availability: PDR Format: TXT Microfilm Address: A8351-150 A8351-363

Size: 211pp.

Document Type: Commission Paper

Issued: 990419

Desc/: Requests Commission approval to publish proposed rule to modify event

Title: reporting requirements for power reactors in 10CFR50.72 & 50.73.

:
:

Authors: TRAVERS,W.D. Office of the Executive Director for Operations (EDO)

Recipients:

Dockets:

Formal Report Number SECY-99-119

File Locations: PDR SECY * 99-119 R 990419 Package: 9906160305 #
CF SUBJ * L-4-1PT50REPT 990419

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9903260358 ===== Start ===== End =====
Availability: PDR Format: * Microfilm Address: A7386-338 A7386-352
Size: 5pp.

Document Type: Outgoing correspondence Issued: 990317
Desc/: Discusses util request that requirements to obtain more definitive
Title: habitat utilization data under incidental take statement in biological
: opinion for Salem & Hope Creek Nuclear Generating Stations be deleted.

Authors: MILANO,P.D. NRC Affiliation Not Assigned

Recipients: KEISER,H.W. Public Service Electric & Gas Co. of New Jersey

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Internal Tracking # TAC MA2004
Internal Tracking # TAC MA2005

File Locations: PDR ADOCK 05000272 P 990317 Package: 9903260358 *
PDR ADOCK 05000311 P 990317

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON92 ===== Accession Number - 9812300135 ===== Start ==== End ===

Availability: PDR Format: ABS Microfilm Address: A6394-245 A6394-246

Size: 2pp.

Document Type: Safety Evaluation Report

Issued: 981219

Desc/: Safety evaluation supporting amends 216 & 196 to licenses DPR-70 &

Title: DPR-75, respectively.

:
:

Authors: *

NRC Affiliation Not Assigned

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

File Locations: PDR ADOCK 05000272 P

981218 Package: 9812300126 B

PDR ADOCK 05000311 P

981218

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

Count: *0

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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON92 ===== Accession Number - 9808100142 ===== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A4558-337 A4558-339
Size: 3pp.

Document Type: Outgoing correspondence Issued: 980806
Desc/: Discusses licensee proposal to delete requirement to develop more
Title: definitive habitat utilization data from National Marine Fisheries
: Service incidental take statement.

Authors: MILANO, P.D. NRC Affiliation Not Assigned

Recipients: KEISER, H.W. Public Service Electric & Gas Co. of New Jersey

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Internal Tracking # TAC M99361
Internal Tracking # TAC M99362

File Locations: PDR ADOCK 05000272 P 980806 Package: 9808100142 #
PDR ADOCK 05000311 P 980806

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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==== TCON92 ===== Accession Number - 9708080129 ===== Start ==== End ===
Availability: PDR Format: ABS Microfilm Address: A0010-350 A0010-359
Size: 8pp. Notarized

Document Type: Application, operating license, amendments Issued: 970801
Desc/: Application for amends to licenses DPR-70 & DPR-75, rewording TS
Title: section 4.2.1 to state that util will adhere to Section 7 Incidental
: Take Statement approved by Natl Marine Fisheries Svc.

Authors: STORZ, L.F. Public Service Electric & Gas Co. of New Jersey

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Other Related Number LCR S97-04
Other Related Number LR-N970065

File Locations: PDR ADOCK 05000272 P 970801 Package: 9708080129 *
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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: CIRCULATING WATER INTAKE STRUCTURE FISH GATE DETAILS GATES G-38G-4
Title: STEEL STRUCTURAL.Actual rev 0.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Drawing Number 249887 A 1797

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
PDR ADOCK 05000311 P 990308

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<<NUDOCS/AD>>

Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON23 ===== Accession Number - 9904300064 ===== Start ==== End ===

Availability: PDR Format: * Microfilm Address: 38260-001 38260-001

Size: 1p.

Document Type: Drawings

Issued: 990308

Desc/: TRASH & FISH REMOVAL SYSTEM MISCELLANEOUS STEEL DETAILS STEEL SHT NO 4

Title: STRUCTURAL.

:
:

Authors: *

Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

Drawing Number 242884 A 1570

File Locations: PDR ADOCK 05000272 P

990308 Package: 9903170230 A

PDR ADOCK 05000311 P

990308

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.

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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: SALEM NUCLEAR GENERATING STATION NO 2 UNIT CIRCULATING WATER INTAKE
Title: TRASH & FISH REMOVAL SYSTEM EXTERIOR ELEVATIONS ARCHITECTURAL.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

Drawing Number 241768 A 1623-3

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
PDR ADOCK 05000311 P 990308

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: SALEM NUCLEAR GENERATING STATION NO 2 UNIT CIRCULATING WATER INTAKE
Title: TRASH & FISH REMOVAL SYSTEM FLOOR & ROOF PLANS ARCHITECTURAL.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

Drawing Number 241767 A 1623-4

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
PDR ADOCK 05000311 P 990308

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: SALEM NUCLEAR GENERATING STATION NO 1 UNIT CIRCULATING WATER INTAKE
Title: TRASH & FISH REMOVAL SYSTEM EXTERIOR ELEVATIONS ARCHITECTURAL.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi

Drawing Number 241201 A 1552-3

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: CIRCULATING WATER INTAKE TRASH REMOVAL & FISH RETURN SYSTEM FIBERGLASS
Title: MODIFIED FISH TROUGH STRUCTURAL.Sheet 2.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Drawing Number 602650 A 1428

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
PDR ADOCK 05000311 P 990308

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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: CIRCULATING WATER INTAKE TRASH REMOVAL & FISH RETURN SYSTEM MISC PLANS
Title: & CONCRETE STRUCTURAL.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Drawing Number 602651 A 1428

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
PDR ADOCK 05000311 P 990308

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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: CIRCULATING WATER INTAKE TRASH REMOVAL & FISH RETURN SYSTEM MODIFIED
Title: FISH TROUGH FIBERGLASS STRUCTURAL.Sheet 1 of 2.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Drawing Number 602650 A 1428

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
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Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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Availability: PDR Format: * Microfilm Address: 38260-001 38260-001
Size: 1p.

Document Type: Drawings Issued: 990308
Desc/: CIRCULATING WATER INTAKE TRASH REMOVAL & FISH RETURN SYSTEM WALKWAYS &
Title: TROUGHS ARRANGEMENT & DETAILS STRUCTURAL.

Authors: * Public Service Electric & Gas Co. of New Jersey

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi
05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv
Drawing Number 602649 A 1428

File Locations: PDR ADOCK 05000272 P 990308 Package: 9903170230 A
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Availability: PDR Format: * Microfilm Address: 92016-251 92016-252
Size: 2pp.

Document Type: NPDES Noncompliance Notification Issued: 970227
Desc/: NPDES noncompliance notification,submitting suppl rept on corrective
Title: measures to be taken to reduce potential of future occurrences re
: discharge of fuel oil into Delaware River.

Authors: POWELL,D.R. Public Service Electric & Gas Co. of New Jersey

Recipients: * New Jersey, State of

Dockets: 05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

Other Related Number LR-E970134 970113 Event Date

File Locations: PDR ADOCK 05000311 S 970227 Package: 9703060048 #

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ADQ42 V6.3.23.0

==== TCON23 ===== Accession Number - 9501230229 ===== Start ===== End =====

Availability: PDR Format: * Microfilm Address: 82504-093 82504-095

Size: 3pp.

Document Type: External correspondence Issued: 950109

Desc/: Submits annual review of incidental takes re federally listed

Title: threatened & endangered species, including fish & sea turtles.

Authors: THOMSON, F.X. Public Service Electric & Gas Co. of New Jersey

Recipients: SILVA, L. National Marine Service, Inc.

Dockets: 05000272 50-272 Salem Nuclear Generating Station, Unit 1, Public Servi

05000311 50-311 Salem Nuclear Generating Station, Unit 2, Public Serv

Other Related Number NLR-E94265 940519 Event Date

940624 Event Date

File Locations: PDR ADOCK 05000272 P 950109 Package: 9501230229 #

PDR ADOCK 05000311 P 950109

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==== TCON81 ===== Accession Number - 9909080217 ===== Start ===== End ===
Availability: PDR Format: * Microfilm Address: A9153-235 A9153-238
Size: 4pp.

Document Type: Internal or external memorandum Issued: 990903
Desc/: Notification of 990914 meeting with util in Southporth,NC to discuss
Title: Brunswick practices re protection of threatened & endangered species
: of sea turtles near plant.

Authors: HANSEN,A. NRC Affiliation Not Assigned

Recipients: PETERSON,S.R. NRC Affiliation Not Assigned

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

File Locations: PDR ADOCK 05000324 P 990903 Package: 9909080217 #
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Availability: PDR Format: TXT Microfilm Address: A8536-344 A8536-350
Size: 7pp.

Document Type: NRC Information Notice Issued: 990623
Desc/: NRC Info Notice 99-019, "Rupture of Shell Side of Feedwater Heater at
Title: Point Beach Nuclear Plant."

:
:
Authors: MARSH,L.B. NRC Affiliation Not Assigned

Recipients: * Consolidated Edison Co. of New York, Inc.
* Arkansas Power & Light Co.

Dockets: 05000003 50-3 Indian Point Station, Unit 1, Consolidated Edison Co. o
05000010 50-10 Dresden Nuclear Power Station, Unit 1, Commonwealth Ed
Information Notice # IEIN-99-019 830307 Event Date
990118 Event Date

File Locations: PDR I&E * NOTICE99-019 990623 Package: 9906180003 #
PDR ADOCK 05000003 Q 990623

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==== TCON81 ===== Accession Number - 9906100011 ===== Start ===== End ====
Availability: PDR Format: * Microfilm Address: A8326-290 A8326-328
Size: 39pp.

Document Type: Incoming Correspondence Issued: 990430
Desc/: Forwards Natl Marine Fisheries Svc biological opinion based on review
Title: of continued use of cooling water intake sys at BSEP.Rept reviews
: effects of activity on loggerhead,Kemps ridley,green,hawksbill &
: leatherback sea turtles.
Authors: DIAZ-SOLTERO,H. Commerce, Dept. of, National Marine Fisheries Servic
Recipients: ROE,J.W. NRC Affiliation Not Assigned

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

File Locations: PDR ADOCK 05000324 P 990430 Package: 9906100011 #
PDR ADOCK 05000325 P 990430

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Nuclear Regulatory Commission

ADQ42 V6.3.23.0

==== TCON81 ===== Accession Number - 9903020238 ===== Start ===== End ===

Availability: PDR Format: * Microfilm Address: A7032-027 A7032-033

Size: 7pp.

Document Type: Incoming Correspondence Issued: 990219
Desc/: Forwards CP&L comments on draft biological opinion re impact to sea
Title: turtles at Brunswick Steam Electric Plant, Units 1 & 2.

Authors: JURY, K.R. Carolina Power & Light Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

Internal Tracking # TAC M99318

Other Related Number BSEP 99-0023

File Locations: PDR ADOCK 05000324 P 990224 Package: 9903020234 A
PDR ADOCK 05000325 P 990224

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Availability: PDR Format: * Microfilm Address: A7032-023 A7032-033
Size: 4pp.

Document Type: Outgoing correspondence Issued: 990224
Desc/: Forwards NRC comments on draft biological opinion re impact to sea
Title: turtles at Brunswick Steam Electric Plant from National Marine
: Fisheries Service.CP&L written comments provided to NRC by ltr dtd
: 990219,also encl.
Authors: AKSTULEWICZ,F. NRC Affiliation Not Assigned

Recipients: HOFFMAN,R. National Marine Service, Inc.

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 990224 Package: 9903020234 *
PDR ADOCK 05000325 P 990224

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Availability: PDR Format: * Microfilm Address: A6844-036 A6844-063
Size: 28pp.

Document Type: Outgoing correspondence Issued: 990210
Desc/: Forwards Biological Opinion for CP&L review & comment re impact on
Title: endangered sea turtles of operation of Brunswick Steam Electric Plant.

Authors: TRIMBLE,D.C. NRC Affiliation Not Assigned

Recipients: KEENAN,J.S. Carolina Power & Light Co.

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 990210 Package: 9902160249 #
PDR ADOCK 05000325 P 990210

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Availability: PDR Format: * Microfilm Address: A2675-167 A2675-210
Size: 3pp.

Document Type: Outgoing correspondence Issued: 980309
Desc/: Requests initiation of formal consultation re taking of endangered &
Title: threatened species of sea turtles at BSEP, located in North Carolina.

Authors: ROE,J.W. NRC Affiliation Not Assigned

Recipients: COOGAN,C. Commerce, Dept. of, National Marine Fisheries Ser

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Internal Tracking # TAC M99318

File Locations: PDR ADOCK 05000324 P 980309 Package: 9803190152 #
PDR ADOCK 05000325 P 980309

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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==== TCON81 ===== Accession Number - 9802030013 ===== Start ===== End ===
Availability: PDR Format: * Microfilm Address: A2018-236 A2018-272
Size: 37pp.

Document Type: General External Technical Reports Issued: 971231
Desc/: "Biological Assessment of Impact to Sea Turtles at CP&L Brunswick
Title: Steam Electric Plant."

Authors: WARD,B.J. Carolina Power & Light Co.

Recipients:

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe

File Locations: PDR ADOCK 05000324 P 980126 Package: 9802030010 A
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Availability: PDR Format: * Microfilm Address: A2018-233 A2018-272
Size: 3pp.

Document Type: Incoming Correspondence Issued: 980126
Desc/: Forwards "Biological Assessment of Impact to Sea Turtles at CP&L
Title: Brunswick Steam Electric Plant," to support Endangered Species Act
: Section 7 consultation between NRC & National Marine Fisheries Svc.

Authors: JURY,K.R. Carolina Power & Light Co.

Recipients: * Document Control Branch (Document Control Desk) (

Dockets: 05000324 50-324 Brunswick Steam Electric Plant, Unit 2, Carolina Powe
05000325 50-325 Brunswick Steam Electric Plant, Unit 1, Carolina Powe
Other Related Number BSEP 97-0537

File Locations: PDR ADOCK 05000324 P 980126 Package: 9802030010 *
PDR ADOCK 05000325 P 980126

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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

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APR 29 1994

NLR-E94064

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

1993 ANNUAL ENVIRONMENTAL OPERATING REPORT
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

The attached annual environmental operating report is hereby submitted pursuant to Subsection 5.4.1 of the Environmental Protection Plan (Non-radiological) for Salem Generating Station, Unit Nos. 1 and 2. The Environmental Protection Plan is Appendix B to Facility Operation License DPR-70 and DPR-75 (Docket Nos. 50-272 and 50-311).

Sincerely,



Attachment (1)

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9405170073 931231
PDR ADOCK 05000272
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017# Z 691 525 086

ITEM # 1

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APR 28 1994

C Mr. J. C. Stone
Licensing Project Manager

Mr. T. Johnson
Senior Resident Inspector

Mr. T. Martin
Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

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

1993 ANNUAL ENVIRONMENTAL OPERATING REPORT
(NON-RADIOLOGICAL)
January 1 through December 31, 1993

SALEM GENERATION STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311
OPERATING LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
P.O. BOX 236
HANCOCKS BRIDGE, NEW JERSEY 08038

APRIL 1994

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1.0 INTRODUCTION

This 1993 Annual Environmental Operating Report (AEOR) is submitted in accordance with Section 5.4.1 of the Salem Generating Station, Unit Nos. 1 and 2, Environmental Protection Plan, Non-radiological (Appendix B to Unit Nos. 1 and 2, Facility Operating License Nos. DPR-70 and DPR-75, Docket Nos. 50-272 and 50-311, respectively).

This is the fifth Annual Environmental Operating report submitted under the EPP and covers Salem Unit No. 1 and Salem Unit No. 2 for the period from January 1 through December 31, 1993. During 1993, Salem Unit No. 1 generated 5,865,894 megawatt-hours of net electrical energy. Salem Unit No. 2 generated 5,541,301 megawatt-hours of net electrical energy.

As required by Subsection 5.4.1 of the EPP, we have included summaries and analyses of the results of all required environmental protection activities. This information is described in Section 2.0. Section 3.0 addresses the issues of EPP compliance. Changes to station design or operation and the review for potentially significant unreviewed environmental questions are addressed in Section 4.0. Unusual and/or important environmental events are discussed in Section 5.0.

2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

2.1 AQUATIC MONITORING ISSUES

Subsection 4.2.1 of the EPP references the Clean Water Act as a mechanism for protecting aquatic biota through water quality monitoring. The USNRC relies on the State of New Jersey, acting under the authority of the Clean Water Act, to insure applicable requirements for aquatic monitoring are implemented. The New Jersey Department of Environmental Protection and Energy (NJDEPE) is the State's regulatory agency.

The NJDEPE requires as part of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program that effluent monitoring be performed, with the results summarized and submitted monthly on Discharge Monitoring Report forms (DMRs). The monitoring is intended to determine compliance with the effluent limitations of the station's NJPDES permit (No. NJ0005622). We have reviewed the DMRs corresponding to the 1992 AEOR reporting period and have determined that no significant deviations have occurred. We have observed no evidence of trends towards damage to the environment. Copies of monthly NJPDES DMRs for the 1993 report year are available upon request and have been transmitted to the USNRC.

On June 1, 1990, the Salem Generating Station filed an application for the renewal of their NJPDES permit. The application was filed 180 days prior to the expiration of the permit, November 30, 1990, pursuant to the New Jersey Administrative Code. Additional supplements to the permit application were filed with the NJDEPE on August 31, 1990, January 10, 1991, and April 23, 1991. Copies of the application and supplemental data were also provided to the USNRC.

The NJDEPE issued a draft NJPDES permit to the Salem Station on October 3, 1990. The draft permit contains several new treatment requirements and monitoring conditions which PSE&G believes are excessive and restrictive. PSE&G submitted written comments on the draft NJPDES permit to the NJDEPE on January 13, 1991. Over the last two years, PSE&G and the NJDEPE have been working together to resolve all outstanding issues, and issue the permit renewal. The work has culminated in the issuance of a revised draft NJPDES permit on June 24, 1993 which resolved many of the treatment and monitoring issues. PSE&G is awaiting issuance of the final NJPDES permit. The conditions of the expired NJPDES permit remain in force until issuance of the final permit.

While the USNRC relies on the State of New Jersey and the NJDEPE for protection of the water quality, the National Marine Fisheries Service maintains regulatory authority with respect to certain migratory threatened and endangered aquatic species. As required by Amendments 129 and 108 to the Facility Operating License Nos. DPR-70 and DPR-75 and the Section 7 Consultation, Biological Opinion, Salem Generating Station conducted inspections of the circulating water intake trash bars at least every two hours during the 1993 sea turtle season. One sea turtle, a Kemp's ridley, was recovered alive and returned to the Delaware Bay in 1993.

On May 15, 1993 NMFS issued a revised Section 7 Consultation, Biological opinion. The revision was incorporated into Facility Operating License Nos. DPR-70 and DPR-75 as Amendments 146 and 124 respectively. For the Salem Generating Station, the revision includes extending the monitoring period by fifteen (15) days and, in the event of endangered species mortality resulting from station operations, decreasing the duration between inspections of the intake structure. It also increases by one the number of lethal takes of endangered sea turtles permitted and clarifies the number of live and mortal takes permitted for the three species of sea turtles. The Conservation Recommendations have been revised to include obtaining samples from dead sea turtles recovered from the intake for analysis of pesticide and heavy metal concentrations. Salem Generating Station will continue to implement the Conservation Recommendations referenced in the revised Section 7, Consultation.

2.2 TERRESTRIAL ISSUES

Section 4.2.2 of the EPP no longer requires terrestrial monitoring. Monitoring of Diamondback Terrapin nesting and the Osprey and Bald Eagle survey were completed in 1989. However, PSE&G has voluntarily continued to monitor the osprey population in a joint effort with the NJDEPE.

3.0 EPP COMPLIANCE STATUS

3.1 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. No significant environmental impacts attributable to the operation of Salem Generating Station Unit Nos. 1 and 2 were observed during 1993. PSE&G continued to operate Salem Unit Nos. 1 and 2 in compliance with the EPP during 1993 and had no instances of noncompliance that required corrective actions.

3.2 REVIEW

Subsection 5.1 of the Environmental Protection Plan for Salem Generating Station, Units 1 and 2, requires that an independent review of compliance with the EPP be maintained and made available for inspection. PSE&G's Corporate Environmental Compliance Group in the Environmental Affairs Department recently conducted an environmental compliance review of the Salem Generating Station in July 1993 which conforms to the objectives stated in the EPP.

4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the Environmental Protection Plan for Salem Unit Nos. 1 and 2, station design changes and operation performance of tests or experiments, for the AEOR covered time period, were reviewed for potential environmental impact. None of the recommended changes posed a potential to significantly affect the environment, therefore, none involved an unreviewed environmental question or a change in the EPP.

5.0 NONROUTINE REPORTS

Subsection 5.4.1 of the EPP requires that a list of all nonroutine reports (submitted in accordance with Subsection 5.4.2) be included as part of the Annual Environmental Operating Report.

Only one environmentally related nonroutine report was submitted to the USNRC in 1993. This report involved the incidental take of a Kemp's ridley sea turtle on the circulating water intake trash bars. The turtle was recovered alive and undamaged. The turtle was flipper tagged and released three and one half miles southeast of the Salem Generating Station and one half mile offshore in twenty feet of water.

Salem Generating Station experienced no unusual or important events that indicated or could have resulted in "significant environmental impact" during the 1993 reporting period.

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

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JUN 17 1994

NLR-E94125

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

Gentlemen:

**REPORT OF IMPINGEMENT OF SHORTNOSE STURGEON
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NO. 50-272 AND 50-311**

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

Enclosed please find three (3) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachment 2 and 3, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of the sturgeon.

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

Sincerely,



Attachments (3)

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PDR ADOCK 05000272
PDR

ITEM # 2

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JUN 17 1994

C Mr. J. C. Stone
Licensing Project Manager

Mr. C. Marschall
Senior Resident Inspector

Mr. T. Martin, Administrator
Region I

Mr. Doug Beach
National Marine Fisheries Service
Habitat Conservation Branch
One Blackburn Drive
Gloucester, MA 01930-2298

Ms. Nancy Haley
National Marine Fisheries Service
Habitat and Protected Res. Div.
One Blackburn Drive
Gloucester, MA 01930-2290

Mr. Kent Tosch, Manager IV
New Jersey Department of Environmental Protection and Energy
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625-0415

Mr. Dave Jenkins
Endangered and Nongame Species Program
P. O. Box 236
Tuckahoe, NJ 08250

Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection and Energy
Endangered and Nongame Species Program
CN-400
Trenton, NJ 08625-0400

JUN 17 1994

RAB/kjb

BC Vice President - Nuclear Operations (cover letter only)
Vice President - Nuclear Engineering (cover letter only)
General Manager - Salem Operations
General Manager - Quality Assurance/Nuclear Safety Review
Manager - Licensing and Regulation
Manager - Offsite Safety Review
Manager - External Affairs
Onsite Safety Review Engineer - Salem
Station Licensing Engineer - Salem
Associate General Solicitor
Mark J. Wetterhahn
Principal Engineer - Environmental Licensing
D. K. Hurka
M. S. Merritt
M. J. Pastva, Jr. (S05)
Microfilm
Records Management
Env. File No. 4.7.2 SGS
Nuclear File No. 1.2.1 SGS

NLR-E94125
ATTACHMENT 1

INCIDENTAL TAKE OF SHORTNOSE STURGEONS

OCCURRENCE DATE: May 19 and 20, 1994

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

IDENTIFICATION OF OCCURRENCE:

Two shortnose sturgeon (Acipenser brevirostrum) were removed from the Circulating Water System Intake at the Salem Generating Station. The first sturgeon was retrieved on May 19 and the second on May 20, 1994. Shortnose sturgeon are federally listed as "endangered" species under the Endangered Species Act of 1973, as amended.

CONDITIONS PRIOR TO OCCURRENCE:

May 19, 1994	Unit 1	0 percent power
	Unit 2	100 percent power
May 20, 1994	Unit 1	0 percent power
	Unit 2	100 percent power

DESCRIPTION OF OCCURRENCE:

DATE	TIME	INTAKE BAY	FORK LENGTH (CM)	WEIGHT (KG)
5/19/94	10:10 AM	13B ice barrier	72	3.3
5/20/94	10:00 AM	23B trash rack	70.8	2.6

The first specimen was removed from the ice barrier in front of the 13B intake bay during bathymetric surveys in front of the circulating water intake structure. The second specimen was recovered during the routine cleaning of the trash racks by Site Services personnel.

Both sturgeon were dead upon recovery. After positive identifications were made the specimens were put on ice and frozen. The barbels from the two specimens were sent to the National Fish Health Research Laboratory in Kearneysville, West Virginia, and the remainder of the specimens were sent to the Peabody Museum of Archeology and Ethnology in Wayland, Massachusetts.

The U.S. Nuclear Regulatory Commission (NRC), the U.S. National Marine Fisheries Service (NMFS), and the New Jersey Department of Environmental Protection and Energy (NJDEPE) have been notified regarding these occurrences.

APPARENT CAUSE OF OCCURRENCE:

Based on historical and recent records, shortnose sturgeon appear to utilize the entire Delaware estuary-river complex, from the river mouth to New Hope, Pennsylvania (0-238 river kilometer - rkm). Spawning occurs north of Trenton, 128 rkm upstream from the Salem and Hope Creek Generating Stations. It is unlikely that larval or post-larval fish would travel the distance downstream to Artificial Island. Adult shortnose sturgeon may move into the Artificial Island area during fall migration to wintering grounds. Healthy adult and juvenile shortnose sturgeon are strong enough swimmers that they should be able to escape from intake velocities typically encountered at the trash bars. Sturgeon which are in a weakened condition may be subject to impingement. Gill netting occurs frequently in the area surrounding Artificial Island and may have been a contributing factor in these takes.

ANALYSIS OF OCCURRENCE:

The CWS intake is monitored for accumulation of debris throughout the year. This accumulated debris is periodically removed. Any sturgeon which are observed in the area of the trash racks are recovered immediately. Between 1978 and 1994, a total of ten (10) shortnose sturgeon have been collected at the plant, two in 1978, one in 1981, three in 1991, two in 1992, and two in 1994. The recent influx is presumably a result of increased shortnose sturgeon populations in the Delaware estuary-river complex.

CORRECTIVE ACTION:

Between June 1 and October 15, the trash racks at Salem are observed every two hours, twenty-four (24) hours a day and cleaned at least once per day. The specified time period represents the peak migratory movement of sea turtles into and out of the Delaware River. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash rack is inspected daily for debris load and cleaned as necessary. Any sturgeon occurrence is observed at this time.

NLR-E94125
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: Scott Beck and Robert Shields -
Environmental Consulting Services, Inc.

Reporters full name: Dave Hurka - Environmental Licensing

Species Identification: Shortnose Sturgeon
(Acipenser brevirostrum)

Site of Impingement: Ice barrier in front of SGS CWIS 13B

Date and time impingement was observed: 05/19/94 1010 hrs

Date and time animal was collected: 05/19/94 1010 hrs

Tidal stage at time of observation: Ebb Tide

Date and time of last observation of screen: Not applicable

Water temperature at site and time of impingement: 60.5 (F)

Average percent of power generating capacity achieved per unit
over the 48 hours previous to impingement: Unit 1 - 0 percent
Unit 2 - 100 percent

Condition of animal: Dead

Shortnose Sturgeon Measurements:
Fork Length: 72 cm Total Length: 83 cm

Weight: 3.3 kg

Remarks: The sturgeon was found dead in the ice barrier in front
of CWIS 13B during bathymetric surveys.

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: Thomas McMillan - Salem Operations
Reporters full name: Robert Boot - Environmental Licensing
Species Identification: Shortnose Sturgeon
(Acipenser brevirostrum)
Site of Impingement: SGS CWIS 23B
Date and time impingement was observed: 05/20/94 1000 hrs
Date and time animal was collected: 05/20/94 1000 hrs
Tidal stage at time of observation: Ebb Tide
Date and time of last observation of screen: 05/20/94 0930 hrs
Water temperature at site and time of impingement: 60.3 (F)
Average percent of power generating capacity achieved per unit
over the 48 hours previous to impingement: Unit 1 - 0 percent
Unit 2 - 100 percent
Condition of animal: Dead
Shortnose Sturgeon Measurements:
Fork Length: 70.8 cm Total Length: 77.3 cm
Weight: 2.6 kg
Remarks: The sturgeon was found dead during routine cleaning of
the trash racks below the surface of the water.

Public Service
Electric and Gas
Company

Steven E. Miltenberger

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1100

Vice President and Chief Nuclear Officer

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JUL 22 1994

NLR-E94166

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Gentlemen:

REPORT OF IMPINGEMENT OF SEA TURTLE
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NO. 50-272 AND 50-311

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the 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 a loggerhead sea turtle from the Salem Generating Station circulating water intake structure.

Enclosed please find two (2) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachment 2, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of the sea turtle.

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

Sincerely,



Attachments (2)

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JUL 22 1994

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C Mr. J. C. Stone
Licensing Project Manager

Mr. C. Marschall
Senior Resident Inspector

Mr. T. Martin, Administrator
Region I

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

Mr. Kent Tosch, Manager IV
New Jersey Department of Environmental Protection
Division of Environmental Quality
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625-0415

Mr. Dave Jenkins
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
P. O. Box 236
Tuckahoe, NJ 08250

Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
CN-400
Trenton, NJ 08625-0400

NLR-E94166
ATTACHMENT 1

INCIDENTAL TAKE OF LOGGERHEAD SEA TURTLE

OCCURRENCE DATE: June 24, 1994

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

IDENTIFICATION OF OCCURRENCE:

One loggerhead sea turtle (Caretta caretta) was recovered from trash rack 11A of the Circulating Water System (CWS) intake trash racks at the Salem Generating Station. The sea turtle was retrieved on June 24, at approximately 0445 hours. Loggerhead sea turtles are federally listed as "threatened" species under the Endangered Species Act of 1973, as amended.

CONDITIONS PRIOR TO OCCURRENCE:

June 24, 1994	Unit 1	55 percent power
	Unit 2	100 percent power

DESCRIPTION OF OCCURRENCE:

The loggerhead sea turtle was recovered from trash rack 11A of the CWS intake on June 24, 1994 at 0445 hours. The turtle was recovered by Operations Department personnel during the routine inspection of the trash racks. They used the stokes basket to remove it from the intake bay.

The turtle was recovered alive and undamaged. It was placed in an 800 gallon holding tank for observation. Dr. Burt Paluch, DVM documented the physical condition of the turtle, drew a blood sample, and drilled a 3/16 inch hole in the right postcentral scute. The blood was sent to a medical laboratory 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 flipper tagged and released at the mouth of Stow Creek in the Delaware Bay.

The following agencies have been notified regarding this occurrence:

U.S. Nuclear Regulatory Commission
U.S. National Marine Fisheries Service
New Jersey Department of Environmental Protection
Marine Mammal Stranding Center (MMSC) of Brigantine

APPARENT CAUSE OF OCCURRENCE:

Sea turtles are summer migrants, common to the Delaware Bay. Small numbers typically occur in the lower Delaware River near the 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 throughout the year. This accumulated debris is periodically removed. Any sea turtles which are observed in the area of the trash racks are recovered immediately. Between 1979 and present, a total of 91 sea turtles (plus three recaptures) have been collected at or in the vicinity of the plant. Of the 87 turtles collected at the intake, sixty-one (70.1%) have been loggerhead sea turtles, twenty-four (27.6%) were Kemp's ridley sea turtles, and two (2.3%) green sea turtles.

CORRECTIVE ACTION:

Between June 1 and October 15, the trash racks at Salem are observed every two hours, twenty-four (24) hours a day and cleaned at least once per day. The specified time period represents the peak migratory movement of sea turtles into and out of the Delaware River. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash rack is inspected daily for debris load and cleaned as necessary. Any sea turtle occurrence is observed at this time. Resuscitation procedures will be attempted on all unconscious turtles. 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 turned over to the MMSC.

NLR-E94166
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: Michael Spencer - Salem Operations
Reporters full name: Dave Hurka - Environmental Licensing
Species Identification: Loggerhead Sea Turtle (Caretta caretta)
Site of Impingement: SGS CWIS 11A Trash Rack
Date and time impingement was observed: 06/24/94 0445 hrs
Date and time animal was collected: 06/24/94 0445 hrs
Tidal stage at time of observation: Ebb Tide
Date and time of last observation of screen: 06/24/94 0300 hrs
Water temperature at site and time of impingement: 79.7 (F)
Average percent of power generating capacity achieved per unit
over the 48 hours previous to impingement: Unit 1 - 55 percent
Unit 2 - 100 percent
Condition of animal: Live and vigorous. Ate five blue crabs
before release on 6/27/94.
Sea Turtle Measurements:
Carapace Length: Curved: Straight: 47.4 cm (18.6 in)
Carapace Width: Curved: Straight: 41.7 cm (16.4 in)
Weight: 18.43 kg
Tag number: QQP976 and QQP977
Remarks: The sea turtle was tagged and released at the mouth of
Stow Creek in the Delaware Bay. It was equipped with
tracking equipment to follow its movements in the bay.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

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JAN 6 9 1995

NLR-E94265

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

Ms. Silva:

**1994 SUMMARY OF IMPINGEMENTS
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-772 AND 50-311**

In accordance with Section 7 Consultation, Incidental Take Statement measure number (9), Public Service Electric and Gas Company (PSE&G) is submitting this annual review of incidental takes at the Salem Generating Station.

This document summarizes the occurrences of federally listed threatened and endangered species at the Salem Circulating Water Intake Structure (CWIS) during 1994.

At least three endangered and one threatened species are known to utilize the Delaware Bay in the vicinity of Artificial Island. The endangered species include one fish, the shortnose sturgeon and two sea turtles, Kemp's ridley and green. The single threatened species is the loggerhead sea turtle.

In accordance with our Section 7 Consultation, Biological Opinion, PSE&G notifies the NMFS within 24-hours in the event a threatened or endangered species is incidentally caught due to operation of the Salem or Hope Creek Generating Stations. Similarly, a detailed report of each event has been submitted to the National Marine Fisheries Service (NMFS) and the United States Nuclear Regulatory Commission (USNRC) 30 days after the occurrence.

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The power is in your hands.

SEA TURTLES:

The migration of sea turtles along the US east coast is well documented, including their occurrence in bays and channels. Sea turtles typically enter the Delaware Bay in late spring and begin their movement out to sea by late summer.

On June 24, 1994, a live loggerhead (Caretta caretta) sea turtle was recovered from the Salem CWS 11A trash rack. The turtle weighed 18.43 kilograms, had a straight carapace length of 47.4 centimeters, and a straight carapace width of 41.7 centimeters.

The turtle was observed for three days in an 800 gallon holding tank, and ate approximately five blue crabs. The turtle was released at the mouth of Stow Creek in the Delaware Bay approximately nine miles southeast of Artificial Island on June 27, 1994. The turtle was flipper tagged on the right and left flippers (QQP976 and QQP977) and equipped with sonic and satellite tracking equipment. After release, the turtle was satellite tracked for approximately 30 days at which time contact with the turtle was lost. Its movements through the Delaware Bay were very sporadic.

There were no other sea turtle occurrences at the Salem Generating Station during 1994.

SHORTNOSE STURGEON:

Shortnose sturgeon are known to spawn upstream of Artificial Island and migrate throughout the Bay during different life stages.

On May 19, 1994, a dead shortnose sturgeon (Acipenser brevirostrum) was recovered from the ice barrier in front of 13B circulator. The sturgeon weighed 3.3 kilograms, had a fork length of 72 centimeters and a total length of 83 centimeters.

Another dead shortnose sturgeon was recovered from the 23B circulator trash rack on May 20, 1994. The sturgeon weighed 2.6 kilograms, had a fork length of 70.8 centimeters and a total length of 77.3 centimeters.

Barbel samples from both sturgeon were removed and sent to the National Fish Health Laboratory in Kearneysville, West Virginia. The remaining specimens were sent to the Peabody Museum of Archeology and Ethnology in Wayland, Massachusetts.

L. Silva
NLR-E94265

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JAN 09 1995

There were no other sturgeon occurrences at the Salem Generating Station during 1994.

If you have any further questions regarding this material please contact Robert Boot of my staff at (609) 339-1169.

Sincerely,



F. X. Thomson, Jr.
Manager -
Licensing and Regulation

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

Mr. T. T. Martin, Administrator - Region I
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Mr. L. N. Olshan, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
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Mr. C. Marschall (S09)
USNRC Senior Resident Inspector

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New Jersey Department of Environmental Protection
Division of Environmental Quality
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Trenton, NJ 08625-0415

Mr. L. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
CN 400
Trenton, NJ 08625-0400

Public Service
Electric and Gas
Company

Joseph J. Hagan

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1200

Vice President - Nuclear Operations

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APR 28 1995

LR-E95059

United States Nuclear Regulatory Commission
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Washington, DC 20555

Gentlemen:

1994 ANNUAL ENVIRONMENTAL OPERATING REPORT
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

The attached annual environmental operating report is hereby submitted pursuant to Subsection 5.4.1 of the Environmental Protection Plan (Non-radiological) for Salem Generating Station, Unit Nos. 1 and 2. The Environmental Protection Plan is Appendix B to Facility Operation License DPR-70 and DPR-75 (Docket Nos. 50-272 and 50-311).

Sincerely,



Attachment (1)

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PDR ADOCK 05000272
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APR 28 1995

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U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. C. S. Marschall (S09)
USNRC Senior Resident Inspector
Salem Generating Station

Mr. K. Tosch, Manager IV
NJ Department of Environmental Protection
Division of Environmental Protection
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625



1994 ANNUAL ENVIRONMENTAL OPERATING REPORT
(NON-RADIOLOGICAL)
January 1 through December 31, 1994

SALEM GENERATION STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311
OPERATING LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
P.O. BOX 236
HANCOCKS BRIDGE, NEW JERSEY 08038

APRIL 1995

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1.0 INTRODUCTION

This 1994 Annual Environmental Operating Report (AEOR) is submitted in accordance with Section 5.4.1 of the Salem Generating Station, Unit Nos. 1 and 2, Environmental Protection Plan, Non-radiological (Appendix B to Unit Nos. 1 and 2, Facility Operating License Nos. DPR-70 and DPR-75, Docket Nos. 50-272 and 50-311, respectively).

This is the sixth Annual Environmental Operating report submitted under the EPP and covers Salem Unit No. 1 and Salem Unit No. 2 for the period from January 1 through December 31, 1994. During 1994, Salem Unit No. 1 generated 5,744,611 megawatt-hours of net electrical energy. Salem Unit No. 2 generated 5,596,267 megawatt-hours of net electrical energy.

As required by Subsection 5.4.1 of the EPP, we have included summaries and analyses of the results of all required environmental protection activities. This information is described in Section 2.0. Section 3.0 addresses the issues of EPP compliance. Changes to station design or operation and the review for potentially significant unreviewed environmental questions are addressed in Section 4.0. Unusual and/or important environmental events are discussed in Section 5.0.

2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

2.1 AQUATIC MONITORING ISSUES

Subsection 4.2.1 of the EPP references the Clean Water Act as a mechanism for protecting aquatic biota through water quality monitoring. The USNRC relies on the State of New Jersey, acting under the authority of the Clean Water Act, to insure applicable requirements for aquatic monitoring are implemented. The New Jersey Department of Environmental Protection (NJDEP) is the State's regulatory agency.

The NJDEP requires as part of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program that effluent monitoring be performed, with the results summarized and submitted monthly on Discharge Monitoring Report forms (DMRs). The monitoring is intended to determine compliance with the effluent limitations of the station's NJPDES permit (No. NJ0005622). We have reviewed the DMRs corresponding to the 1994 AEOR reporting period and have determined that no significant deviations have occurred. We have observed no evidence of trends towards damage to the environment. Copies of monthly NJPDES DMRs for the 1994 report year are available upon request and have been transmitted to the USNRC.

On June 1, 1990, the Salem Generating Station filed an application for the renewal of their NJPDES permit. Additional supplements to the permit application were filed with the NJDEP on August 31, 1990, January 10, 1991, and April 23, 1991. Copies of the application and supplemental data were also provided to the USNRC.

The NJDEP issued a draft NJPDES permit to the Salem Station on October 3, 1990. The draft permit contained several new treatment requirements and monitoring conditions which PSE&G believed were excessive and restrictive. PSE&G submitted written comments on the draft NJPDES permit to the NJDEPE on January 13, 1991. Over the last three years, PSE&G and the NJDEP have been working together to resolve all outstanding issues. The work has culminated in the issuance of a final NJPDES permit on July 20, 1994 which resolved the treatment and monitoring issues. The Special Conditions of the final permit include:

- Modification of the circulating water intake structure travelling screens
- Wetlands restoration and enhancement
- Elimination of impediments to fish migration

- Sound deterrent feasibility study
- Enhanced biological monitoring
- Additional chemical and toxicity testing of plant effluents

The final NJPDES permit took effect on September 1, 1994.

While the USNRC relies on the State of New Jersey and the NJDEPE for protection of the water quality, the National Marine Fisheries Service maintains regulatory authority with respect to certain migratory threatened and endangered aquatic species. As required by Amendments 129 and 108 to the Facility Operating License Nos. DPR-70 and DPR-75 and the Section 7 Consultation, Biological Opinion, Salem Generating Station conducted inspections of the circulating water intake trash bars at least every two hours during the 1994 sea turtle season. One sea turtle, a loggerhead, was recovered alive and returned to the Delaware Bay in 1994.

Salem Generating Station will continue to implement the Conservation Recommendations referenced in the revised Section 7, Consultation.

2.2 TERRESTRIAL ISSUES

Section 4.2.2 of the EPP no longer requires terrestrial monitoring. Monitoring of Diamondback Terrapin nesting and the Osprey and Bald Eagle survey were completed in 1989. However, PSE&G has voluntarily continued to monitor the osprey population in a joint effort with the NJDEP.

3.0 EPP COMPLIANCE STATUS

3.1 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. No significant environmental impacts attributable to the operation of Salem Generating Station Unit Nos. 1 and 2 were observed during 1994. PSE&G continued to operate Salem Unit Nos. 1 and 2 in compliance with the EPP during 1994 and had no instances of noncompliance that required corrective actions.

3.2 REVIEW

Subsection 5.1 of the Environmental Protection Plan for Salem Generating Station, Units 1 and 2, requires that an independent review of compliance with the EPP be maintained and made available for inspection. PSE&G's Corporate Environmental Compliance Group in the Environmental Affairs Department in Newark, New Jersey recently conducted an environmental compliance review of the Nuclear Business Unit in September 1994 which conforms to the objectives stated in the EPP.

4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the Environmental Protection Plan for Salem Unit Nos. 1 and 2, station design changes and operation performance of tests or experiments, for the AEOR covered time period, were reviewed for potential environmental impact. None of the recommended changes posed a potential to significantly affect the environment, therefore, none involved an unreviewed environmental question or a change in the EPP.

5.0 NONROUTINE REPORTS

Subsection 5.4.1 of the EPP requires that a list of all nonroutine reports (submitted in accordance with Subsection 5.4.2) be included as part of the Annual Environmental Operating Report.

Two environmentally related nonroutine reports were submitted to the USNRC in 1994. One report involved the incidental take of a Loggerhead sea turtle on the circulating water intake trash bars. The turtle was recovered alive and undamaged. The turtle was flipper tagged and released at the mouth of Stow Creek in the Delaware Bay. It was also equipped with transmitters to allow tracking upon release.

The other report involved the incidental take of two shortnose sturgeon on the circulating water intake trash bars. Both sturgeon were dead when recovered. After positive identifications were made the specimens were put on ice and frozen. At request from NMFS, the barbels from the two specimens were sent to the National Fish Health Research Laboratory in Kearneysville, West Virginia, and the remainder of the specimens were sent to the Peabody Museum of Archeology and Ethnology in Wayland, Massachusetts.

Salem Generating Station experienced no unusual or important events that indicated or could have resulted in "significant environmental impact" during the 1994 reporting period.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

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JUL 21 1995

LR-E95108

U. S. Nuclear Regulatory Commission
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Washington, DC 20555

Gentlemen:

**REPORT OF IMPINGEMENT OF SEA TURTLE
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NO. 50-272 AND 50-311**

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the 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 a loggerhead sea turtle from the Salem Generating Station circulating water intake structure.

Enclosed please find two (2) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachment 2, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of the sea turtle.

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

Sincerely,

J. A. Benjamin
Director -
QA/Nuclear Safety Review

Attachments (2)

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The power is in your hands.

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ITEM # 6

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JUL 21 1995

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Rockville, MD 20852

Mr. C. S. Marschall (S09)
USNRC Senior Resident Inspector
Salem Generating Station

M. K. Tosch, Manager IV
NJ Department of Environmental Protection
Division of Environmental Protection
Bureau of Nuclear Engineering
CN 415
Trenton, NJ 08625

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

Mr. Dave Jenkins
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
P. O. Box 236
Tuckahoe, NJ 08250

Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
CN-400
Trenton, NJ 08625-0400

LR-E95108
ATTACHMENT 1

INCIDENTAL TAKE OF LOGGERHEAD SEA TURTLE

OCCURRENCE DATE: July 2, 1995

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

IDENTIFICATION OF OCCURRENCE:

One dead loggerhead sea turtle (Caretta caretta) was recovered from trash rack 22A of the Circulating Water System (CWS) intake trash racks at the Salem Generating Station. The sea turtle was retrieved on July 2, at approximately 0730 hours. Loggerhead sea turtles are federally listed as "threatened" species under the Endangered Species Act of 1973, as amended.

CONDITIONS PRIOR TO OCCURRENCE:

July 2, 1995	Unit 1	0 percent power
	Unit 2	0 percent power

DESCRIPTION OF OCCURRENCE:

The dead loggerhead sea turtle was recovered from trash rack 22A of the CWS intake on July 2, 1995 at 0730 hours. The 22A circulator pump was in service at the time of recovering the turtle. The turtle was recovered by Site Services personnel during the cleaning of the trash racks. The turtle was badly decomposed, with only the top quarter of the carapace remaining. All internal organs and muscles appeared to be intact. The carapace had a straight cut, which severed the carapace in half. It also had a gash on the top portion of the carapace, approximately 1/2 inch wide by 4 inches long.

The following agencies have been notified regarding this occurrence:

U.S. Nuclear Regulatory Commission
U.S. National Marine Fisheries Service
New Jersey Department of Environmental Protection
Marine Mammal Stranding Center (MMSC) of Brigantine

The sea turtle was examined by Dr. Burt Paluch, and determined that a necropsy of the turtle would not be feasible due to the severe decomposition. This decision was agreed to by Laurie Silva of NMFS. Ms. Silva then requested the turtle be landfilled because an adequate necropsy could not be performed.

APPARENT CAUSE OF OCCURRENCE:

Sea turtles are summer migrants, common to the Delaware Bay. Small numbers typically occur in the lower Delaware River near the 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.

The cause of death appeared to be a severe propeller cut due to the markings on the remaining portion of the carapace and the straight cut which severed the carapace.

ANALYSIS OF OCCURRENCE:

The CWS intake is monitored for accumulation of debris throughout the year. This accumulated debris is periodically removed. Any sea turtles which are observed in the area of the trash racks are recovered immediately. Between 1979 and present, a total of 92 sea turtles (plus three recaptures) have been collected at or in the vicinity of the plant. Of the 88 turtles collected at the intake, sixty-two (70.5%) have been loggerhead sea turtles, twenty-four (27.3%) were Kemp's ridley sea turtles, and two (2.2%) green sea turtles.

CORRECTIVE ACTION:

Between June 1 and October 15, the trash racks at Salem are observed every two hours, twenty-four (24) hours a day. The specified time period represents the peak migratory movement of sea turtles into and out of the Delaware River. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash rack is inspected daily for debris load and cleaned as necessary. Any sea turtle occurrence is observed at this time. Resuscitation procedures will be attempted on all unconscious turtles. 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 turned over to the MMSC.

Due to the poor condition of the turtle, a necropsy of the turtle was not feasible. At the request of NMFS, the turtle was disposed of in a landfill.

LR-E95108
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: Site Services Personnel
Reporters full name: Robert Boot - Environmental Licensing
Species Identification: Loggerhead Sea Turtle (Caretta caretta)
Site of Impingement: SGS CWIS 22A Trash Rack
Date and time impingement was observed: 07/02/95 0730 hrs
Date and time animal was collected: 07/02/95 0730 hrs
Tidal stage at time of observation: Ebb Tide
Date and time of last observation of screen: 07/02/95 0600 hrs
Water temperature at site and time of impingement: 64.2 (F)
Average percent of power generating capacity achieved per unit
over the 48 hours previous to impingement: Unit 1 - 0 percent
Unit 2 - 0 percent
Condition of animal: Dead, Badly decomposed. Bottom portion
of carapace severed off.

Sea Turtle Measurements:

Carapace Length: Curved: Straight: 51.1 cm (20.12 in)
Carapace Width: Curved: Straight: N/A
Weight: N/A

Remarks: The sea turtle was badly decomposed. It was examined by Dr. Burt Paluch, DVM, who determined a necropsy would not be feasible. The turtle was then disposed of in a landfill. Photographs of the sea turtle have been taken and are on file.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

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LR-E96063

United States Nuclear Regulatory Commission
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Washington, DC 20555

Gentlemen:

1995 ANNUAL ENVIRONMENTAL OPERATING REPORT
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311

The attached annual environmental operating report is hereby submitted pursuant to Subsection 5.4.1 of the Environmental Protection Plan (Non-radiological) for Salem Generating Station, Unit Nos. 1 and 2. The Environmental Protection Plan is Appendix B to Facility Operation License Nos. DPR-70 and DPR-75 (Docket Nos. 50-272 and 50-311).

Sincerely,

D. R. Powell
Manager -
Licensing and Regulation

Attachment (1)

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APR 30 1996

C Mr. T. T. Martin
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Mr. L. N. Olshan
Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
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Rockville, MD 20852

Mr. C. Marschall (X24)
USNRC Senior Resident Inspector - Salem

Mr. Kent Tosch, Manager, IV
Bureau of Nuclear Engineering
33 Arctic Parkway
CN 415
Trenton, NJ 08625

1995 ANNUAL ENVIRONMENTAL OPERATING REPORT
(NON-RADIOLOGICAL)
January 1 through December 31, 1995

SALEM GENERATION STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311
OPERATING LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
P.O. BOX 236
HANCOCKS BRIDGE, NEW JERSEY 08038

APRIL 1996

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1.0 INTRODUCTION

This 1995 Annual Environmental Operating Report (AEOR) is submitted in accordance with Section 5.4.1 of the Salem Generating Station, Unit Nos. 1 and 2, Environmental Protection Plan, Non-radiological (Appendix B to Unit Nos. 1 and 2, Facility Operating License Nos. DPR-70 and DPR-75, Docket Nos. 50-272 and 50-311, respectively).

This is the seventh Annual Environmental Operating Report submitted under the EPP and covers Salem Unit No. 1 and Salem Unit No. 2 for the period from January 1 through December 31, 1995. During 1995, Salem Unit No. 1 generated 2,522,749 megawatt-hours of net electrical energy. Salem Unit No. 2 generated 2,017,510 megawatt-hours of net electrical energy.

As required by Subsection 5.4.1 of the EPP, we have included summaries and analyses of the results of all required environmental protection activities. This information is described in Section 2.0. Section 3.0 addresses the issues of EPP compliance. Changes to station design or operation and the review for potentially significant unreviewed environmental questions are addressed in Section 4.0. Unusual and/or important environmental events are discussed in Section 5.0.

2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

2.1 AQUATIC MONITORING ISSUES

Subsection 4.2.1 of the EPP references the Clean Water Act as a mechanism for protecting aquatic biota through water quality monitoring. The USNRC relies on the State of New Jersey, acting under the authority of the Clean Water Act, to insure applicable requirements for aquatic monitoring are implemented. The New Jersey Department of Environmental Protection (NJDEP) is the State's regulatory agency.

The NJDEP requires as part of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program, that effluent monitoring be performed, with the results summarized and submitted monthly on Discharge Monitoring Report forms (DMRs). The monitoring is intended to determine compliance with the effluent limitations of the station's NJPDES permit (No. NJ0005622). We have reviewed the DMRs corresponding to the 1995 AEOR reporting period and have determined that no significant deviations have occurred. We have observed no evidence of trends towards damage to the environment. Copies of monthly NJPDES DMRs for the 1995 report year are available upon request and have been transmitted to the USNRC.

The Salem NJPDES Permit effective September 1, 1994 includes Special Conditions for enhancement of the Delaware Estuary. These Special Conditions include:

- * Modification of the circulating water intake structure's traveling screens to improve the condition of fish returned to the estuary. This work is in progress and is expected to be completed in 1996.

- * The elimination of impediments to fish migration through installation of five fish ladders to enhance the reproduction opportunities for anadromous fish. At least three of the fish ladders will be placed in service in 1996.

- * The restoration and enhancement of over 8,000 acres of degraded wetlands including diked wetlands and wetlands dominated by common reed. The land necessary to complete the restoration and enhancement has been obtained and restoration activities continue. The plans and progress for restoration and enhancement are reviewed by the Management Plan Advisory Committee made up of agency personnel and recognized experts in their field.

- * Extensive bayside and site specific biological monitoring programs are continuing and the plans and progress are reviewed by the Monitoring Advisory Committee made up of agency personnel and recognized experts in their fields.

While the USNRC relies on the State of New Jersey and the NJDEP for protection of the water quality, the National Marine Fisheries Service maintains regulatory authority with respect to certain migratory threatened and endangered aquatic species. As required by Amendments 129 and 108 to the Facility Operating License Nos. DPR-70 and DPR-75 and the Section 7 Consultation, Biological Opinion, Salem Generating Station conducted inspections of the circulating water intake trash bars at least every two hours during the 1995 sea turtle season. One sea turtle, a loggerhead, was recovered dead in 1995. The turtle was examined by a veterinarian and it was determined that a necropsy would not be possible due to the severe decomposition of the turtle. This was agreed to by NMFS. The turtle was disposed of at a landfill.

Salem Generating Station will continue to implement the Conservation Recommendations referenced in the revised Section 7, Consultation.

2.2 TERRESTRIAL ISSUES

Section 4.2.2 of the EPP no longer requires terrestrial monitoring. Monitoring of Diamondback Terrapin nesting and the Osprey and Bald Eagle survey were completed in 1989. However, PSE&G has voluntarily continued to monitor the osprey population in a joint effort with the NJDEP.

3.0 EPP COMPLIANCE STATUS

3.1 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. No significant environmental impacts attributable to the operation of Salem Generating Station Unit Nos. 1 and 2 were observed during 1995. PSE&G continued to operate Salem Unit Nos. 1 and 2 in compliance with the EPP during 1995 and had no instances of noncompliance that required corrective actions.

3.2 REVIEW

Subsection 5.1 of the Environmental Protection Plan for Salem Generating Station, Units 1 and 2, requires that an independent review of compliance with the EPP be maintained and made available for inspection. A review of environmental self-assessments and agency environmental compliance inspections conducted during 1995 indicated that the station was in compliance with the EPP.

4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the Environmental Protection Plan for Salem Unit Nos. 1 and 2, changes in station design and operation and the performance of tests or experiments, for the AEOR covered time period, were reviewed for potential environmental impact. None of the recommended changes posed a potential to significantly affect the environment, therefore, none involved an unreviewed environmental question or a change in the EPP.

5.0 NONROUTINE REPORTS

Subsection 5.4.1 of the EPP requires that a list of all nonroutine reports (submitted in accordance with Subsection 5.4.2) be included as part of the Annual Environmental Operating Report.

One environmentally related nonroutine report was submitted to the USNRC in 1995. One report involved the incidental take of a Loggerhead sea turtle on the circulating water intake trash bars. The turtle was recovered dead with severe decomposition. The turtle was examined by a veterinarian who determined that a necropsy would not be possible due to the severe decomposition. NMFS was notified of the examination and concurred with the veterinarian's opinion that a necropsy would not be beneficial. The turtle was disposed of in a landfill.

Salem Generating Station experienced no unusual or important events that indicated or could have resulted in "significant environmental impact" during the 1995 reporting period.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

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LR-E980261

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Gentlemen:

**REPORT OF IMPINGEMENT OF SHORTNOSE STURGEON
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NO. 50-272 AND 50-311**

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the 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 three (3) shortnose sturgeon from the Salem Generating Station circulating water intake structure.

Enclosed please find four (4) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachment 2-4, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of each sturgeon.

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

Sincerely,

D. R. Powell
Director -
Licensing/Regulation & Fuels

Attachments (4)

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ITEM # 8

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C Mr. Hubert J. Miller, Administrator – Region I
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USNRC Senior Resident Inspector - Salem

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National Marine Fisheries Service
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Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
P. O. Box 400
Trenton, NJ 08625-0400

LR-E980261
ATTACHMENT 1

INCIDENTAL TAKE OF SHORTNOSE STURGEON

OCCURRENCE DATES: May 6, 1998
May 14, 1998
May 16, 1998

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

IDENTIFICATION OF OCCURRENCES:

Three shortnose sturgeon (*Acipenser brevirostrum*) were removed from Circulating Water System (CWS) Intake trash racks at the Salem Generating Station. The sturgeon were recovered on May 6, May 14 and May 16, 1998. Shortnose sturgeon are federally listed as "endangered" species under the Endangered Species Act of 1973, as amended.

CONDITIONS PRIOR TO OCCURRENCES:

May 6, 1998	Unit 1	90 percent power
	Unit 2	100 percent power
May 14, 1998	Unit 1	95 percent power
	Unit 2	100 percent power
May 16, 1998	Unit 1	70 percent power
	Unit 2	100 percent power

DESCRIPTION OF OCCURRENCES:

DATE	TIME	STATUS	INTAKE BAY	FORK LENGTH (CM)	TOTAL LENGTH (CM)	WEIGHT (KG)
5/6/98	1100	Live	22B	NA	~ 61	NA
5/14/98	0857	Live	12A	77.5	85.5	NA
5/16/98	1000	Dead	23A	NA	~ 63.9	3.18

The sturgeon recovered on May 6th and May 14th were recovered alive, while the sturgeon recovered on May 16th was dead. Site Services personnel recovered all sturgeon during the cleaning of the trash racks.

The May 6th live sturgeon was in good condition, with no marks or lesions and was immediately released back into the Delaware River. PSE&G does not have any documentation (i.e., measurements and photographs) for this sturgeon. The sturgeon was released prior to Environmental Licensing personnel responding. A biological environmental consulting employee, who used a key for identification, as well as conversations with experienced personnel of the company, made the identification.

The May 14th live sturgeon was in fair condition, with some old wounds on the sides and missing its right eye. It was released, after discussions with NMFS about the disposition, at approximately 1530 hours near the Hope Creek Jetty on the Delaware River.

The May 16th dead sturgeon was missing its tail and had a gash on the right side behind the gill. The sturgeon was immediately placed on ice and has been frozen. Fin tissue samples have been taken and were sent to Dr. Ike Wirgin at the New York University Medical Center. The carcass was sent to the Academy of Natural Sciences in Philadelphia, PA.

The U.S. Nuclear Regulatory Commission (NRC), the U.S. National Marine Fisheries Service (NMFS), and the New Jersey Department of Environmental Protection (NJDEP) have been notified regarding these occurrences.

APPARENT CAUSE OF OCCURRENCES:

Based on historical and recent records, shortnose sturgeon appear to utilize the entire Delaware estuary-river complex, from the river mouth to New Hope, Pennsylvania (0-238 river kilometer - rkm). Spawning occurs north of Trenton, 128 rkm upstream from the Salem and Hope Creek Generating Stations. It is unlikely that larval or post-larval fish would travel the distance downstream to Artificial Island. Adult shortnose sturgeon may move into the Artificial Island area during fall migration to wintering grounds. Healthy adult and juvenile shortnose sturgeon are strong enough swimmers that they should be able to escape from intake velocities typically encountered at the trash bars. Sturgeon which are in a weakened condition may be subject to impingement.

ANALYSIS OF OCCURRENCE:

The CWS intake is monitored for accumulation of debris throughout the year. This accumulated debris is periodically removed. Because of the debris in the Delaware River this spring, cleaning of the trash racks has been occurring typically on a daily basis. All three sturgeon in 1998 have been recovered during this cleaning. Between 1978 and 1998, a total of thirteen (13) shortnose sturgeon have been collected at the CWS intake, two in 1978, one in 1981, three in 1991, two in 1992, two in 1994, and these three occurrences in 1998.

CORRECTIVE ACTION:

PSE&G has begun inspecting the trash racks every two hours which is not mandated until the period of June 1 and October 15. The specified time period represents the peak migratory movement of sea turtles into and out of the Delaware River. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash rack is inspected daily for debris load and cleaned as necessary. Any sturgeon occurrence will be observed at this time.

LR-E980261
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: Cherie Titerance - Environmental Consulting Services, Inc.

Reporters full name: Donald Bowman – PSE&G Environmental Licensing

Species Identification: Shortnose Sturgeon (*Acipenser brevirostrum*)

Site of Impingement: Salem Generating Station – CWS Intake 22B

Date and time impingement was observed: 05/06/98 1100 hrs

Date and time animal was collected: 05/06/98 1100 hrs

Tidal stage at time of observation: Ebb Tide

Date and time of last observation of screen: 05/06/98 1100 hrs

Water temperature at site and time of impingement: 18.47° (C)

Average percent of power generating capacity achieved per unit over the 48 hours previous to impingement:
Unit 1 - 90 percent
Unit 2 - 100 percent

Condition of animal: Live

Shortnose Sturgeon Measurements:

Fork Length: NA

Total Length: Estimated to be greater than 2 feet (61 centimeters)

Weight: NA

Remarks: The sturgeon was found during routine cleaning of the CWS Intake trash racks. It was in good condition and immediately released back into the Delaware River. PSE&G does not have any documentation (i.e., measurements and photographs) for this sturgeon.

LR-E980261
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: John Shuman – PSE&G Site Services

Reporters full name: Robert Boot – PSE&G Environmental Licensing

Species Identification: Shortnose Sturgeon (*Acipenser brevirostrum*)

Site of Impingement: Salem Generating Station – CWS Intake 12A

Date and time impingement was observed: 05/14/98 0857 hrs

Date and time animal was collected: 05/14/98 0857 hrs

Tidal stage at time of observation: Flood Tide

Date and time of last observation of screen: 05/14/98 0857 hrs

Water temperature at site and time of impingement: 15.83^o (C)

Average percent of power generating capacity achieved per unit over the 48 hours previous to impingement:
Unit 1 - 95 percent
Unit 2 - 100 percent

Condition of animal: Live

Shortnose Sturgeon Measurements:

Fork Length: 77.5 cm
Total Length: 85.5 cm
Weight: NA

Remarks: The sturgeon was found during routine cleaning of the CWS Intake trash racks. It was in fair condition with a missing right eye and bruises on top and sides of body. After discussion with NMFS, it was released into the Delaware River near Hope Creek Jetty.

LR-E980261
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: Dave Leshar – PSE&G Site Services
Reporters full name: Robert Boot – PSE&G Environmental Licensing
Species Identification: Shortnose Sturgeon (*Acipenser brevirostrum*)
Site of Impingement: Salem Generating Station – CWS Intake 23A

Date and time impingement was observed: 05/16/98 1000 hrs

Date and time animal was collected: 05/16/98 1000 hrs

Tidal stage at time of observation: Flood Tide

Date and time of last observation of screen: 05/16/98 1000 hrs

Water temperature at site at time of impingement: 18.77° C

Average percent of power generating capacity achieved per unit over the 48 hours previous to impingement:
Unit 1 - 70 percent
Unit 2 - 100 percent

Condition of animal: Dead

Shortnose Sturgeon Measurements:

Fork Length: Estimated at 63.9 cm
Total Length: NA
Weight: 3.18 Kg

Remarks: The sturgeon was found during routine cleaning of the CWS Intake trash racks. It had a gash on the right side behind the gills and missing tail.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

JUL 23 1998

LR-E980351

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ARTICLE NUMBER: P 462 770 243

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 NO. 50-272 AND 50-311**

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the 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 a dead sea turtle from the Salem Generating Station circulating water intake structure.

Enclosed please find two (2) attachments. Attachment 1 gives a narrative description of the events, as requested by the NRC. Attachment 2, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of the sea turtle.

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

Sincerely,

D. R. Powell
Director -
Licensing/Regulation & Fuels

Attachments (4)

9807310143 980723
PDR ADOCK 05000272
S PDR

The power is in our hands

ITEM # 9

11
B/9
⑤

C Mr. Hubert J. Miller, Administrator – Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Patrick Milano, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. Scott Morris (X24)
USNRC Senior Resident Inspector - Salem

Mr. Doug Beach
National Marine Fisheries Service
Habitat Conservation Branch
One Blackburn Drive
Gloucester, MA 01930-2298

Ms. Nancy Haley
National Marine Fisheries Service
212 Rogers Avenue
Milford, CT 06460

Mr. Kent Tosch, Manager IV
New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
33 Arctic Parkway
P. O. Box 415
Trenton, NJ 08625-0415

Mr. Dave Jenkins
Endangered and Nongame Species Program
P. O. Box 236
Tuckahoe, NJ 08250

Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
P. O. Box 400
Trenton, NJ 08625-0400

LR-E980351
ATTACHMENT 1

INCIDENTAL TAKE OF SEA TURTLE

OCCURRENCE DATE: June 27, 1998

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

IDENTIFICATION OF OCCURRENCES:

A dead sea turtle was removed from the Circulating Water System (CWS) Intake trash racks at the Salem Generating Station. The sea turtle was recovered on June 27, 1998. The sea turtle was badly decomposed with no head and only one rear and front flipper. The outer shell was missing and the carapace was in several pieces. Identification was impossible, however due to the estimated size, the sea turtle was probably a Loggerhead (*Caretta caretta*). Due to the badly decomposed condition, this sea turtle was clearly not related to plant operation. Loggerhead sea turtles are federally listed as "threatened" species under the Endangered Species Act of 1973, as amended.

CONDITIONS PRIOR TO OCCURRENCES:

June 27, 1998	Unit 1	100 percent power
	Unit 2	90 percent power

DESCRIPTION OF OCCURRENCES:

The dead sea turtle was recovered from trash rack 21B of the CWS intake on June 27, 1998 at approximately 1250 hours. The turtle was seen floating during routine inspections. Site Services personnel recovered the turtle using the Stokes Basket. The turtle was badly decomposed, with no head, one front flipper and one rear flipper. The outer scutes of the shell were missing. Only portions of the bony plate remained. The carapace was in several pieces.

The following agencies have been notified regarding this occurrence:

U.S. Nuclear Regulatory Commission (NRC)
U.S. National Marine Fisheries Service (NMFS)
New Jersey Department of Environmental Protection (NJDEP)
Marine Mammal Stranding Center (MMSC)

Based on the poor physical condition of the dead sea turtle, it was disposed of in a trash dumpster. A necropsy of the sea turtle was not possible.

APPARENT CAUSE OF OCCURRENCE:

Sea turtles are summer migrants, common to the Delaware Bay. Small numbers typically occur in the lower Delaware River near the 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 throughout the year. This accumulated debris is periodically removed. Any sea turtles, which are observed in the area of the trash racks, are recovered immediately. Between 1979 and present, a total of 93 sea turtles (plus three recaptures) have been collected at or in the vicinity of the plant. Of the 89 turtles collected at the intake, sixty-three (70.8%) have been loggerhead sea turtles, twenty-four (27.0%) were Kemp's ridley sea turtles, and two (2.2%) green sea turtles.

CORRECTIVE ACTION:

Between June 1 and October 15, the trash racks at Salem are observed every two hours, twenty-four (24) hours a day and cleaned at least once per day. The specified time period represents the peak migratory movement of sea turtles into and out of the Delaware River. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash rack is inspected daily for debris load and cleaned as necessary. Any sea turtle occurrence is observed at this time. Resuscitation procedures will be attempted on all unconscious turtles. In accordance with standard procedure, a necropsy will be performed on all exceptable dead turtles and injured specimens will be held under appropriate conditions and may be turned over to the MMSC.

Due to the poor condition of the dead sea turtle, a necropsy was not possible and the turtles remains were placed into a trash dumpster.

LR-E980351
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 Blackbird Drive
Gloucester, MA 01930-2298

Protected Species Impingements
Salem and Hope Creek Generating Stations

Observers full name: Brian Shavor – Salem Operations
Reporters full name: Robert Boot – PSE&G Environmental Licensing
Species Identification: Loggerhead Sea Turtle (*Caretta caretta*)
Site of Impingement: Salem Generating Station – CWS Intake 21B
Date and time impingement was observed: 06/27/98 1250 hrs
Date and time animal was collected: 06/27/98 1250 hrs
Tidal stage at time of observation: Flood Tide
Date and time of last observation of screen: 06/27/98 1250 hrs
Water temperature at site and time of impingement: 81.56⁰ (F)

Average percent of power generating capacity achieved per unit over the 48 hours previous to impingement:
Unit 1 - 100 percent
Unit 2 - 90 percent

Condition of animal: Dead, badly decomposed

Sea Turtle Measurements:

Carapace Length: Curved: N/A Straight: N/A
Carapace Width: Curved: N/A Straight: N/A
Weight: NA

Remarks: The sea turtle was recovered during trash rack observations. The turtle was very badly decomposed with no head and the carapace in several pieces. Only one rear and front flipper remained. The outer scutes on the shell were missing. Proper identification was impossible, however due to the estimated length, the turtle was probably a Loggerhead. Due to the badly decomposed condition, this sea turtle was clearly not related to plant operation.



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

APR 29 1999

LR-E990210

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

Gentleman:

**REPORT OF IMPINGEMENT OF SHORTNOSE STURGEON
SALEM GENERATING STATION UNIT NO. 1
DOCKET NO. 50-272**

In accordance with Section 5.4.2 of Appendix B, Environmental Protection Plan, to the Operating License for the 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 a shortnose sturgeon from the Salem Generating Station circulating water intake structure.

Enclosed please find two (2) attachments. Attachment 1 gives a narrative description of the event, as requested by the Nuclear Regulatory Commission (NRC). Attachment 2, requested by the National Marine Fisheries Service (NMFS), provides more specific information regarding the observance and retrieval of the sturgeon.

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

Sincerely,

D. R. Powell

Director-

Licensing/Regulation & Fuels

Attachments (2)

9905050281 990429
PDR ADDCK 05000272
S PDR

ITEM # 10

11
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APR 29 1999

LR-E990210
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2

C Mr. H. J. Miller, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. P Milano, Licensing Project Manager - Salem
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. S. Morris (X24)
USNRC Senior Resident Inspector

Mr. K. Tosch, Manager IV
Bureau of Nuclear Engineering
33 Arctic Parkway
P. O. Box 415
Trenton, NJ 08625

Mr. Doug Beach
National Marine Fisheries Service
Habitat Conservation Branch
One Blackburn Drive
Gloucester, MA 01930-2298

Ms. Nancy Haley
National Marine Fisheries Service
212 Rogers Avenue
Milford, CT 06460

Mr. Dave Jenkins
Endangered and Nongame Species Program
P. O. Box 236
Tuckahoe, NJ 08250

Mr. Lawrence J. Niles, Chief
New Jersey Department of Environmental Protection
Endangered and Nongame Species Program
P. O. Box 400
Trenton, NJ 08625-0400

sturgeon was placed in an aerated tub and observed for approximately one hour prior to being released south of Artificial Island.

The U. S. Nuclear Regulatory Commission (NRC), the National Marine Fisheries Service (NMFS) and the New Jersey Department of Environmental Protection (NJDEP) have been notified regarding this occurrence.

APPARENT CAUSE OF OCCURRENCES

Based on historical and recent records, shortnose sturgeon appear to utilize the entire Delaware estuary-river complex, from the river mouth to New Hope, Pennsylvania (0-238 river kilometer - rkm). Spawning occurs north of Trenton, 128 rkm upstream from the Salem and Hope Creek Generating Stations. It is unlikely that larval or post-larval fish would travel the distance downstream to Artificial Island. Adult shortnose sturgeon may move into the Artificial Island area during fall migration to wintering grounds. Healthy adult and juvenile shortnose sturgeon are strong enough swimmers that they should be able to escape from intake velocities typically encountered at the trash bars. Sturgeon which are in a weakened condition may be subject to impingement.

ANALYSIS OF OCCURRENCE

The CWS intake is monitored for accumulation of debris throughout the year. This accumulated debris is periodically removed. Because of the debris in the Delaware River this winter and spring, cleaning of the trash racks has been occurring typically on a daily basis. The sturgeon was recovered during this cleaning. Between 1978 and 1999, a total of fourteen (14) shortnose sturgeon have been collected at the CWS intake, two in 1978, one in 1981, three in 1991, two in 1992, two in 1994, three in 1998 and this occurrence in 1999.

CORRECTIVE ACTIONS

The trash racks are required to be inspected every two hours from June 1 through October 15. Observations are made specifically for sea turtles and sturgeon during this time. During the remaining months the trash racks are inspected daily for debris load and cleaned as necessary. As this was the earliest a shortnose sturgeon has been recovered from the intake structure, it is considered an anomaly and it is felt that the measures in place are sufficient and no other actions are warranted at this time.

LR-E990210
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: William Cheeseman – PSE&G Site Services

Reporters full name: David Hurka – PSE&G Environmental Licensing

Species identification: Shortnose Sturgeon (*Acipenser brevirostrum*)

Site of impingement: Salem Generating Station – CWS Intake 11B

Date and time impingement was observed: 03/31/99 0830 hrs

Date and time of animal was collected: 03/31/99 0830 hrs

Tidal stage at time of collection: Ebb Tide

Date and time of last observation of screen: 03/31/99 0830 hrs

Water temperature at site at time of impingement: 9.8^o (C)

Average percent of power generating capacity achieved per unit over the 48 hours previous to impingement: Unit 1 - 100 percent power
Unit 2 - 70 percent power

Condition of animal: Live

Shortnose Sturgeon Measurements:

Fork Length: 59 cm

Total Length: 63 cm

Weight: 1 kg

Remarks: The sturgeon was found during routine cleaning of the CWS Intake trash racks. It was in good condition and released back into the Delaware River.

GB

Mr. Robert Hoffman
 National Marine Fisheries Service
 Southeast Region
 Protected Species Division
 9721 Executive Center Drive North
 St. Petersburg, FL 33702

SUBJECT: SUPPLEMENTAL INFORMATION REGARDING THE IMPACT TO SEA
 TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT

Dear Mr. Hoffman:

As was discussed in the meeting held on September 14, 1999, between the National Marine Fisheries Service (NMFS), Carolina Power and Light Company (CP&L), the North Carolina Sea Turtle Coordinator, and the U.S. Nuclear Regulatory Commission (NRC), the NRC is providing additional information on the impact to sea turtles at the Brunswick Steam Electric Plant. This information supplements that contained in the NRC staff's "Biological Assessment of Impacts to Sea Turtles at the Brunswick Steam Electric Plant," transmitted to the NMFS by letter dated March 9, 1998. NRC is requesting the re-initiation of formal Section 7 consultation under the Endangered Species Act to revise the Incidental Take Statement issued for the Brunswick Steam Electric Plant.

Enclosure 1 is the supplemental information provided by CP&L, dated October 4, 1999, to support a Section 7 consultation with the NMFS. Enclosure 2 contains NRC staff comments on the supplemental information provided by CP&L.

Please contact Kimberly Leigh at 301-415-2678 or Allen Hansen at 301-415-1390 with any questions or comments.

Sincerely,

Original signed by R. Emch for
 Herbert N. Berkow, Director
 Project Directorate II
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

Docket Nos. 50-324 and 50-325
 Enclosures: As stated
 cc w/encs: See next page

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DATE	10/29/99	10/29/99	10/29/99	10/29/99	10/19/99
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*No substantive changes to document

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B/11



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 29, 1999

Mr. Robert Hoffman
National Marine Fisheries Service
Southeast Region
Protected Species Division
9721 Executive Center Drive North
St. Petersburg, FL 33702

SUBJECT: SUPPLEMENTAL INFORMATION REGARDING THE IMPACT TO SEA
TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT

Dear Mr. Hoffman:

As was discussed in the meeting held on September 14, 1999, between the National Marine Fisheries Service (NMFS), Carolina Power and Light Company (CP&L), the North Carolina Sea Turtle Coordinator, and the U.S. Nuclear Regulatory Commission (NRC), the NRC is providing additional information on the impact to sea turtles at the Brunswick Steam Electric Plant. This information supplements that contained in the NRC staff's "Biological Assessment of Impacts to Sea Turtles at the Brunswick Steam Electric Plant," transmitted to the NMFS by letter dated March 9, 1998. NRC is requesting the re-initiation of formal Section 7 consultation under the Endangered Species Act to revise the Incidental Take Statement issued for the Brunswick Steam Electric Plant.

Enclosure 1 is the supplemental information provided by CP&L, dated October 4, 1999, to support a Section 7 consultation with the NMFS. Enclosure 2 contains NRC staff comments on the supplemental information provided by CP&L.

Please contact Kimberly Leigh at 301-415-2678 or Allen Hansen at 301-415-1390 with any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Richard L. Emch, Jr.".

for Herbert N. Berkow, Director
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-324 and 50-325

Enclosures: As stated

cc w/encls: See next page

Carolina Power & Light Company

cc:

Mr. William D. Johnson
Vice President and Corporate Secretary
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Mr. Jerry W. Jones, Chairman
Brunswick County Board of Commissioners
Post Office Box 249
Bolivia, North Carolina 28422

Resident Inspector
U.S. Nuclear Regulatory Commission
8470 River Road
Southport, North Carolina 28461

Mr. John H. O'Neill, Jr.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW.
Washington, DC 20037-1128

Mr. Mel Fry, Director
Division of Radiation Protection
N.C. Department of Environment
and Natural Resources
3825 Barrett Dr.
Raleigh, North Carolina 27609-7721

Mr. J. J. Lyash
Plant Manager
Carolina Power & Light Company
Brunswick Steam Electric Plant
Post Office Box 10429
Southport, North Carolina 28461

Public Service Commission
State of South Carolina
Post Office Drawer 11649
Columbia, South Carolina 29211

Mr. J. S. Keenan, Vice President
Brunswick Steam Electric Plant
Carolina Power & Light Company
Post Office Box 10429
Southport, North Carolina 28461

Brunswick Steam Electric Plant
Units 1 and 2

Ms. Karen E. Long
Assistant Attorney General
State of North Carolina
Post Office Box 629
Raleigh, North Carolina 27602

Mr. Robert P. Gruber
Executive Director
Public Staff - NCUC
Post Office Box 29520
Raleigh, North Carolina 27626-0520

Director
Site Operations
Brunswick Steam Electric Plant
Post Office Box 10429
Southport, North Carolina 28461

Mr. William H. Crowe, Mayor
City of Southport
201 East Moore Street
Southport, North Carolina 28461

Mr. Dan E. Summers
Emergency Management Coordinator
New Hanover County Department of
Emergency Management
Post Office Box 1525
Wilmington, North Carolina 28402

Mr. Terry C. Morton
Manager
Performance Evaluation and
Regulatory Affairs CPB 7
Carolina Power & Light Company
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Raleigh, North Carolina 27602-1551

Mr. K. R. Jury
Manager - Regulatory Affairs
Carolina Power & Light Company
Post Office Box 10429
Southport, NC 28461-0429



Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

OCT 04 1999

SERIAL: BSEP 99-0114

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Gentlemen:

On September 14, 1999, a meeting was held at the Brunswick Steam Electric Plant, with the NRC, National Marine Fisheries Service (NMFS), the North Carolina Sea Turtle Coordinator, and CP&L to discuss the operation of the intake canal. In Enclosure 1, in accordance with your request, CP&L is supplementing the biological assessment provided by CP&L's letter dated January 26, 1998, to provide updated data for 1998 and 1999. For purposes of clarity, the table includes data from 1994 to the present. Also included are other comments noting significant differences between the draft biological opinion provided to CP&L during the consultation process and the information reflected in the April 30, 1999, NMFS biological opinion. Enclosure 2 provides pictures of the intake canal at the diversion structure during high tide conditions when dead sea turtles (i.e., whose death was not caused by canal operations) have washed into the canal.

Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,

Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

NRC Enclosure 1

Document Control Desk
BSEP 99-0114 / Page 2

GMT

Enclosures:

1. Supplemental Data and Comments
2. Intake Canal Pictures

cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Luis A. Reyes, Regional Administrator
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-3415

U. S. Nuclear Regulatory Commission
ATTN: Mr. Theodore A. Easlick, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission
ATTN: Mr. Allen G. Hansen (Mail Stop OWFN 8G9)
11555 Rockville Pike
Rockville, MD 20852-2738

Ms. Jo A. Sanford
Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

Mr. Mel Fry
Director - Division of Radiation Protection
North Carolina Department of Environment and Natural Resources
3825 Barrett Drive
Raleigh, NC 27609-7221

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
 DOCKET NOS. 50-325 AND 50-324
 LICENSE NOS. DPR-71 AND DPR-62

SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
 CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Supplemental Data And Comments

Update of Sea Turtle Incidental Take Data

The following table summarizes data related to turtle species, for the period from January 1, 1994, through September 22, 1999. The table updates the data provided in the January 26, 1998, biological assessment and the relationship of such data to biennial take numbers included in the April 30, 1999, National Marine Fisheries Service (NMFS) biological opinion.

History of Limiting Turtle Species Takes						
	1994	1995	1996	1997	1998	1999 (To 9/22/99)
Biological Opinion/Incidental Take Statement Biennial Take Level Met or Exceeded (Species and Applicable Take t = # total, d = # dead)	Yes (Greens 8t)		Yes (Kemp 3d/10t)		Yes* (Kemp 2d)	
		Yes (Greens 2d/10t, Loggerhead 56t)		Yes (Kemp 3d/10t)		Yes* (Kemp 2d)
Species (Biennial Level)	1994	1995	1996	1997	1998	1999 (To 9/22/99)
Greens (Dead 2)	0	1	1	0	0	0
Greens (Total 5)	1	7	3	0	2	0
Kemp (Dead 2)	0	0	0	3	0	2
Kemp (Total 8)	0	1	4	6	4	3
Leatherback/Hawksbill (Total 1)	0	0	0	0	0	0
Loggerhead (Dead 6)	0	2	2	1	1	2
Loggerhead (Total 50)	4	14	42	7	7	7

* Biennial level already reached for dead Kemp's ridley turtles.

The incidental take numbers in the table above include both causal takes (i.e., takes attributable to intake canal operations) and non-causal takes (i.e., takes that are not a result of intake canal operations). During high tide conditions, live sea turtles have been able to enter the intake canal over the marshes adjacent to the diversion structure and dead sea turtles (i.e., whose death was not caused by intake canal operations) have washed over the marshes adjacent to the diversion structure and into the intake canal. Enclosure 2 provides pictures of the intake canal at the diversion structure during high tide conditions. In addition, some sea turtles, both live and dead, enter the intake canal through diversion screen blowouts. Non-causal determinations are made by CP&L and the North Carolina Sea Turtle Coordinator based on the condition of the turtle (e.g., severely decayed, wound conditions, etc.) and the location where the turtle has been found. CP&L believes the Incidental Take Statement and the biological opinion should reflect a categorization for non-causal takes. However, the subcategorization for non-causal takes should not reduce the take numbers in the Incidental Take Statement and the biological opinion. In fact, as demonstrated by the information in the table above, the overall number of takes should be increased.

Comment 1:

Section VIII, "Incidental Take Statement," Item 6 in the April 30, 1999, biological opinion states:

If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the trash racks, a report, summarizing the incident, must be provided within 14 days to the NMFS Southeast Regional Office's Chief of Protected Resources.

CP&L's comments regarding the draft biological opinion, submitted by letter dated February 10, 1999 (Serial No. BSEP 99-0023), discussed CP&L's concerns regarding the need for prompt involvement of NMFS for turtle takes within the incidental take limits. While Section VIII, Item 6 of the April 30, 1999, biological opinion has been changed from notification "by the following business day" to "within 14 days," the stipulation still does not fully address CP&L's prior comment. Specifically, as a condition of the Endangered Species Permit issued to CP&L by the State of North Carolina, CP&L is required to contact the North Carolina Wildlife Resources Commission's Sea Turtle Stranding Coordinator, or Coastal Nongame Project Leader, within 24 hours of each stranding event. Also, CP&L is required to provide a Sea Turtle Stranding and Salvage Network Stranding Report to the North Carolina Wildlife Resources Commission. A copy of this report is forwarded by the North Carolina Wildlife Resources Commission to the Miami laboratory of NMFS. CP&L reiterates its position that this notification process is adequate and that an additional report to the NMFS Southeast Regional Office is unnecessary. CP&L requests that this stipulation be removed from the biological opinion.

Comment 2:

In the April 30, 1999, biological opinion, Section VIII, "Incidental Take Statement," Item 7 stipulates a new annual report consisting of the records of all sea turtle takings, recorded by species, size, and time of the year taken. This stipulation was not included in the Section VII of the February 10, 1999, draft biological opinion. As noted in Comment 1 above, CP&L believes the individual reports of incidental takes should be sufficient and that an annual report of

incidental take information is duplicative and unnecessary. CP&L requests that this stipulation be removed from the biological opinion.

Comment 3:

In the April 30, 1999, biological opinion, Section IX, "Conservation Recommendations" includes a new conservation recommendation not included in the Section VIII of the February 10, 1999, draft biological opinion. The new recommendation states that "BSEP should conduct tissue sampling for the genetic identity of turtles interacting with the plant's cooling water intake system." We believe this requirement is an unwarranted request and request its deletion from the biological opinion.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2

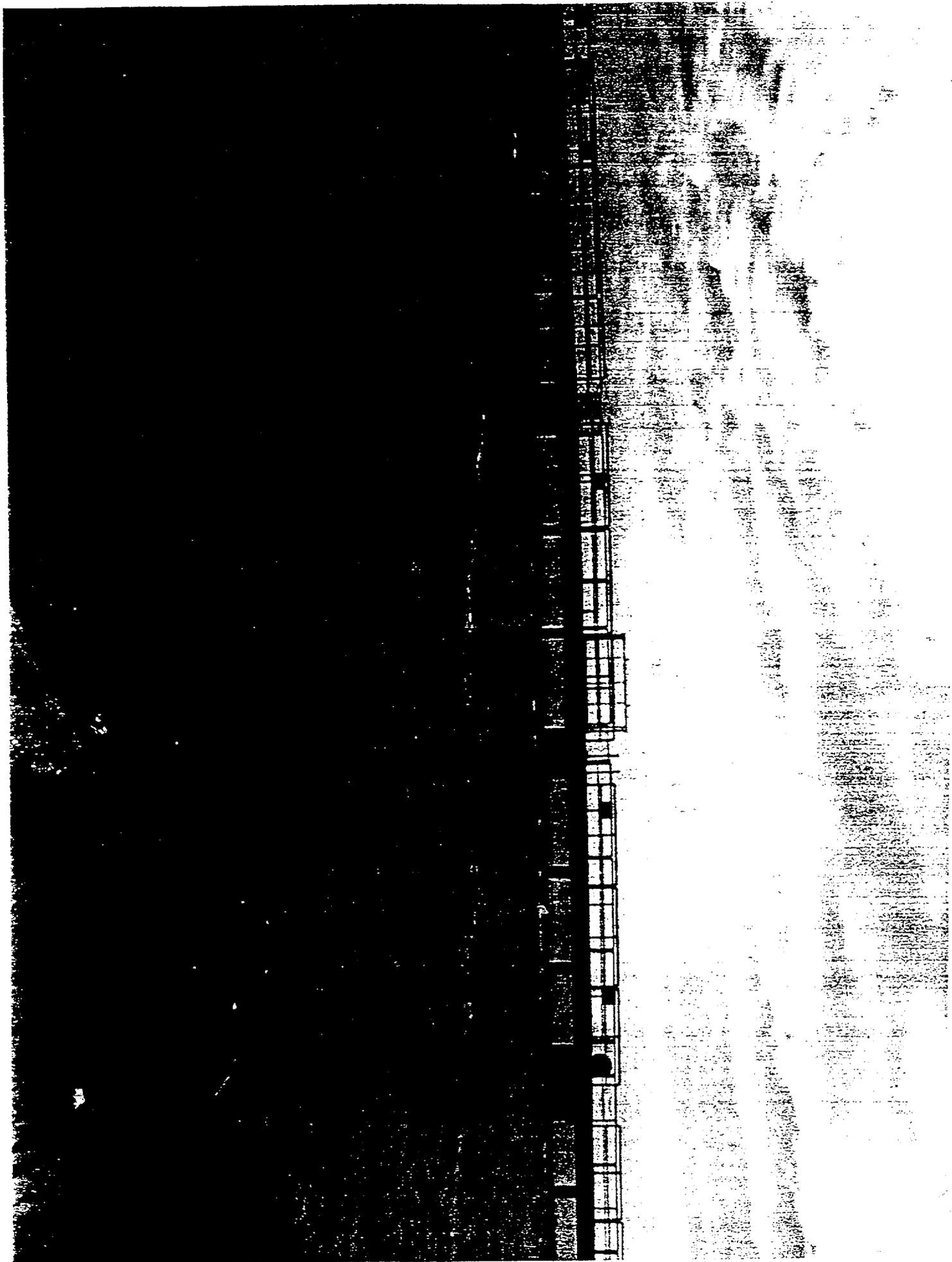
DOCKET NOS. 50-325 AND 50-324

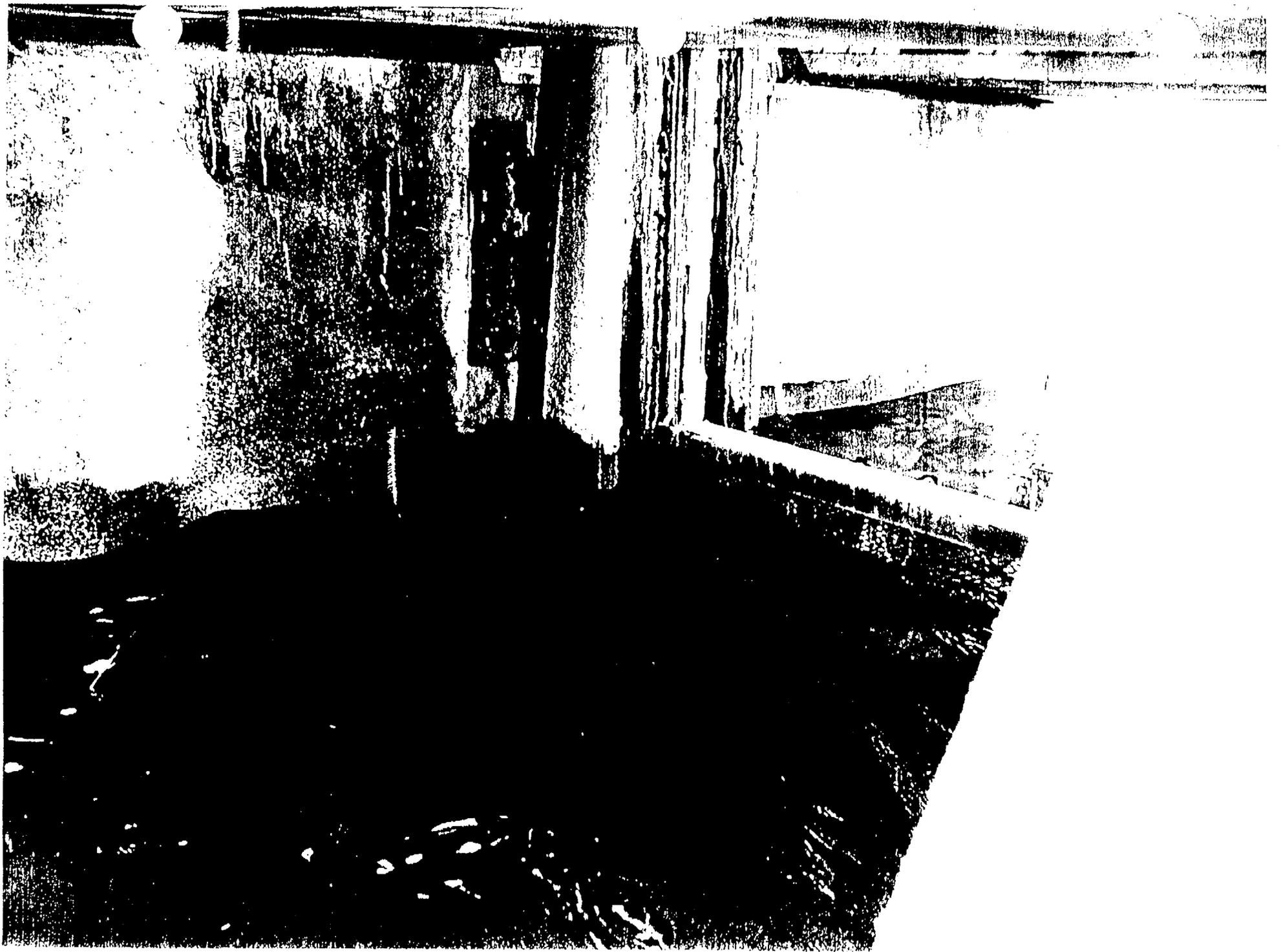
LICENSE NOS. DPR-71 AND DPR-62

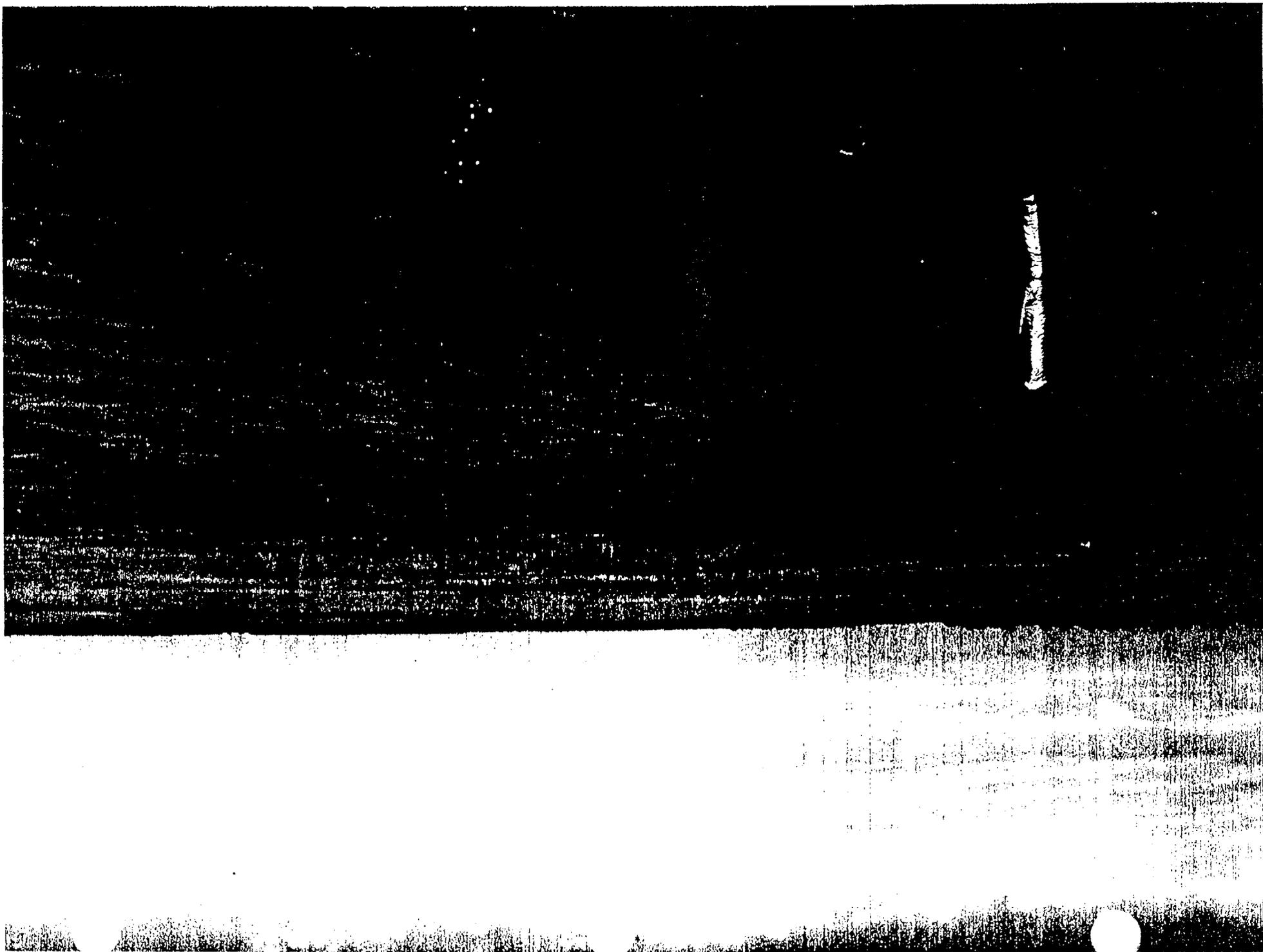
SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Intake Canal Pictures

(Four Pictures of Intake Canal
at the Diversion Structure)









NRC COMMENTS ON THE CP&L SUPPLEMENTAL INFORMATION
TO THE BIOLOGICAL OPINION ON THE IMPACTS OF SEA TURTLES AT THE
BRUNSWICK STEAM ELECTRIC PLANT

CP&L Comment on Incidental Take Numbers: "CP&L believes the Incidental Take Statement and the biological opinion should reflect a categorization for non-causal takes. However, the subcategorization for non-causal takes should not reduce the take numbers in the Incidental Take Statement and biological opinion. In fact, as demonstrated by the information in the above table, the overall number of takes should be increased." (Page E1-2 of Enclosure 1, first paragraph)

NRC Response: The NRC staff agrees with the idea of a categorization for non-causal takes and that the categorization of the non-causal takes should not reduce the take numbers in the Incidental Take Statement. Non-causal takes, by definition, imply fatalities due to activities outside of plant operation (*i.e.*, no fault by the Brunswick Steam Electric Plant). The plant has no control over activities outside the diversion structure (*i.e.*, sea turtles may be affected by human activities throughout their migratory range [Biological Opinion, dated April 30, 1999, page 17, fourth paragraph]) and, effectively, has no means to minimize the non-causal mortalities outside the diversion structure. Because CP&L has no practicable means to control the amount of non-causal mortalities, the staff feels that CP&L should be required to report only the number of non-causal mortalities and *not* be limited to a set number of non-causal takes. Nevertheless, the NRC recognizes the NMFS view articulated at the September 14, 1999, meeting, that the non-causal take limit cannot be unbounded. Perhaps it would be prudent to explore a potential relationship with the North Carolina Sea Turtle Program before finalizing any limit. NRC would be available to participate in a teleconference on this issue.

The NRC staff recommends that the historical plant data on the number of turtles captured be used as a basis for determining the new take numbers. The Brunswick plant has reached the limits of its current Incidental Take Statement and the staff cannot envision any additional reasonable and prudent measure CP&L could implement to further reduce the number of turtle mortalities at Brunswick. Therefore, the take numbers should be increased appropriately.

CP&L Comment 1: *Request to delete the requirement providing a summary report to NMFS within 14 days. (Page E1-2 of Enclosure 1, second paragraph)*

NRC Response to Comment 1: NRC does not foresee difficulty with adding the NMFS Southeast Regional address to the carbon copy list, as the plant is already required to provide a report to the North Carolina Wildlife Resources Commission. However, the NRC staff notes that the submittal of two separate reports, assuming the NMFS lab in Miami forwards the report from the North Carolina Wildlife Resource Commission to the Southeast Regional office in St. Petersburg, could lead to confusion with two reports being submitted for the same event and would be an unnecessary administrative burden.

CP&L Comment 2: *Request to delete the requirement to provide annual reports of incidental take information to NMFS. (Page E1-2 of Enclosure 1, third paragraph)*

NRC Response to Comment 2: The NRC staff concludes that submittal of individual reports to NMFS (in accordance with Section VIII, Item 6, and discussed in the above comment) is sufficient. If summary information is needed by the NMFS, the NMFS has the individual report information available to draw those summaries.

CP&L Comment 3: *Request to delete the requirement to conduct tissue sampling. (Page E1-3 of Enclosure 1, first full paragraph)*

NRC Response to Comment 3: The NRC understands from the September 14, 1999 meeting, that the plant personnel currently take tissue samples; therefore, the NRC staff does not see this requirement as unduly burdensome. It could prove beneficial by providing subspecies and population information. However, further clarification of procedures and protocol for tissue sampling should be provided before the requirement is imposed on the licensee.



Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

OCT 04 1999

SERIAL: BSEP 99-0114

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Gentlemen:

On September 14, 1999, a meeting was held at the Brunswick Steam Electric Plant, with the NRC, National Marine Fisheries Service (NMFS), the North Carolina Sea Turtle Coordinator, and CP&L to discuss the operation of the intake canal. In Enclosure 1, in accordance with your request, CP&L is supplementing the biological assessment provided by CP&L's letter dated January 26, 1998, to provide updated data for 1998 and 1999. For purposes of clarity, the table includes data from 1994 to the present. Also included are other comments noting significant differences between the draft biological opinion provided to CP&L during the consultation process and the information reflected in the April 30, 1999, NMFS biological opinion. Enclosure 2 provides pictures of the intake canal at the diversion structure during high tide conditions when dead sea turtles (i.e., whose death was not caused by canal operations) have washed into the canal.

Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,

Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

B/12

Document Control Desk
BSEP 99-0114 / Page 2

GMT

Enclosures:

1. Supplemental Data and Comments
2. Intake Canal Pictures

cc (with enclosures):

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ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-325 AND 50-324

LICENSE NOS. DPR-71 AND DPR-62

SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Supplemental Data And Comments

Update of Sea Turtle Incidental Take Data

The following table summarizes data related to turtle species, for the period from January 1, 1994, through September 22, 1999. The table updates the data provided in the January 26, 1998, biological assessment and the relationship of such data to biennial take numbers included in the April 30, 1999, National Marine Fisheries Service (NMFS) biological opinion.

History of Limiting Turtle Species Takes						
	1994	1995	1996	1997	1998	1999 (To 9/22/99)
Biological Opinion/Incidental Take Statement Biennial Take Level Met or Exceeded (Species and Applicable Take t = # total, d = # dead)	Yes (Greens 8t)		Yes (Kemp 3d/10t)		Yes* (Kemp 2d)	
		Yes (Greens 2d/10t, Loggerhead 56t)		Yes (Kemp 3d/10t)		Yes* (Kemp 2d)
Species (Biennial Level)	1994	1995	1996	1997	1998	1999 (To 9/22/99)
Greens (Dead 2)	0	1	1	0	0	0
Greens (Total 5)	1	7	3	0	2	0
Kemp (Dead 2)	0	0	0	3	0	2
Kemp (Total 8)	0	1	4	6	4	3
Leatherback/Hawksbill (Total 1)	0	0	0	0	0	0
Loggerhead (Dead 6)	0	2	2	1	1	2
Loggerhead (Total 50)	4	14	42	7	7	7

* Biennial level already reached for dead Kemp's ridley turtles.

The incidental take numbers in the table above include both causal takes (i.e., takes attributable to intake canal operations) and non-causal takes (i.e., takes that are not a result of intake canal operations). During high tide conditions, live sea turtles have been able to enter the intake canal over the marshes adjacent to the diversion structure and dead sea turtles (i.e., whose death was not caused by intake canal operations) have washed over the marshes adjacent to the diversion structure and into the intake canal. Enclosure 2 provides pictures of the intake canal at the diversion structure during high tide conditions. In addition, some sea turtles, both live and dead, enter the intake canal through diversion screen blowouts. Non-causal determinations are made by CP&L and the North Carolina Sea Turtle Coordinator based on the condition of the turtle (e.g., severely decayed, wound conditions, etc.) and the location where the turtle has been found. CP&L believes the Incidental Take Statement and the biological opinion should reflect a categorization for non-causal takes. However, the subcategorization for non-causal takes should not reduce the take numbers in the Incidental Take Statement and the biological opinion. In fact, as demonstrated by the information in the table above, the overall number of takes should be increased.

Comment 1:

Section VIII, "Incidental Take Statement," Item 6 in the April 30, 1999, biological opinion states:

If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the trash racks, a report, summarizing the incident, must be provided within 14 days to the NMFS Southeast Regional Office's Chief of Protected Resources.

CP&L's comments regarding the draft biological opinion, submitted by letter dated February 10, 1999 (Serial No. BSEP 99-0023), discussed CP&L's concerns regarding the need for prompt involvement of NMFS for turtle takes within the incidental take limits. While Section VIII, Item 6 of the April 30, 1999, biological opinion has been changed from notification "by the following business day" to "within 14 days," the stipulation still does not fully address CP&L's prior comment. Specifically, as a condition of the Endangered Species Permit issued to CP&L by the State of North Carolina, CP&L is required to contact the North Carolina Wildlife Resources Commission's Sea Turtle Stranding Coordinator, or Coastal Nongame Project Leader, within 24 hours of each stranding event. Also, CP&L is required to provide a Sea Turtle Stranding and Salvage Network Stranding Report to the North Carolina Wildlife Resources Commission. A copy of this report is forwarded by the North Carolina Wildlife Resources Commission to the Miami laboratory of NMFS. CP&L reiterates its position that this notification process is adequate and that an additional report to the NMFS Southeast Regional Office is unnecessary. CP&L requests that this stipulation be removed from the biological opinion.

Comment 2:

In the April 30, 1999, biological opinion, Section VIII, "Incidental Take Statement," Item 7 stipulates a new annual report consisting of the records of all sea turtle takings, recorded by species, size, and time of the year taken. This stipulation was not included in the Section VII of the February 10, 1999, draft biological opinion. As noted in Comment 1 above, CP&L believes the individual reports of incidental takes should be sufficient and that an annual report of

incidental take information is duplicative and unnecessary. CP&L requests that this stipulation be removed from the biological opinion.

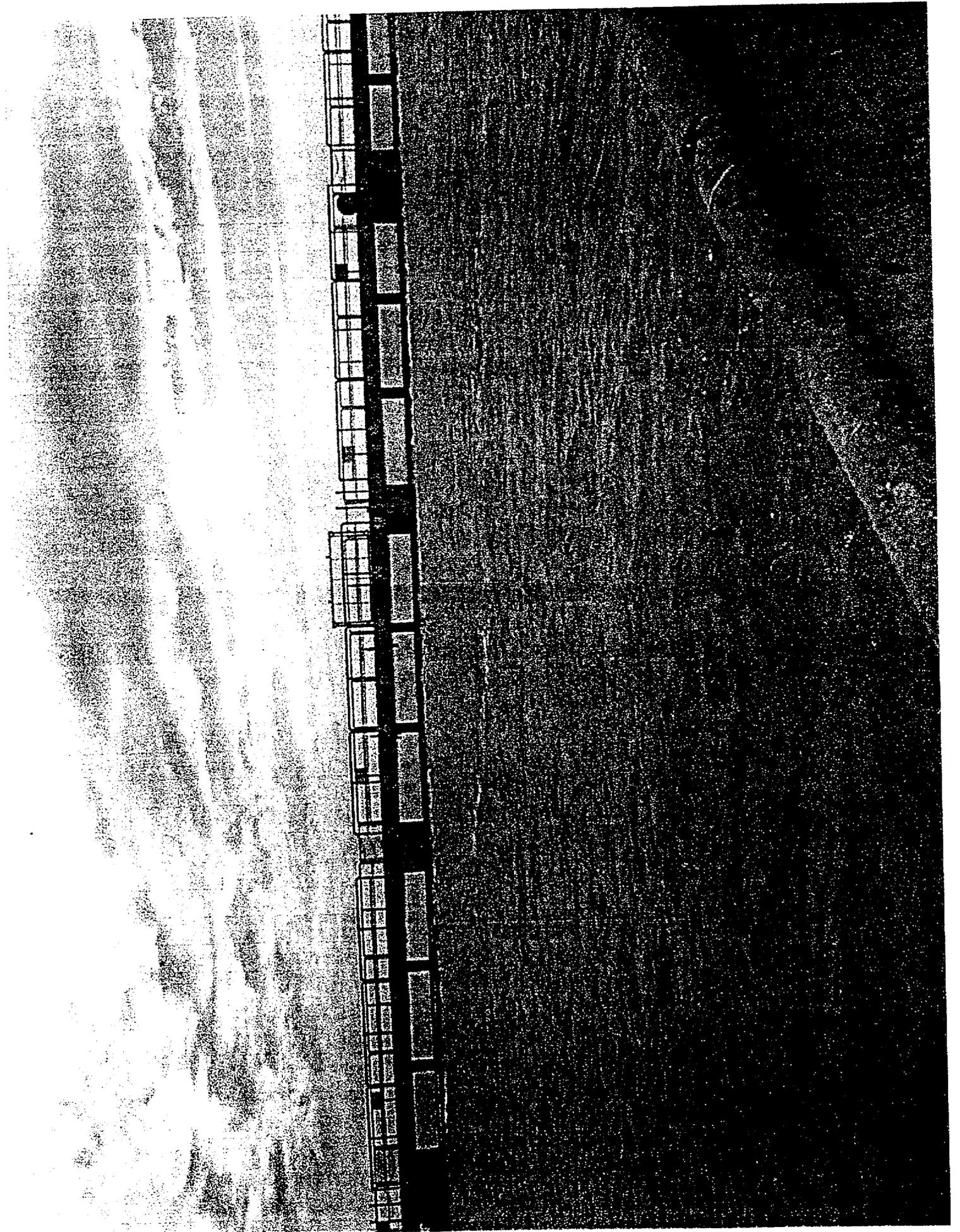
Comment 3:

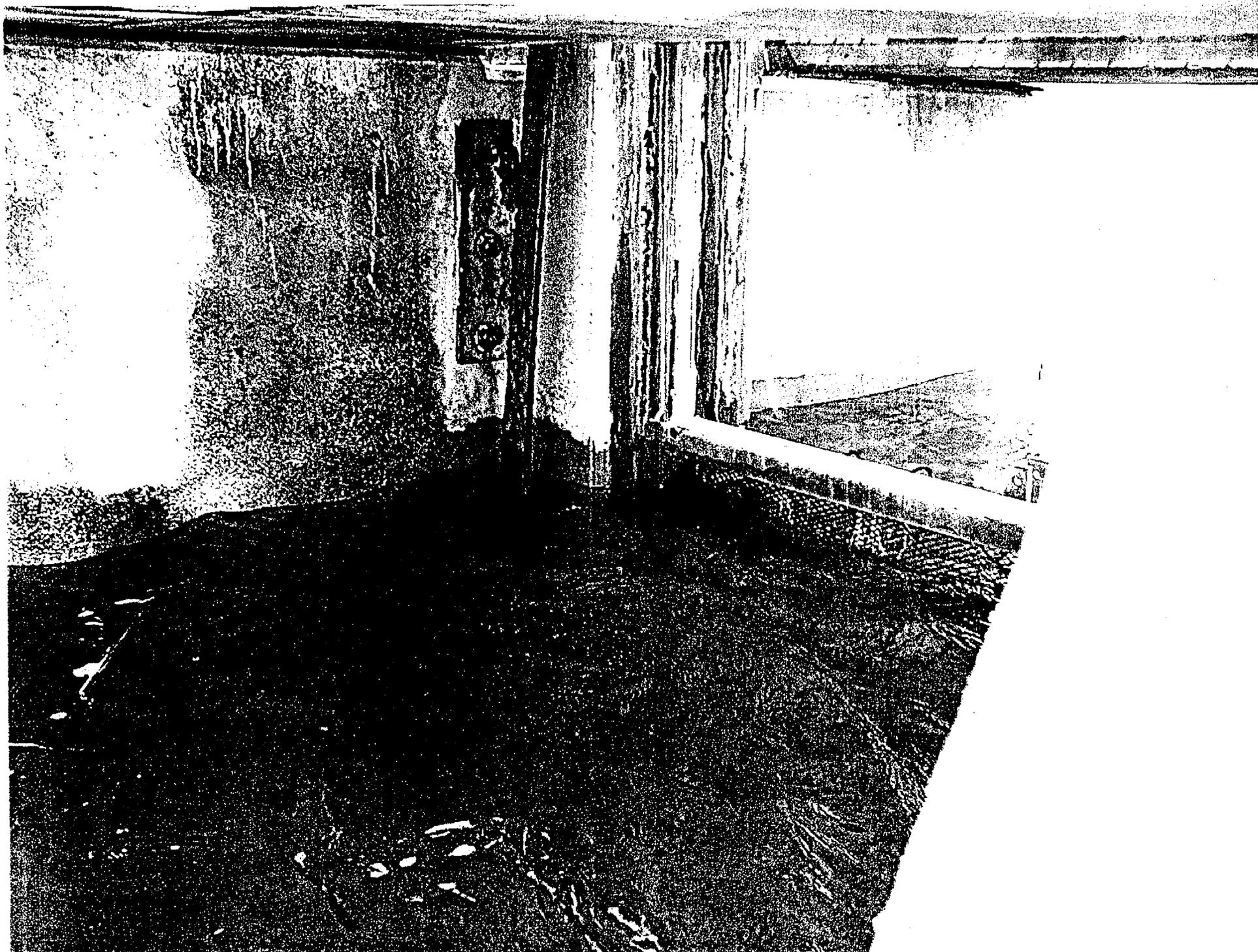
In the April 30, 1999, biological opinion, Section IX, "Conservation Recommendations" includes a new conservation recommendation not included in the Section VIII of the February 10, 1999, draft biological opinion. The new recommendation states that "BSEP should conduct tissue sampling for the genetic identity of turtles interacting with the plant's cooling water intake system." We believe this requirement is an unwarranted request and request its deletion from the biological opinion.

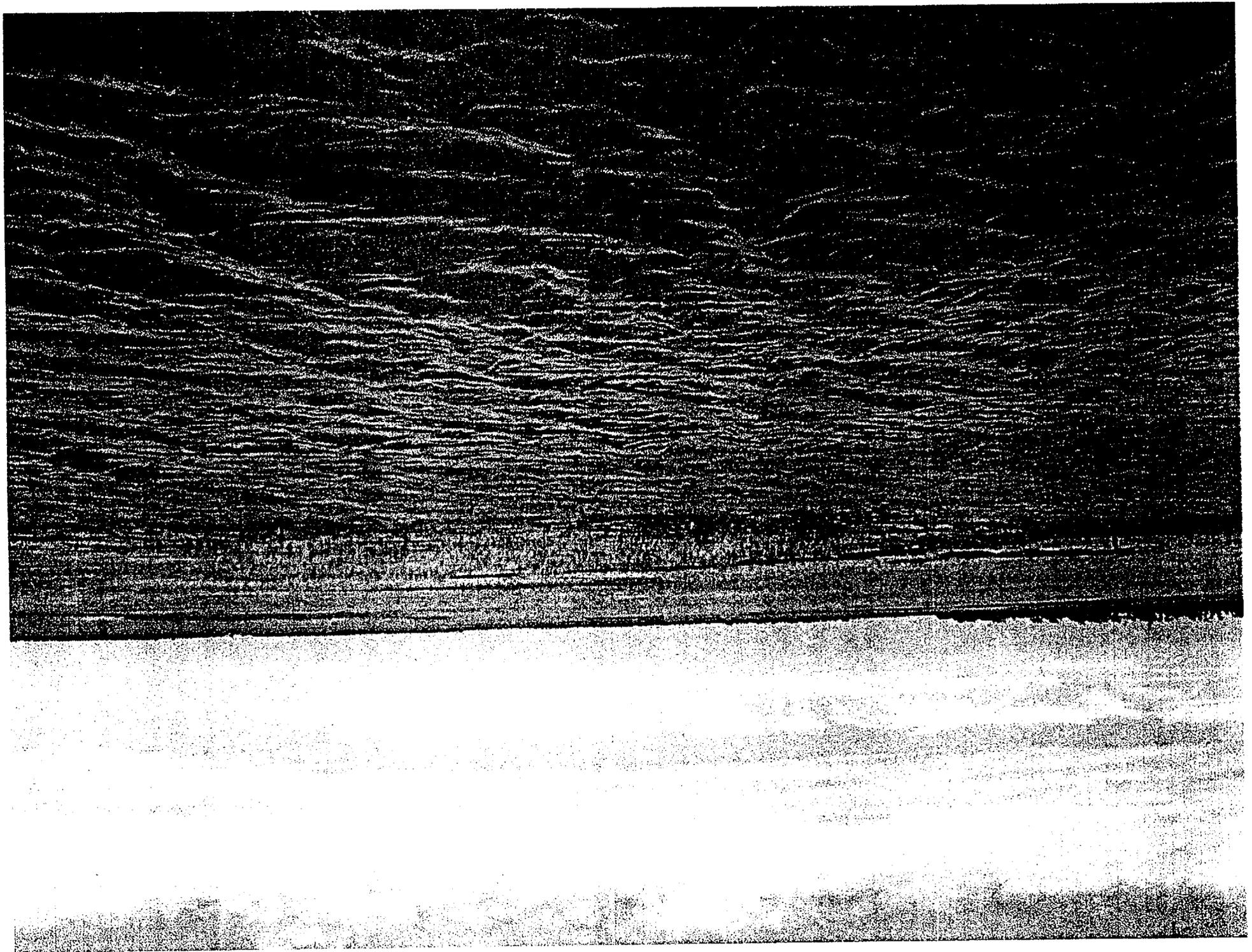
ENCLOSURE 2

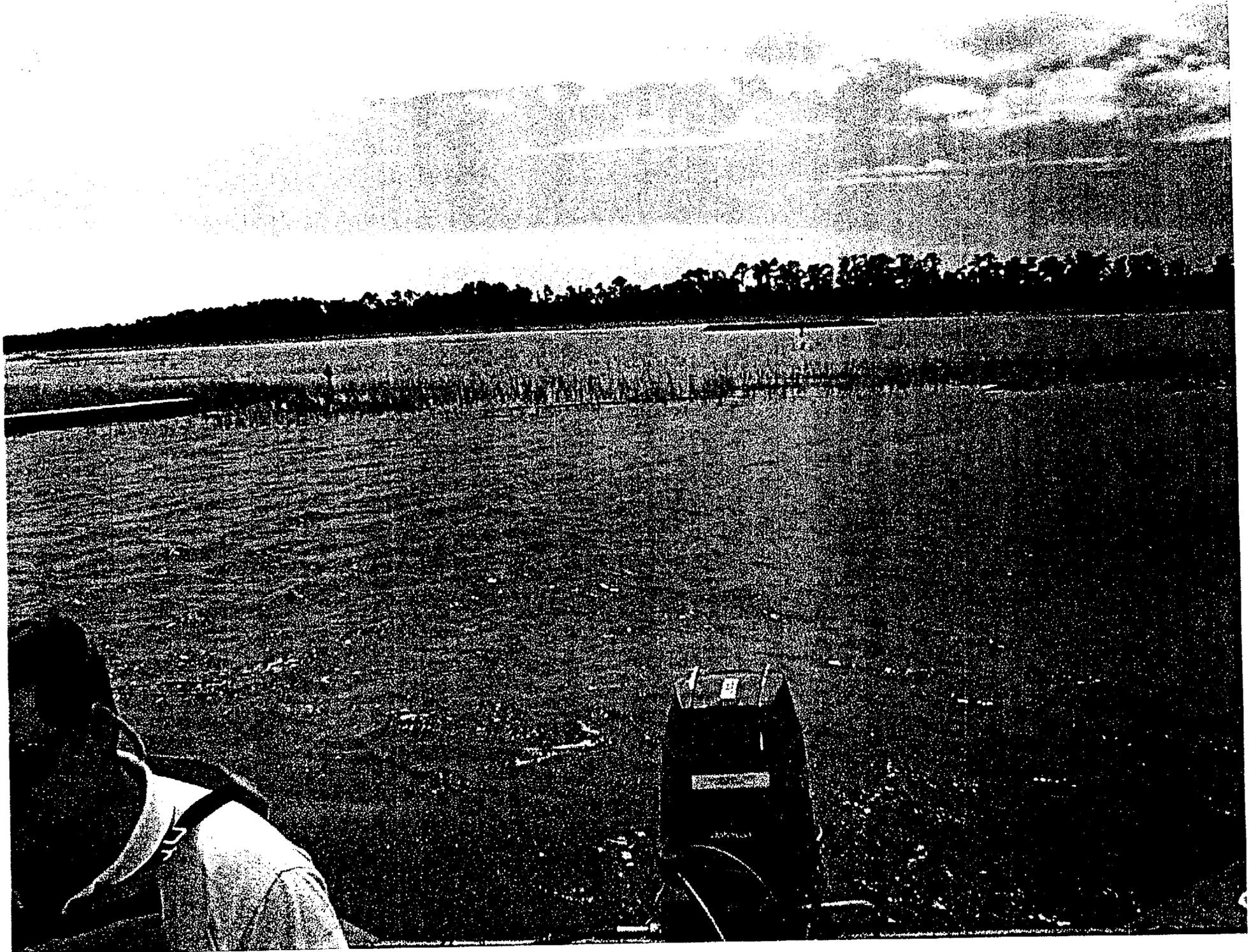
BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
SUPPLEMENT TO BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Intake Canal Pictures
(Four Pictures of Intake Canal
at the Diversion Structure)











UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 24, 1999

Mr. Robert Hoffman
National Marine Fisheries Service
Southeast Region
Protected Species Division
9721 Executive Center Drive North
St. Petersburg, FL 33702

SUBJECT: COMMENTS ON DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO
SEA TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT
(TAC NO. M99318)

Dear Mr. Hoffman:

By letter dated January 26, 1998, Carolina Power & Light Company (CP&L) provided to the United States Nuclear Regulatory Commission (NRC) a Biological Assessment of Impact to Sea Turtles at Carolina Power & Light Company's Brunswick Steam Electric Plant (BA). The BA was prepared by CP&L to support a Section 7 consultation with the National Marine Fisheries Service (NMFS) under the Endangered Species Act and the issuance of a biological opinion (BO). By letter dated March 9, 1998, the NRC provided the BA and the NRC staff's recommendation to NMFS. Based on the BA and NRC recommendation, NMFS completed a draft BO which was forwarded by the NRC to CP&L for review and comment on February 10, 1999.

The NRC and CP&L have completed review of the draft BO issued by NMFS. NRC comments on the draft BO are provided in Enclosure 1. CP&L written comments were provided to the NRC by letter dated February 19, 1999, and are provided in Enclosure 2.

Please contact Ms. Claudia Craig at 301-415-1053 with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank Akstulewicz".

Frank Akstulewicz, Acting Branch Chief
Generic Issues and Environmental Projects Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Enclosures: As stated

cc w/ enclosures: See next page

B/13

Mr. J. S. Keenan
Carolina Power & Light Company

Brunswick Steam Electric Plant
Units 1 and 2

cc:

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Mr. K. R. Jury
Manager - Regulatory Affairs
Carolina Power & Light Company
Post Office Box 10429
Southport, NC 28461-0429

ENCLOSURE 1

Section I. Description of the Proposed Action

1. *The structure is inspected and maintained (cleaned) daily; blowouts are repaired during daily inspections.* (Page 1, Paragraph 2 and 3)

Comment: According to the BA, the diversion structure is only cleaned daily during periods of high debris loading associated with seasonal vegetation regrowth and high rains, or as conditions warrant. This is true for the inspections as well.

2. *During the inspections at the intake structure, each trash rack and traveling screen is closely inspected for signs of sea turtle stranding and the area around the intake structure is observed for 30 to 60 minutes for sea turtle surfacing.* (Page 2, Paragraph 1)

Comment: The BA states that the trash rack and diversion structure are closely observed for 30 to 60 minutes for sea turtle stranding. The BA does not address inspection of the traveling screens.

3. *The area around the diversion structure is observed for 30 to 60 minutes daily, year round, for turtle surfacing.* (Page 2, Paragraph 1)

Comment: The BA states that the diversion structure is inspected daily from April through August, not year round.

Section III. Environmental Baseline

4. *Other power plants in south Florida, west Florida, and North Carolina have also reported low levels of sea turtle entrainment, but formal consultation on these plants' operations has not been completed.* (Page 10, Paragraph 1)

Comment: There are three plants that have been or are currently involved in a Section 7 consultation for turtles-- Brunswick, St. Lucie, and Crystal River. The BO discusses the St. Lucie activities; therefore, a suggested revision to the sentence would be "Another power plant in west Florida has also reported low levels of sea turtle entrainment, but formal consideration on this plant's operation has not been completed."

Section IV. Effects of the Action

5. *This action has caused...*(Page 12, Paragraph 2)

Suggested revision: "The operation of Brunswick has resulted in..."

6. *The breakdown of these takes are: 6 kemps (1 dead), 11 green (2 dead), and 64 loggerhead (4 dead).* (Page 12, Paragraph 2)

Comment: According to the BA, only 63 loggerheads were taken not 64.

7. *The BSEP's take of sea turtles during this time frame account for...*(Page 12, Paragraph 2)

Suggested revision: The BSEP's take of sea turtles during this time frame *accounts*....

8. *The average lethal take from 1986 through 1996, at BSEP, was 2.5 per year.* (Page 12, Paragraph 3)

Comment: According to the BA, there were 22 takes in 11 years or 2 takes/year in the time frame from 1986 through 1996.

9. *Therefore, it is reasonable to expect the proposed action may take 1 leatherback or 1 hawksbill turtle as a worst case scenario.* (Page 12, Paragraph 4)

Comment: In the Incidental Take Statement it states that 1 *live or dead* take may occur. Perhaps the sentence in the "Effects of Action" section above should say live or dead take of 1 leatherback or 1 hawksbill turtle.

Section VII. Incidental Take Statement

10. *If a shortnose sturgeon is incidentally taken by BSEP, NMFS, Southeast Regional Office must be notified immediately, and the action which took the sturgeon stopped until a method is developed, and approved by NMFS, to insure shortnose sturgeon are not taken.* (Page 15, Paragraph 4)

Comment: Please provide clarification of this requirement. What is meant by the phrase *the action which took the sturgeon stopped*? How should the NMFS Southeast Regional Office be notified-- by telephone or by letter?

11. *NMFS has estimated the impact of this action...*(Page 16, Paragraph 1)

Suggested revision: NMFS has estimated the impact of *operation of BSEP*...

12. *(5.) If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the trash racks, a report, summarizing the incident, must be provided to the NMFS Southeast Regional Office by the following business day.* (Page 16, Paragraph 7)

Comment: Reporting of incidents needs to be coordinated with the North Carolina Wildlife Resources Commission and NRC to prevent repetitive or inconsistent reporting requirements.

ENCLOSURE 2

Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

Dated FEB 19 1999

SERIAL: BSEP 99-0023

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
COMMENTS ON DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO SEA
TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT (TAC NO. 99318)

Gentlemen:

By letter dated January 26, 1998, Carolina Power and Light (CP&L) Company provided to the U.S. Nuclear Regulatory Commission (NRC) a Biological Assessment (BA) of the impact on endangered sea turtles of operation of the Brunswick Steam Electric Plant. By letter dated March 9, 1998, the NRC provided the BA and their recommendations to the National Marine Fisheries Service (NMFS). The NRC received from the NMFS a draft Biological Opinion and on February 10, 1999, forwarded a copy to CP&L for review and comment. CP&L's comments on the draft Biological Opinion are enclosed.

Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,

Original Signed by Mr. Warren Dorman for

Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

GMT/

Enclosure: Comments On Draft Biological Opinion Regarding Impact To Sea Turtles At
The Brunswick Steam Electric Plant

Document Control Desk
BSEP 99-0023 / Page 2

cc (with enclosure):

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Atlanta, GA 30303-3415

U. S. Nuclear Regulatory Commission
ATTN: Mr. Theodore A. Easlick, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission
ATTN: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
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Rockville, MD 20852-2738

Ms. Jo A. Sanford
Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62 COMMENTS ON DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO SEA TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT

Comments:

- 1) Page 1, Second paragraph: The discussion of the Brunswick Steam Electric Plant's (BSEP) diversion structure here and in Carolina Power and Light Company's (CP&L) Biological Assessment identifies 37 panels of screens. For clarification, the diversion structure consists of 37 bays, with a total of 134 screen panels about 4 x 10 feet. The construction of the screen panel is such that a screen release (i.e., blowout) typically creates an opening approximately 2 x 4 to 3 x 4 feet.
- 2) Page 1, Second paragraph: The last sentence states that the diversion structure is inspected and maintained "**daily**." As a generalization this is true, but as stated in CP&L's Biological Assessment, Measures to Reduce Sea Turtle Impact section (page 10), there are days when inspection and maintenance are not performed. CP&L recommends the sentence be modified to read: The structure is generally inspected and maintained (cleaned) daily; blowouts are repaired during these inspections.
- 3) Page 2, First paragraph: Discussion of turtle capture nets indicates the nets span the intake shoreline to shoreline. The nets are used from boats in both locations. Also, the 300 foot net may be used at both locations.
- 4) Page 15, Fourth paragraph: *"If a shortnose sturgeon is incidentally taken by BSEP, NMFS, Southeast Regional Office must be notified immediately, and the action which took the sturgeon stopped until a method is developed, and approved by National Marine Fisheries Service (NMFS), to insure shortnose sturgeon are not taken."*

The conditions in the incidental take statement should be limited to the reasonable and prudent measures needed to minimize the impact on species authorized to be taken (i.e., turtles). Including a condition that is unrelated to an authorized taking exceeds the agency's authority under section 7(b)(4) of the Endangered Species Act (16 U.S.C. 1536(b)(4)). Since the incidental take statement does not authorize any taking of the shortnosed sturgeon, any taking of that species is prohibited and there is no basis for further conditions. Therefore, this proposed condition should be deleted.

Stopping the action which took the sturgeon is not appropriate until the situation can be properly assessed. The immediate notification of NMFS would result in their involvement in assessing the actions being taken by CP&L to address the direct cause of the shortnose sturgeon take. CP&L is willing to voluntarily commit to immediate notification of the NMFS, Southeast Regional Office, and prompt consultation in the unlikely event that a shortnosed sturgeon is incidentally taken, but believes that a decision on plant shutdown or other extraordinary measures should be based on consideration of the facts during the consultation process that would be initiated in this very unlikely event.

Based on the historical data for Atlantic sturgeon impinged at the BSEP and available life history information on shortnose sturgeon, there is a low risk that a shortnose sturgeon mortality will occur as a result of operation of the BSEP. Adult shortnose sturgeon remain in the deeper channel areas of the Cape Fear River at the tidal freshwater/salt wedge interface except for upstream migrations in the spring for spawning purposes. The location of the BSEP intake canal is well below the normal range for the shortnose sturgeon in the Cape Fear River. In fact, salinity levels greater than 7 ppt may be harmful to shortnose sturgeon (Smith et al. 1992). Salinity levels in the vicinity of the intake canal remain well above this during most of the year, except for late winter/early spring when shortnose sturgeon are moving upriver from foraging areas for spawning (i.e., in a direction away from the intake canal). In addition, the intake canal withdraws water from the upper layers of the ship's channel while shortnose sturgeon remain near the bottom. No shortnose sturgeon have ever been collected at the BSEP during 25 years of biological monitoring. A few Atlantic sturgeon have been impinged. An average of 42 Atlantic sturgeon were impinged per year from 1975 through 1982. Since the diversion structure was completed in 1982, no Atlantic sturgeon have been collected during impingement sampling. Should a sturgeon enter the intake canal via a damaged diversion screen, a continuously operating fish return system is designed to return impinged organisms alive back to the Cape Fear River. CP&L agrees that in the event of an incidental take of a shortnose sturgeon, immediate notification, followed by a request for formal consultation to address the take, is appropriate.

- 5) Page 16, First paragraph: Is the statement "... and 1 (lethal or live) leatherback or hawksbill sea turtle..." intended to mean a total of one take (i.e., lethal or live) or a total of one for each species? CP&L recommends that this statement be clarified.

CP&L noted that the proposed takes for green and Kemp's ridley sea turtles are below the levels of takes in previous years. In 1995, six live green sea turtles were taken compared to the proposed limit of five. In 1997, three lethal takes of Kemp's ridley sea turtles were documented compared to a proposed limit of two. Since 1993 the general trend has been an increase in the numbers sea turtles, including green and Kemp's ridley taken in the intake canal. CP&L questions whether these lower numbers in the proposed incidental take statement are necessary to protect the species.

- 6) Page 16, Section VII, item 1, first sentence: "***BSEP shall conduct daily sea turtle patrols to inspect intake trash racks as near to low tide as possible during the period from late April through August.***"

CP&L's Biological Assessment used the term daily in describing the frequency of this patrol with modifiers to generalize the term daily as exceptions are required to support tidal, weather, and weekend personnel schedules. CP&L recommends the statement changed to replace "shall conduct daily" with "shall generally be conducted daily" or other modifier to support a more accurate representation of CP&L's actions.

- 7) Page 16, Section VII, item 2: "***Plant personnel will inspect the diversion structure each spring to ensure its integrity. The inspection will include a subsurface check by divers.***"

CP&L recommends "each spring" be changed to "each year prior to the turtle season," as the start of spring is in the month just prior to the turtle season.

- 8) Page 16, Section VII, item 4: CP&L's general concern with this requirement paragraph is that these actions are currently implemented to support North Carolina (NC) issued Endangered Species Permit requirements or as requested by the NC Sea Turtle Coordinator. There are also actions required of third parties for which CP&L may have limited control.

a) "***Once a turtle is sighted, plant environmental personnel will attempt to capture the turtle. Live turtles will be photographed, tagged, and released in the surf at Yaupon Beach, NC.***"

While currently turtles are released at Yaupon Beach, CP&L recommends this requirement be modified to add at the end of the statement "or other surrounding area beaches as determined through consultation with the NC Sea Turtle Coordinator."

b) "***Injured sea turtles will be taken to a veterinarian or, if severely injured they are to be taken to the NC Sea Turtle Coordinator.***"

CP&L currently uses an available veterinarian when it is felt such attention is warranted and the veterinarian is available. CP&L would like this statement modified to, "CP&L will make appropriate efforts to obtain medical treatment, including veterinarian services as warranted, for turtle injuries. If severely injured, the NC Sea Turtle Coordinator will be consulted for determining appropriate action."

c) *"Dead turtles will be removed from the canal, photographed, and a necropsy will be performed."*

CP&L recommends the statement "necropsy will be performed" be modified to "necropsy or other action be performed as determined by the NC Sea Turtle Coordinator."

- 9) Page 16, Section VII, item 5: *"If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the track racks, a report, summarizing the incident, must be provided to the NMFS Southeast Regional Office by the following business day."*

The immediate notification for shortnose sturgeon incidental takes is addressed in the last paragraph on Page 15 and in CP&L's comment number four. CP&L recognizes the need for prompt involvement with NMFS, but not for turtles within the proposed incidental take limits. As a condition of CP&L's State of North Carolina issued Endangered Species Permit, CP&L must contact the North Carolina Wildlife Resources Commission's Sea Turtle Stranding Coordinator, or Coastal Nongame Project Leader, within twenty-four hours of each stranding event. Also, CP&L is to provide the North Carolina Wildlife Resources Commission's a Sea Turtle Standing And Salvage Network - Standing Report, which is forwarded to the NMFS - Miami lab. This notification for takes within the incidental take limits should be adequate without any additional report to the NMFS Southeast Regional Office. CP&L recommends deleting this reporting requirement, and particularly the statement "by the following business day."

10) Page 16, Section VIII, Conservation Recommendations

It is CP&L's understanding that the implementation of these recommendations is not a requirement of the Incidental Take Statement. CP&L has carefully reviewed these recommendations and provides the following comments:

a) *"1. BSEP should conduct inspections of the diversion structure, to ensure the structure's integrity, to include subsurface inspections at least twice during the time between late April through August and one time outside that time period."*

Plant personnel will inspect the diversion structure each year prior to the turtle season to ensure its integrity. The inspection will include a subsurface check by divers. The design of the diversion structure is such that limited value is provided by additional inspections below the water. The majority of the critical components are movable screen panels which can be completely removed from the water during routine inspection and cleaning activities. Significant portions of the fixed panels can be inspected at low tide to determine their integrity. With the ability to perform panel inspections from above, the annual underwater inspection is considered adequate.

b) *"2. BSEP should monitor the trash racks, canal and diversion structure for signs of shortnose sturgeon."*

BSEP's environmental personnel are aware of the need to monitor for shortnose sturgeon on their tours of the intake canal structures. This along with the impingement studies of the intake canal is considered adequate monitoring for shortnose sturgeon.

c) *"3. BSEP should contact the Fisheries Department of the University of North Carolina - Wilmington on at least a yearly basis to determine if shortnose sturgeon have been tracked near the area of the intake canal."*

Discussion with University of North Carolina - Wilmington (UNCW) indicated a limited future program which will focus on the areas of the upstream river near Wilmington, NC. CP&L does contact available outside experts as part of an annual self assessment of endangered species in the area. UNCW is recognized as an appropriate contact in this area.



Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

FEB 19 1999

SERIAL: BSEP 99-0023

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
COMMENTS ON DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO SEA
TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT (TAC NO. 99318)

Gentlemen:

By letter dated January 26, 1998, Carolina Power and Light (CP&L) Company provided to the U.S. Nuclear Regulatory Commission (NRC) a Biological Assessment (BA) of the impact on endangered sea turtles of operation of the Brunswick Steam Electric Plant. By letter dated March 9, 1998, the NRC provided the BA and their recommendations to the National Marine Fisheries Service (NMFS). The NRC received from the NMFS a draft Biological Opinion and on February 10, 1999, forwarded a copy to CP&L for review and comment. CP&L's comments on the draft Biological Opinion are enclosed.

Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,

Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

GMT/

Enclosure: Comments On Draft Biological Opinion Regarding Impact To Sea Turtles At
The Brunswick Steam Electric Plant

B/14

cc (with enclosure):

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Atlanta, GA 30303-3415

U. S. Nuclear Regulatory Commission
ATTN: Mr. Theodore A. Easlick, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission
ATTN: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
11555 Rockville Pike
Rockville, MD 20852-2738

Ms. Jo A. Sanford
Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62 COMMENTS ON DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO SEA TURTLES AT THE BRUNSWICK STEAM ELECTRIC PLANT

Comments:

- 1) Page 1, Second paragraph: The discussion of the Brunswick Steam Electric Plant's (BSEP) diversion structure here and in Carolina Power and Light Company's (CP&L) Biological Assessment identifies 37 panels of screens. For clarification, the diversion structure consists of 37 bays, with a total of 134 screen panels about 4 x 10 feet. The construction of the screen panel is such that a screen release (i.e., blowout) typically creates an opening approximately 2 x 4 to 3 x 4 feet.
- 2) Page 1, Second paragraph: The last sentence states that the diversion structure is inspected and maintained "**daily.**" As a generalization this is true, but as stated in CP&L's Biological Assessment, Measures to Reduce Sea Turtle Impact section (page 10), there are days when inspection and maintenance are not performed. CP&L recommends the sentence be modified to read: The structure is generally inspected and maintained (cleaned) daily; blowouts are repaired during these inspections.
- 3) Page 2, First paragraph: Discussion of turtle capture nets indicates the nets span the intake shoreline to shoreline. The nets are used from boats in both locations. Also, the 300 foot net may be used at both locations.
- 4) Page 15, Fourth paragraph: ***"If a shortnose sturgeon is incidentally taken by BSEP, NMFS, Southeast Regional Office must be notified immediately, and the action which took the sturgeon stopped until a method is developed, and approved by National Marine Fisheries Service (NMFS), to insure shortnose sturgeon are not taken."***

The conditions in the incidental take statement should be limited to the reasonable and prudent measures needed to minimize the impact on species authorized to be taken (i.e., turtles). Including a condition that is unrelated to an authorized taking exceeds the agency's authority under section 7(b)(4) of the Endangered Species Act (16 U.S.C. 1536(b)(4)). Since the incidental take statement does not authorize any taking of the shortnosed sturgeon, any taking of that species is prohibited and there is no basis for further conditions. Therefore, this proposed condition should be deleted.

Stopping the action which took the sturgeon is not appropriate until the situation can be properly assessed. The immediate notification of NMFS would result in their involvement in assessing the actions being taken by CP&L to address the direct cause of the shortnose

sturgeon take. CP&L is willing to voluntarily commit to immediate notification of the NMFS, Southeast Regional Office, and prompt consultation in the unlikely event that a shortnosed sturgeon is incidentally taken, but believes that a decision on plant shutdown or other extraordinary measures should be based on consideration of the facts during the consultation process that would be initiated in this very unlikely event.

Based on the historical data for Atlantic sturgeon impinged at the BSEP and available life history information on shortnose sturgeon, there is a low risk that a shortnose sturgeon mortality will occur as a result of operation of the BSEP. Adult shortnose sturgeon remain in the deeper channel areas of the Cape Fear River at the tidal freshwater/salt wedge interface except for upstream migrations in the spring for spawning purposes. The location of the BSEP intake canal is well below the normal range for the shortnose sturgeon in the Cape Fear River. In fact, salinity levels greater than 7 ppt may be harmful to shortnose sturgeon (Smith et al. 1992). Salinity levels in the vicinity of the intake canal remain well above this during most of the year, except for late winter/early spring when shortnose sturgeon are moving upriver from foraging areas for spawning (i.e., in a direction away from the intake canal). In addition, the intake canal withdraws water from the upper layers of the ship's channel while shortnose sturgeon remain near the bottom. No shortnose sturgeon have ever been collected at the BSEP during 25 years of biological monitoring. A few Atlantic sturgeon have been impinged. An average of 42 Atlantic sturgeon were impinged per year from 1975 through 1982. Since the diversion structure was completed in 1982, no Atlantic sturgeon have been collected during impingement sampling. Should a sturgeon enter the intake canal via a damaged diversion screen, a continuously operating fish return system is designed to return impinged organisms alive back to the Cape Fear River. CP&L agrees that in the event of an incidental take of a shortnose sturgeon, immediate notification, followed by a request for formal consultation to address the take, is appropriate.

- 5) Page 16, First paragraph: Is the statement "... and 1 (lethal or live) leatherback or hawksbill sea turtle..." intended to mean a total of one take (i.e., lethal or live) or a total of one for each species? CP&L recommends that this statement be clarified.

CP&L noted that the proposed takes for green and Kemp's ridley sea turtles are below the levels of takes in previous years. In 1995, six live green sea turtles were taken compared to the proposed limit of five. In 1997, three lethal takes of Kemp's ridley sea turtles were documented compared to a proposed limit of two. Since 1993 the general trend has been an increase in the numbers sea turtles, including green and Kemp's ridley taken in the intake canal. CP&L questions whether these lower numbers in the proposed incidental take statement are necessary to protect the species.

- 6) Page 16, Section VII, item 1, first sentence: *“BSEP shall conduct daily sea turtle patrols to inspect intake trash racks as near to low tide as possible during the period from late April through August.”*

CP&L’s Biological Assessment used the term daily in describing the frequency of this patrol with modifiers to generalize the term daily as exceptions are required to support tidal, weather, and weekend personnel schedules. CP&L recommends the statement changed to replace “shall conduct daily” with “shall generally be conducted daily” or other modifier to support a more accurate representation of CP&L’s actions.

- 7) Page 16, Section VII, item 2: *“Plant personnel will inspect the diversion structure each spring to ensure its integrity. The inspection will include a subsurface check by divers.”*

CP&L recommends “each spring” be changed to “each year prior to the turtle season,” as the start of spring is in the month just prior to the turtle season.

- 8) Page 16, Section VII, item 4: CP&L’s general concern with this requirement paragraph is that these actions are currently implemented to support North Carolina (NC) issued Endangered Species Permit requirements or as requested by the NC Sea Turtle Coordinator. There are also actions required of third parties for which CP&L may have limited control.

a) *“Once a turtle is sighted, plant environmental personnel will attempt to capture the turtle. Live turtles will be photographed, tagged, and released in the surf at Yaupon Beach, NC.”*

While currently turtles are released at Yaupon Beach, CP&L recommends this requirement be modified to add at the end of the statement “or other surrounding area beaches as determined through consultation with the NC Sea Turtle Coordinator.”

b) *“Injured sea turtles will be taken to a veterinarian or, if severely injured they are to be taken to the NC Sea Turtle Coordinator.”*

CP&L currently uses an available veterinarian when it is felt such attention is warranted and the veterinarian is available. CP&L would like this statement modified to, “CP&L will make appropriate efforts to obtain medical treatment, including veterinarian services as warranted, for turtle injuries. If severely injured, the NC Sea Turtle Coordinator will be consulted for determining appropriate action.”

c) *“Dead turtles will be removed from the canal, photographed, and a necropsy will be performed.”*

CP&L recommends the statement “necropsy will be performed” be modified to “necropsy or other action be performed as determined by the NC Sea Turtle Coordinator.”

- 9) Page 16, Section VII, item 5: *"If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the track racks, a report, summarizing the incident, must be provided to the NMFS Southeast Regional Office by the following business day."*

The immediate notification for shortnose sturgeon incidental takes is addressed in the last paragraph on Page 15 and in CP&L's comment number four. CP&L recognizes the need for prompt involvement with NMFS, but not for turtles within the proposed incidental take limits. As a condition of CP&L's State of North Carolina issued Endangered Species Permit, CP&L must contact the North Carolina Wildlife Resources Commission's Sea Turtle Stranding Coordinator, or Coastal Nongame Project Leader, within twenty-four hours of each stranding event. Also, CP&L is to provide the North Carolina Wildlife Resources Commission's a Sea Turtle Stranding And Salvage Network - Standing Report, which is forwarded to the NMFS - Miami lab. This notification for takes within the incidental take limits should be adequate without any additional report to the NMFS Southeast Regional Office. CP&L recommends deleting this reporting requirement, and particularly the statement "by the following business day."

- 10) Page 16, Section VIII, Conservation Recommendations

It is CP&L's understanding that the implementation of these recommendations is not a requirement of the Incidental Take Statement. CP&L has carefully reviewed these recommendations and provides the following comments:

- a) *"1. BSEP should conduct inspections of the diversion structure, to ensure the structure's integrity, to include subsurface inspections at least twice during the time between late April through August and one time outside that time period."*

Plant personnel will inspect the diversion structure each year prior to the turtle season to ensure its integrity. The inspection will include a subsurface check by divers. The design of the diversion structure is such that limited value is provided by additional inspections below the water. The majority of the critical components are movable screen panels which can be completely removed from the water during routine inspection and cleaning activities. Significant portions of the fixed panels can be inspected at low tide to determine their integrity. With the ability to perform panel inspections from above, the annual underwater inspection is considered adequate.

- b) *"2. BSEP should monitor the trash racks, canal and diversion structure for signs of shortnose sturgeon."*

BSEP's environmental personnel are aware of the need to monitor for shortnose sturgeon on their tours of the intake canal structures. This along with the impingement studies of the intake canal is considered adequate monitoring for shortnose sturgeon.

c) "3. BSEP should contact the Fisheries Department of the University of North Carolina - Wilmington on at least a yearly basis to determine if shortnose sturgeon have been tracked near the area of the intake canal."

Discussion with University of North Carolina - Wilmington (UNCW) indicated a limited future program which will focus on the areas of the upstream river near Wilmington, NC. CP&L does contact available outside experts as part of an annual self assessment of endangered species in the area. UNCW is recognized as an appropriate contact in this area.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 10, 1999

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Mr. J.S. Keenan, Vice President
Carolina Power & Light Company
Brunswick Steam Electric Plant
P.O. Box 10429
Southport, NC 28461-0429

SUBJECT: DRAFT BIOLOGICAL OPINION REGARDING IMPACT TO SEA TURTLES AT
THE BRUNSWICK STEAM ELECTRIC PLANT (TAC NO. 99318)

Dear Mr. Keenan:

By letter dated January 26, 1998, Carolina Power & Light Company (CP&L) provided to the Nuclear Regulatory Commission (NRC) a Biological Assessment (BA) of the impact on endangered sea turtles of operation of the Brunswick Steam Electric Plant. The BA was prepared to support a Section 7 consultation under the Endangered Species Act. By letter dated March 9, 1998, the NRC provided the BA and our recommendation to the National Marine Fisheries Service (NMFS).

The NRC has received from NMFS a draft Biological Opinion (BO). The BO is enclosed for CP&L review and comment. Please note that as discussed in a telephone conference between Ms. Claudia Craig of the NRC and Mr. Glenn Thearling of your staff on February 4, 1999, the document is no longer exempt from Freedom of Information Act requests and comments on the draft BO are required to be in writing and sent to the NRC. The NRC will forward your comments along with ours to the NMFS. Due to the NMFS schedule for issuance of the final BO, we request you provide comments within 10 working days of receipt of this letter.

Please contact Ms. Craig at 301-415-1053 if you have any questions.

Sincerely,

David C. Trimble, Jr.

David C. Trimble, Jr., Project Manager
Project Directorate II-3
Division of Reactor Projects I/II

Docket Nos. 50-324, 50-325

Enclosure: As stated

cc w/encl: See next page

B/15

Mr. J. S. Keenan
Carolina Power & Light Company

Brunswick Steam Electric Plant
Units 1 and 2

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Endangered Species Act - Section 7 Consultation

Biological Opinion

Agency: U.S. Nuclear Regulatory
Commission
Brunswick Steam Electric Plant
Carolina Power and Light Company

Activity: Operation of Units Numbers 1 and 2

Consultation Conducted By: National Marine Fisheries Service,
Southeast Region

Date Issued: _____

I. Description of the Proposed Action

The Brunswick Steam Electric Power Plant (BSEP) is located in Brunswick County, near Southport North Carolina, on the Cape Fear River estuary. BSEP is comprised of two units: Unit 1 began commercial operation in 1975 and Unit 2 began commercial operations in 1977. BSEP operates in a once-through cooling mode by withdrawing water from the Cape Fear River through a three-mile-long intake canal. The intake canal is approximately 300 feet wide, 18 foot deep, and located approximately 6 miles north of the mouth of the Cape Fear River. The water from the intake canal passes through the plant's condensers, is sent through a six-mile-long discharge canal, is pumped 2000 feet offshore through subaqueous pipes, and is discharged into the Atlantic Ocean at a depth of 18 feet. The two units operate independently but share a common intake and discharge canal. Approximately 1.5 billion gallons of water pass through the plant each day when both units are operating. At each unit, trash racks and traveling screens collect and remove debris and aquatic organisms prior to the water entering the plant through the intake structure.

BSEP constructed a permanent diversion structure at the mouth of the intake canal in 1982. This structure is intended to reduce the numbers of large fish, shellfish and marine debris entering the canal. The diversion structure consists of 37 panels of screens made of a copper-nickel alloy with a mesh size of 3/8 x 5/8 inches. It is V-shaped to increase screen area and to reduce approach-flow velocity. The intake canal at the diversion structure varies from a depth of approximately 18 feet at its center to about 4 feet at the end bays on either side. The screen panels are designed to release from their frames under high debris load to prevent overall damage to the diversion structure. Each screen release creates an opening of about 2 x 4 to 3 x 4 feet. These screen releases have allowed turtles to enter the intake canal. BSEP has full time staff to maintain the diversion structure. The structure is inspected and maintained (cleaned) daily; blowouts are repaired during daily inspections.

BSEP conducts daily sea turtle patrols; these inspections take place at low tide, during late April

through August. During the inspections at the intake structure, each trash rack and traveling screen is closely inspected for signs of sea turtle stranding and the area around the intake structure is observed for 30 to 60 minutes for sea turtle surfacing. The area around the diversion structure is observed for 30 to 60 minutes daily, year round, for turtle surfacing. If turtles get into the intake canal BSEP has a set plan to capture and return them back to the Atlantic Ocean. If a turtle is located near the plant intake structure it is captured using a 200 foot net that is 22 foot deep. The net spans the distance between the intake canal's two shorelines. If a turtle is sighted near the diversion structure a 300 foot, 22 foot deep net is deployed between the two shorelines upstream from the diversion structure. Once the net is deployed it is monitored at all times. When a turtle is snared in the net it is quickly removed from the water. It is then tagged, photographed, and the turtle stranding report is completed. The turtle is released back into the Atlantic Ocean at Yaupon Beach, NC, 6 miles south of the plant.

II. Status of Listed Species and Critical Habitat

The following endangered and threatened sea turtle and fish species are under the jurisdiction of NMFS and are known to occur in the Cape Fear River Estuary region:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
<u>Sea Turtles</u>		
Loggerhead turtle	<i>Caretta caretta</i>	T
Green turtle	<i>Chelonia mydas</i>	E/T*
Leatherback turtle	<i>Dermochelys coriacea</i>	E
Hawksbill turtle	<i>Eretmochelys imbricata</i>	E
Kemp's ridley	<i>Lepidochelys kempii</i>	E

Fish

Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E
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* Green turtles in U.S. waters are listed as threatened except for the Florida breeding population, which is listed as endangered. Due to the inability to distinguish between the populations away from the nesting beaches, green turtles are considered endangered wherever they occur in U.S. waters.

Sea Turtles

Loggerhead Turtle (*Caretta caretta*)

The threatened loggerhead is the most abundant species of sea turtle in U.S. waters, commonly occurring throughout the inner continental shelf from Florida through Cape Cod, Massachusetts. The loggerhead's winter and early spring range is south of 37°00' N in estuarine rivers, coastal bays,

and shelf waters of the southeastern United States. Loggerheads move northward and enter northeast coastal embayments as water temperatures approach 20°C (Burke et al. 1989, Musick et al. 1984) to feed on benthic invertebrates, leaving the northern embayments in the fall when water temperatures drop.

The activity of the loggerhead is limited by temperature. Keinath et al. (1987) observed sea turtle emigration from the Chesapeake Bay when water temperatures cooled to below 18°C, generally in November. Studies in North Carolina showed a significant movement of sea turtles into more northern waters at 11°C, (Chester et al., 1994). Loggerhead turtles, however, have been seen New York waters for extended periods at temperatures as low as 8°C (NMFS, 1995b). Surveys conducted offshore and sea turtle strandings during November and December off North Carolina suggest that sea turtles emigrating from northern waters in fall and winter months may concentrate in nearshore and southerly areas influenced by warmer Gulf stream waters (Epperly et al., 1995).

Aerial surveys of loggerhead turtles at sea, north of Cape Hatteras indicate that they are most common in waters from 22 to 49m deep, although they range from the beach to waters beyond the continental shelf (Shoop and Kenney, 1992). There is no information regarding the activity of these offshore turtles.

Pursuant to a November 1994 Biological Opinion on the continued operation of the shrimp fishery in the southeastern United States, NMFS selected an Expert Working Group (EWG) consisting of population biologists, sea turtle biologists and state and federal managers to consider the best available information to formulate population estimates for sea turtles affected by human activities in the NMFS Southeast Region. The EWG focused on determining population estimates for Kemp's ridley and loggerhead sea turtles. Draft reports by the EWG, entitled "Kemp's ridley (*Lepidochelys kempii*) Sea Turtle Status Report," dated June 28, 1996 and the "Status of the Loggerhead Turtle Population (*Caretta caretta*) in the Western North Atlantic," dated July 1, 1996, were submitted to NMFS in early July. New information or conclusions provided within these reports are summarized very briefly below, and the reports are incorporated by reference.

The EWG identified four nesting subpopulations of loggerheads in the western North Atlantic (there is a possibility that all four could be found in the consultation area): (1) the Northern Subpopulation producing approximately 6,200 nests/year from North Carolina to Northeast Florida; (2) the South Florida Subpopulation occurring from just north of Cape Hatteras on the east coast of Florida and extending up to Naples on the west coast.

Overall, the EWG determined that trends could be identified for two loggerhead subpopulations. The Northern Subpopulation appears to be stabilizing after a period of decline; the South Florida Subpopulation appears to have shown significant increases over the last 25 years suggesting the population is recovering, although the trend could not be detected over the most recent 7 years of nesting. An increase in the numbers of adult loggerheads has been reported in recent years in Florida waters without a concomitant increase in benthic immatures. These data may forecast limited recruitment to South Florida nesting beaches in the future. Since loggerheads take approximately

20-30 years to mature, the effects of decline in immature loggerheads might not be apparent on nesting beaches for decades. Therefore the EWG cautions against considering trends in nesting too optimistically.

Green Turtle (*Chelonia mydas*)

Green turtles are distributed circumglobally, mainly in waters between the northern and southern 20°C isotherms (Hirth 1971). In the western Atlantic, several major nesting assemblages have been identified and studied. Most green turtle nesting in the continental United States occurs on the Atlantic Coast of Florida (Ehrhart 1979). Green turtle nesting numbers show biennial peaks in abundance, with a generally positive trend during the six years of regular monitoring since establishment of the index beaches in 1989.

While nesting activity is obviously important in determining population distributions, the remaining portion of the green turtle's life is spent on nearshore foraging grounds. Some of the principal feeding pastures in the western Atlantic Ocean include Florida, the northwestern coast of the Yucatan Peninsula, the south coast of Cuba, the Miskito Coast of Nicaragua, the Caribbean Coast of Panama, and scattered areas along Colombia and Brazil (Hirth, 1971). Evidence provided by Mendonca and Ehrhart (1982) indicates that immature green turtles may utilize estuarine systems during periods of their lives. These authors identified a population of young green turtles (carapace length 29.5-75.4 cm) believed to be resident in Mosquito Lagoon, Florida. The Indian River system, of which Mosquito Lagoon is a part, supported a green turtle fishery during the late 1800s (Ehrhart 1983), and these turtles may be remnants of this historical colony. Additional juvenile green turtles occur north to Long Island Sound, presumably foraging in coastal embayments. In North Carolina, green turtles occur in estuarine and oceanic waters (Epperly et al. 1995), but nesting is minimal with generally less than five nests reported each year.

Leatherback Turtle (*Dermochelys coriacea*)

The Recovery Plan for Leatherback Turtles (*Dermochelys coriacea*) contains a description of the natural history and taxonomy of this species (USFWS and NMFS 1992b). Leatherbacks are widely distributed but are predominantly pelagic, feeding primarily on jellyfish such as *Stomolophus*, *Chryaora*, and *Aurelia* (Rebel 1974).

Trends in the leatherback population are difficult to assess since major nesting beaches occur over broad areas within tropical waters outside the U.S. In the eastern Caribbean, nesting occurs primarily in the Dominican Republic, the Virgin Islands, and on islands near Puerto Rico. Sandy Point, on the western edge of St. Croix, Virgin Islands, has been designated by the U.S. Fish and Wildlife Service as critical habitat for nesting leatherback turtles. Nesting also occurs on the Atlantic Coast of Florida on a smaller scale. The primary leatherback nesting beaches in the western Atlantic occur in French Guiana, Surinam and Mexico.

Leatherbacks are the largest of sea turtles, and are able to maintain body temperatures several

degrees above ambient temperatures, likely by virtue of their size, insulating subdermal fat, and an arrangement of blood vessels in the skin and flippers that enables retention of heat generated during swimming (Paladino et al. 1990). Although their tolerance of low temperatures is greater than for other sea turtles, leatherbacks are generally absent from temperate Atlantic waters in winter and spring. Stranding patterns suggest that leatherbacks move north along the coast with increasing water temperatures.

Periodically, large numbers of leatherback strandings occur from northern Florida in January and February, through North Carolina in May. Aerial surveys conducted during stranding events confirmed the abundance of leatherback turtles. Two separate studies, one involving aerial surveys for right whales off Georgia and northern Florida (Kraus and Knowlton, pers. comm.) and the other involving public reporting of leatherback sightings off North Carolina (Braun and Epperly, unpublished), illustrate peaks of leatherback abundance in nearshore waters.

Hawksbill turtle (*Eretmochelys imbricata*)

The hawksbill turtle is relatively uncommon in the waters of the continental United States. Hawksbills prefer coral reefs, such as those found in the Caribbean and Central America. Hawksbills feed primarily on a wide variety of sponges but also consume bryozoans, coelenterates, and mollusks. Known important foraging habitats in U.S. waters are confined to the Caribbean. Nesting areas in the western North Atlantic include Puerto Rico and the Virgin Islands.

In the Atlantic, small hawksbills have stranded as far north as Cape Cod, Massachusetts (STSSN database, 1990). Many of these strandings were observed after hurricanes or offshore storms. Although there have been no reports of hawksbills in the Chesapeake Bay, one has been observed taken incidentally in a fishery just south of the Bay (Anon. 1992).

Researchers believe that hawksbills occurring in U.S. waters are from populations that are depleted but are no longer declining (NMFS 1995). Habitat loss, fisheries, and continued exploitation are all identified as factors preventing recovery.

Kemp's Ridley Turtle (*Lepidochelys kempii*)

The Recovery Plan for the Kemp's Ridley Sea Turtle (*Lepidochelys kempii*) (USFWS and NMFS, 1992a) contains a complete description of the natural history, taxonomy, and distribution of the Kemp's or Atlantic ridley turtle. Of the seven species of sea turtles of the world, the Kemp's ridley is in the greatest danger of extinction. Following is a brief summary of the information on the distribution and trends in abundance of this species.

Adult Kemp's ridleys are found primarily in the Gulf of Mexico. Adult females nest in daytime aggregations known as arribadas, primarily at Rancho Nuevo, Mexico. Most of the population of adult females nest in this single locality (Pritchard, 1969). Ridley hatchlings leave the nesting beach and are not seen again until they reach over 20 cm in length, when they are found in the northern

Gulf of Mexico and the embayments along the eastern Atlantic seaboard as far north as Cape Cod Bay. Nothing is known about the specific movements of hatchling Kemp's ridley turtles, although it is believed that they may be controlled by current patterns: either the loop current for northward transport or an eddy for southward transport with occasional transportation through the Florida Straits via the Gulf Stream system (Hildebrand, 1982). Pritchard and Marquez (1973) suggest that passive transportation via the Gulf Stream up the eastern coast of the United States may be the usual dispersal pattern of young Kemp's ridley turtles. It is widely believed that hatchlings inhabit and forage in *Sargassum* rafts that occur at fronts and eddies (Carr 1987). However, some authors have observed that *Sargassum* may be used for resting only, since ample food is available throughout the water column, where the likelihood of aggregated predators may be lower (Collard 1990).

Pritchard and Marquez (1973) speculated that ridleys feed and grow rapidly during passive transport, and by the time they reach offshore waters of New England are large enough for active swimming. However, Morreale et al. (1992) hypothesize that passive drifting would result in only sporadic occurrence of ridleys in the northeast United States and that the observed annual occurrence suggests some alternative mechanism. Regardless of the mechanism, small juvenile ridleys enter Atlantic coastal embayments in the summer, when water temperatures approach 20°C (Burke et al. 1989, Musick et al. 1984) and become benthic feeders. Ridleys leave the northern embayments in the fall, when water temperatures cool (Burke et al. 1991). Morreale et al. (1992) give evidence for directed movements of Kemp's ridleys south, out of northeastern coastal waters, as temperatures drop below 14°C, generally in late October (Morreale, pers. comm.). Keinath et al. (1987) observed sea turtle emigration from the Chesapeake Bay when waters dropped below 18°C in November. High Kemp's ridley mortality during November and December in some years associated with the summer flounder fishery off North Carolina suggest that sea turtles emigrating from northern waters in fall and winter months may concentrate in nearshore and southerly areas influenced by warmer Gulf stream waters (Epperly et al. 1995).

Kemp's ridley population estimates are imprecise due to the inaccessibility of these predominantly pelagic animals. When nesting aggregations at Rancho Nuevo were discovered in 1947, greater than 40,000 adult females were estimated to have nested in one day (Hildebrand 1963). Recent estimates by the sea turtle Expert Working Group suggest that there now may be 1500 adult females (EWG, 1995).

Ridley nest numbers continued to decline until 1987, when less than 750 nests were counted. The subsequent increase in documented nest numbers was not dramatic until 1994, when over 1,500 nests were documented in Mexico. During 1995, over 1,900 nests were observed, and greater than 2000 nests were observed during the summer of 1996. These nest counts far surpass the numbers of nests observed in any year since monitoring was initiated in 1978. However, these data need to be interpreted cautiously due to expanded monitoring since 1989. Expanded beach survey areas were established in 1989, when much of Rancho Nuevo was destroyed by Hurricane Gilbert. Approximately 25 percent of the ridley nests observed each year since 1990 have occurred on the expanded survey beaches adjacent to Rancho Nuevo despite the fact that Rancho Nuevo's beaches have returned to their original conformation (Marquez, pers. comm., 1995). Ridley nests have

always been observed on the beaches north of Rancho Nuevo during the opportunistic aerial surveys frequently conducted during the decade prior to expansion of the survey area. However, significant nesting was not noted. The large number of nests now collected from those beaches may be the result of a northern expansion of the ridley population's nesting beach, or may reflect a previously undocumented group of nests. After 1994, the positive nesting trend is apparent even exclusive of the nests along the expanded survey area.

Fish

Shortnose Sturgeon (*Acipenser brevirostrum*)

The Dec 1998 Final Shortnose Sturgeon Recovery Plan (NMFS, 1998), gives the current, best available information on the distribution and abundance of shortnose sturgeon. South of the Chesapeake Bay, there is inadequate information to estimate the shortnose sturgeon population size in most rivers.

Generally in southern rivers, adult sturgeon remain in estuaries and at the interface of salt and freshwater until late winter, when they move upriver to spawn. Embryos produced tend to remain in areas of irregular bottom, where they appear to seek cover. Juveniles, like adults, occur primarily at the interface between salt and freshwater. Recent observations suggest that salinity levels greater than 7 ppt are harmful (Smith et al., 1992). In the Savannah River, shortnose sturgeon are found over sand/mud substrate in 10-14 m. depths (Hall et al., 1991). Spawning occurs in upstream channels of the Savannah, where the substrate consists of gravel, sand and logs (Hall et al., 1991). Shortnose sturgeon feed on crustaceans, insect larvae, and molluscs (NMFS, 1995).

Although genetic variation within and among shortnose sturgeon occurring in different river systems is not known, life history studies indicate that the shortnose sturgeon populations from different river systems are substantially reproductively isolated (Kynard, 1997) and, therefore, should be considered discrete. Based on the biological and ecological differences, NMFS recognizes 19 distinct population segments of the shortnose sturgeon inhabiting 25 river systems ranging from Saint Johns river in New Brunswick, Canada, to the Saint Johns River, Florida (NMFS, 1998).

Analysis of the Species Likely to be Affected

Of the above listed species occurring in the project area, NMFS believes that Kemp's ridley, loggerhead, and green sea turtles and the shortnose sturgeon are likely to be adversely affected by the proposed action. Leatherback and hawksbill sea turtles may also be adversely affected, but their occurrence in the project area is far less likely.

According to BSEP's biological assessment, Kemp's ridley, green and loggerhead have stranded in the intake canal. There are no records of leatherback or hawksbill strandings in the canal; however because they may possible occur in the action area the proposed action could also adversely affect them.

The Final Shortnose Sturgeon Recovery Plan, (NMFS, 1998), lists the Cape Fear River as having one of 19 distinct population segments. This segment is thought to consist of less than 50 fish. The loss of a single population segment may risk the permanent loss of unique genetic information that is critical to the survival and recovery of the species. Even though the diversion structure was designed to keep large fish and shellfish out of the intake canal and there is no record of shortnose sturgeon being found in the canal, it is still reasonable to expect a shortnose sturgeon could get through a blowout in the screen as do the turtles. The small size of this population segment makes it imperative that NMFS analyze even the small possibility that an activity may have an adverse impact on this segment.

The remainder of the analysis in this biological opinion will focus on the five species of sea turtles and the shortnose sturgeon.

III. Environmental Baseline

Status of the Species Within the Action Area

The five species of sea turtles that occur in the action area are all highly migratory. NMFS believes that no individual members of any of the species are likely to be year-round residents of the action area. Individual animals will make migrations into nearshore waters as well as other areas of the North Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea. Therefore, the range-wide status of the five species, given in section II above, most reflects the species status within the action area.

As noted above, the Final Recovery Plan for The Shortnose Sturgeon, lists the Cape Fear River as a distinct population segment with a population of less than 50 fish (NMFS, 1998). This information, combined with the information in section II above, reflects the species' status within the action area.

Factors Affecting the Species Within the Action Area

As discussed above, however, sea turtles are not strict residents of the action area and may be affected by human activities throughout their migratory range. Therefore, this section will discuss the impacts of Federal actions on sea turtles throughout the western North Atlantic and Gulf of Mexico.

Federally-regulated commercial fishing operations represent the major human source of sea turtle injury and mortality in U.S. waters. Shrimp trawlers in the southeastern U.S. are required to use TEDs, which reduce a trawler's capture rate by 97%. Even so, NMFS estimated that 4100 turtles may be captured annually by shrimp trawling, including 650 leatherbacks that cannot be released through TEDs, 1700 turtles taken in try nets, and 1750 turtles that fail to escape through the TED (NMFS, 1998). Henwood and Stuntz (1987) reported that the mortality rate for trawl-caught turtles ranged between 21% and 38%, although Magnuson *et al.* (1990) suggested Henwood and Stuntz's estimates were very conservative and likely an underestimate of the true mortality rate. The mid-

Atlantic and Northeast fishery for summer flounder, scup, and black sea bass uses otter trawl gear that also captures turtles. Summer flounder trawlers fishing south of Cape Henry, Virginia (south of Oregon Inlet, North Carolina from January 15 to March 15) are required to use TEDs. Participants in this fishery who use a type of trawl known as a flynet, however, are not required to use TEDs, as TEDs for flynets have not been researched and NMFS is collecting further observer information on turtle by catch by flynet vessels. The estimated, observed annual take rates for turtles in this multispecies fishery is 15 loggerheads and 3 leatherbacks, hawksbills, greens, or Kemp's ridley, in combination (NMFS, 1996a). The pelagic fishery for swordfish, tuna, and shark, which is prosecuted over large areas of the northwestern Atlantic and the Gulf of Mexico, including the action area, also has a fairly large by catch of sea turtles. NMFS (1997b) estimated that the longline component of this fishery would annually take, through hooking or entanglement, 690 leatherbacks, 1,541 loggerheads, 46 green, and 23 Kemp's ridley turtles, with a projected mortality rate of 30%. In the driftnet component of the fishery, estimated annual levels of injury or mortality are 40 leatherbacks, 58 loggerheads, 4 Kemp's ridleys, 4 greens, and 2 hawksbills.

Military activities, including vessel operations and ordnance detonation, also affect listed species of sea turtles. U.S. Navy aerial bombing training in the ocean off the southeast U.S. coast, involving drops of live ordnance (500 and 1000-lb bombs) is estimated to injure or kill, annually, 84 loggerheads, 12 leatherbacks, and 12 greens or Kemp's ridley, in combination (NMFS, 1997a). The U.S. Navy will also conduct ship-shock testing for the new SEAWOLF submarine off the Atlantic coast of Florida, using 5 submerged detonations of 10,000 lb explosive charges. This testing is estimated to injure or kill 50 loggerheads, 6 leatherbacks, and 4 hawksbills, greens, or Kemp's ridleys, in combination (NMFS, 1996b). The U.S. Coast Guard's operation of their boats and cutters, meanwhile, is estimated to take no more than one individual turtle of any species per year (NMFS, 1995). Formal consultation on Coast Guard or Navy activities in the Gulf of Mexico has not been conducted.

The construction and maintenance of Federal navigation channels has also been identified as a source of turtle mortality. Hopper dredges, which are frequently used in ocean bar channels and sometimes in harbor channels and offshore borrow areas, move relatively rapidly and can entrain and kill sea turtles, presumably as the drag arm of the moving dredge overtakes the slower moving turtle. Along the Atlantic Coast of the southeastern United States, NMFS estimates that annual, observed injury or mortality of sea turtles from hopper dredging may reach 35 loggerheads, 7 greens, 7 Kemp's ridleys, and 2 hawksbills (NMFS, 1997c). Along the north and west coasts of the Gulf of Mexico, channel maintenance dredging using a hopper dredge may injure or kill 30 loggerhead, 8 green, 14 Kemp's ridley, and 2 hawksbill sea turtles annually (NMFS, 1997d).

Sea turtles entering coastal or inshore areas have been affected by entrainment in the cooling-water systems of electrical generating plants. At the St. Lucie nuclear power plant at Hutchinson Island, Florida, large numbers of green and loggerhead turtles have been captured in the seawater intake canal in the past several years. Annual capture levels from 1994-1997 have ranged from almost 200 to almost 700 green turtles and from about 150 to over 350 loggerheads. Almost all of the turtles are caught and released alive; NMFS estimates the survival rate at 98.5% or greater (NMFS, 1997e).

Other power plants in south Florida, west Florida, and North Carolina have also reported low levels of sea turtle entrainment, but formal consultation on these plants' operations has not been completed.

Sea turtles are vulnerable to blast injury and death from the use of underwater explosives. Klima *et al.* (1988) reported a dramatic elevation in the number of sea turtle strandings along the north Texas coast, coinciding with a large number of explosive removals of offshore oil platforms in the area. Since then, protective measures implemented by NMFS, the Corps of Engineers, and the Minerals Management Service, including required observers at explosive rig-removals, have been effective in minimizing the impacts of explosive rig-removals on sea turtles. From 1987 to 1997, a total of 1013 platform removals took place with NMFS observers present. Sea turtles were observed at 112 of those sites, and two loggerhead turtles were recovered injured after blasting. Those animals were rehabilitated and released. In 1998, one loggerhead has been killed as a result of rig-removal blasting. Although some mortality may occur and go undetected, the overall number of turtles impacted by rig-removal actions has been very low since the adoption of protective measures.

The range of the shortnose sturgeon brings it into direct conflict with human activity. Activities such as commercial and recreational fishing, bridge construction, contaminants, dams, reduction of dissolved oxygen due to industry, dredging activities, reservoir operations, and cooling water intakes at power plants have had significant negative impacts to the species along its whole range.

Direct harvest of shortnose sturgeon is prohibited by the ESA; however, shortnose sturgeon are taken incidentally to commercial and recreational fishing. They are also targeted by poachers (Dadswell 1979; Dovel *et al.* 1992; Collins *et al.* 1996). Collins *et al.* (1996) reported that the shad gillnet fishery accounted for 83% of the shortnose sturgeon takes in the Georgia coastal fishery. In the Saint John's River estuary, shortnose sturgeon are taken incidentally in shad, salmon, striped bass, and alewife fisheries. In most cases the fish are returned to the river unharmed (NMFS, 1998). Moser and Ross (1993), found that captures of shortnose sturgeon in commercial shad nets disrupted spawning migrations in the Cape Fear River, and Weber (1996) reported that these incidental captures caused abandonment of spawning migrations in the Ogeechee River, Georgia.

Bridge construction and demolition projects may interfere with normal shortnose sturgeon migratory movements and disturb sturgeon concentration areas (NMFS, 1998). During bridge construction upstream of sturgeon spawning habitat in the Connecticut River, concerns were raised that fine sediment emanating from the construction site might build up in the downstream spawning site and impair egg survival. In that instance, concerns abated after it was demonstrated that fine sediments are cleanly dislodged from the spawning site during the high spring flood (NMFS, 1998). Bridge demolition may include plans for blasting piers with powerful explosives. Unless appropriate precautions are made to mitigate the potentially harmful effects of shock wave transmission to physostomous (i.e., air-bladder connected to the gut) fish like the shortnose sturgeon, internal damage and/or death may occur (NMFS, 1998).

Contaminants, including toxic metals, polychlorinated aromatic hydrocarbons (PAHs), pesticides,

and polychlorinated biphenyls (PCBs) can have substantial deleterious effects on aquatic life including production of acute lesions, growth retardation, and reproductive impairment (Cooper, 1989; Sindermann, 1994). Ultimately, toxins introduced to the water column become associated with the benthos and can be particularly harmful to benthic organisms like sturgeon. Heavy metals and organochlorine compounds are known to accumulate in fat tissues of sturgeon, but their long term effects are not yet known (NMFS, 1998). Available data suggest that early life stages of fish are more susceptible to environmental and pollutant stress than older life stages (Rosenthal and Alderdice, 1976).

Hydroelectric dams may affect shortnose sturgeon by restricting habitat, altering river flows or temperatures necessary for successful spawning and/or migration, and causing mortalities to fish that become entrained in turbines. In all but one of the rivers supporting sturgeon populations the first dam on the river marks the upstream limit of the shortnose sturgeon population range (Kynard, 1997). An inability to move upstream and use potentially beneficial habitats may restrict population growth (NMFS, 1998). Since sturgeon require adequate river flows and water temperatures for spawning, any alterations that dam operations pose on a river's flow pattern, including increased or decreased discharges, can be detrimental to sturgeon reproductive success (NMFS, 1998).

Maintenance dredging of federal navigational channels can adversely affect or jeopardize shortnose sturgeon populations. In particular, hydraulic dredges can lethally harm sturgeon by entraining them in dredge dragarms and impeller pumps (NMFS, 1998). In addition to direct effects, dredging operations may also impact shortnose sturgeon by destroying benthic feeding areas, disrupting spawning migrations, and filling spawning habitat with resuspended fine sediments. Other dredging methods may also adversely affect sturgeon. Atlantic sturgeon were killed in both hydraulic pipeline and bucket-and-barge operations in the Cape Fear River (NMFS, 1998). Two shortnose sturgeon carcasses were discovered in a dredge spoil near Tullytown, Pennsylvania and apparently killed by a hydraulic pipeline dredge operating in the Delaware River in March 1996 (NMFS, 1998). In early 1998, three shortnose sturgeon were killed by a hydraulic pipeline dredge operating in the Florence to Trenton section of the upper Delaware River (NMFS, 1998).

The COE's operation of reservoirs in major rivers may impact sturgeon by altering natural river flow rate and volume (NMFS, 1998). Unplanned but controlled reservoir releases can diminish or reduce sturgeon spawning success by artificially extending high flow periods during the time when water temperatures reach ideal ranges for spawning (NMFS, 1998).

Shortnose sturgeon are susceptible to impingement on cooling water intake screens. Documented mortalities of sturgeon have occurred in the Delaware, Hudson, Connecticut, Savannah and Santee rivers. Between 1969 and 1979, 39 shortnose sturgeon were impinged at power plants in the Hudson River (Hoff and Klauda, 1979). Approximately 160 shortnose sturgeon were estimated to be impinged on intake screens at the Albany Steam Generating Station between Oct., 1982 and Sept., 1983 (NMFS, 1998). Eight shortnose sturgeon were discovered on the intake trash bars of the Salem Nuclear Generating Station in the Delaware River between June, 1978 and Nov., 1992 (NMFS, 1998). The operation of power plants can have unforeseen and extremely detrimental impacts to

water quality. The St. Stephen Power Plant near Lake Moultrie, South Carolina was shut down for several days in June 1991, when large mats of aquatic vegetation entered the plant's intake canal and clogged the cooling water intake gates. Decomposing plant material in the canal coupled with the turbine shut down triggered a low dissolved oxygen water condition downstream and a subsequent fish kill. The South Carolina Wildlife and Marine Resources Department reported that 20 shortnose sturgeon were killed in the die-off (NMFS, 1998).

IV. Effects Of The Action

This action has caused 80 incidental takes of sea turtles from 1992 through 1996; of these, 7 have been lethal. The breakdown of these takes are: 6 Kemp's ridley (1 dead); 11 green (2 dead); and 64 loggerhead (4 dead). The combined annual statewide sea turtle take for North Carolina for those years was 1,587 (NC Wildlife Resources Commission, 1997). The BSEP's take of sea turtles during this time frame account for 5% of the total annual sea turtle takes in North Carolina, but only .4% of mortalities.

BSEP's incidental take of sea turtles in 1996 was 49. This was the largest take for any year recorded by BSEP. Forty two of these turtles were loggerheads, 4 were Kemp's ridley, and 3 were green. There have never been leatherback nor hawksbill turtles taken at BSEP. From 1988 to 1996 there were never more than 5 lethal takes in any given year, with 5 lethal takes in 1988. The average lethal take from 1986 through 1996, at BSEP, was 2.5 per year. Based on the above numbers, the variability of the species mix in the action area, and possible increases in numbers of sea turtles due to increased conservation programs NMFS believes that the level of live take of turtles in BSEP's intake canal, will not exceed 50 loggerhead, 8 Kemp's ridley, and 5 green turtles per year. NMFS also believes the total lethal take of turtles will not exceed 6 loggerhead, 2 Kemp's ridley, or 3 green turtles per year.

As stated above no leatherback or hawksbill turtles have been taken by BSEP. The North Carolina Wildlife Resources Commission reports only 30 leatherback turtles and no hawksbill turtles have been recorded stranded from 1995 through 1996 in the State of North Carolina. Therefore, it is reasonable to expect the proposed action may take 1 leatherback or 1 hawksbill turtle as a worst case scenario.

The BSEP has no recorded of takings of shortnose sturgeon. Adult shortnose sturgeon in southern rivers forage at the interface of fresh tidal water and saline estuaries and enter the upper reaches of rivers to spawn in early spring (NMFS, 1998). They also have been known to spend time in the estuaries and the sea (NMFS, 1998). The fresh/salt water interface is approximately 12 to 18 miles from the mouth of the intake canal. Moser (1998), has recorded only one individual getting to within 2 miles of the intake canal. It is thought that a young of the year or older sturgeon could not be impinged against the diversion structure and would most likely would not leave the deep part of the river to enter a blowout in the diversion structure (M. Moser, University of North Carolina-Wilmington, personal communication). Therefore, NMFS believes the proposed action would not result in the lethal take of a shortnose sturgeon.

V. Cumulative Effects

Cumulative effects are the effects of future state, local, or private activities that are reasonably certain to occur within the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. Within the action area, major future developments in human activities, that are not part of a Federal action, are anticipated. As discussed in Section III, listed species of turtles migrate throughout their range and may be affected during their life cycles by non-Federal activities outside the action area. The Cape Fear River population of the shortnose sturgeon may be more directly affected by future development in the action area.

Throughout the coastal Southeastern United States, the loss of thousands of acres of wetlands is occurring due to natural subsidence and erosion, as well as reduced sediment input. Impacts caused by residential, commercial, and agricultural developments appear to be the primary causes of wetland loss in North Carolina.

Oil spills from tankers transporting foreign oil, as well as the illegal discharge of oil and tar from vessels discharging bilge water will continue to affect water quality in the Atlantic. Cumulatively, these sources and natural oil seepage contribute most of the oil discharged into the Atlantic Ocean.

Marine debris will likely persist in the action area in spite of MARPOL prohibitions. In Texas and Florida, approximately half of the stranded turtles examined have ingested marine debris (Plotkin and Amos, 1990 and Bolten and Bjorndal, 1991).

Coastal runoff and river discharges carry large volumes of sediment and contaminants from agricultural activities, cities and industries into the Atlantic Ocean. Although the contaminants are not likely to affect the more pelagic waters around the action area, the species of turtles analyzed in this biological opinion travel between nearshore and offshore habitats and may be exposed to these contaminants when they are in the action area.

State-regulated commercial and recreational fishing activities in the Atlantic Ocean take endangered species. These takes are not reported and are unauthorized. It is expected that states will continue to license/permit large vessel and thrill-craft operations which do not fall under the purview of a Federal agency and will issue regulations that will affect fishery activities. NMFS will continue to work with states to develop ESA section 6 agreements and section 10 permits to enhance programs to quantify and mitigate these takes. Increased recreational vessel activity in inshore waters of the coast of North Carolina will likely increase the number of turtles taken by injury or mortality in vessel collisions. Recreational hook-and-line fisheries have been known to lethally take sea turtles, including Kemp's ridleys. In a study conducted by the NMFS Galveston Laboratory between 1993 through 1995, 170 ridleys were reported associated with recreational hook-and-line gear; including 18 dead stranded turtles, 51 rehabilitated turtles, 5 that died during rehabilitation, and 96 that were

released by fishermen (Cannon and Flanagan, 1996). The Sea Turtle Stranding and Salvage Network (STSSN) also receives stranding reports that identify carcass anomalies that may be associated with the recreational fishery (entangled in line or net, fish line protruding, fish hook in mouth or digestive tract, fish line in digestive tract). The reports do not distinguish between commercial or recreational sources of gear, such as hook, net, and line, which may be used in both sectors. Cumulatively, fishery entanglement anomalies are noted in fewer than 4% of the stranded sea turtle carcasses reported between 1990 and 1996, and some carcasses carry more than one anomaly (e.g., fishing line in digestive tract/fishing line protruding from mouth or cloaca), therefore summing these reports may result in some double counting.

State and local activities may have a significant affect on the Cape Fear River shortnose sturgeon population. The Cape Fear River drainage basin is completely contained within the State of North Carolina. Over 1,465,451 people live in the basin within 114 municipalities.

Land uses in the basin are diverse. In addition to the large urban populations, the basin includes one of the most concentrated turkey and hog production regions in the country. Two counties in the basin, Duplin and Sampson, produce more hogs than any other county in the United States. This activity can lead to fecal coliform contamination, via runoff from the production areas.

Approximately 27% of the basin's estuarine waters are use-impaired. This is due to fecal coliform bacteria and low oxygen levels. There has been an increase in the number of shellfish bed closures because of pollution caused primarily by development (CALS NCSU WOP, 1997).

About 35% of the streams in the Cape Fear drainage basin are considered threatened and 18% impaired by pollution (College of Agriculture and Life Science (CALS), NCSU Water Quality Programs (WQP), 1997). Sediment is the major pollutant, but other types of pollution which pose significant threats to water quality include nutrients, oxygen-demanding wastes, and toxic substances (CALS NCSU WQP, 1997). Sediment disrupts spawning migrations by filling spawning habitat with resuspended fine sediment (NMFS, 1998). Oxygen-demanding wastes from agricultural sources can reduce dissolved oxygen levels. Jenkins et al. (1993), found that juvenile shortnose sturgeon experience relatively high mortality (86%) when exposed to dissolved oxygen concentrations of 2.5 mg/l or less. Heavy metals and organochlorines are known to accumulate in fat tissues of sturgeon, but their long-term effects are not yet known (Ruelle and Henry, 1992). Available data suggest that early life stages of fish are more susceptible to environmental pollution stress than older fish (Rosenthal and Alderdice, 1976).

Direct harvest of shortnose sturgeon is prohibited by the ESA. However as previously noted, shortnose sturgeon are taken incidentally in other anadromous fisheries along the east coast and are probably targeted by poachers (NMFS, 1998). Commercial and recreational shad fisheries operating in the Cape Fear River are known to incidentally capture shortnose sturgeon. Moser and Ross (1993), found that captures of shortnose sturgeon in commercial shad nets disrupted spawning migrations in the Cape Fear River.

VI. Conclusion

After reviewing the current status of the affected species of sea turtles and the shortnose sturgeon, the environmental baseline for the action area, and the effects of the action, it is NMFS's biological opinion that the operation of the water intake system of the Brunswick Steam Electric Plant as outlined in the Nuclear Regulatory Commission's Biological Assessment, dated March 9, 1998, is not likely to jeopardize the continued existence of the loggerhead, leatherback, green, hawksbill, or Kemp's ridley sea turtles. This action is also not likely to jeopardize the continued existence of the Cape Fear River shortnose sturgeon population. No critical habitat has been designated for these species in the action area, therefore none will be affected. This conclusion is based on the action's effects on these species being limited to the direct take, through death or injury, of a small number of sub-adult and adult sea turtles per year, and the continued lack of take of any kind of the shortnose sturgeon.

VII. Incidental Take Statement

Section 7 (b)(4) of the ESA requires that when a proposed agency action is found to be consistent with section 7(a)(2) of the ESA and the proposed action may incidentally take individuals of listed species, NMFS will issue a statement that specifies the impact of any incidental taking of endangered or threatened species. It also states that reasonable and prudent measures, and terms and conditions to implement the measures, shall be provided that are necessary to monitor and minimize such impacts. Only incidental taking resulting from the agency action as described in the proposed action of the biological opinion, including incidental takings caused by activities approved by the agency, and that comply with the specified reasonable and prudent measures and terms and conditions, are exempt from the takings prohibition of section 9(a), pursuant to section 7(o) of the ESA.

Section 7(b)(4)(c) of the ESA specifies that in order to provide an incidental take statement for an endangered or threatened species of marine mammal, the taking must be authorized under section 101(a)(5) of the Marine Mammal Protection Act of 1972 (MMPA). No take of endangered whales by the action is anticipated, and no authorization is provided in this incidental take statement.

Section 7(a)(2) of the ESA specifies that each federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such is not likely to jeopardize the continued existence of any endangered or threatened species. With the Cape Fear River shortnose sturgeon population being small (<50 individuals) and listed by NMFS as a distinct population segment with distinct genetic information, it is reasonable to expect that the take of one individual could jeopardize the existence of this population segment. No take of the shortnose sturgeon by the action is anticipated, and no authorization is provided in this incidental take statement. If a shortnose sturgeon is incidentally taken by BSEP, NMFS, Southeast Regional Office must be notified immediately, and the action which took the sturgeon stopped until a method is developed, and approved by NMFS, to insure shortnose sturgeon are not taken.

NMFS has estimated the impact of this action on listed species of sea turtles (see Assessment of Impacts above). Based on this analysis, NMFS anticipates 50 loggerhead sea turtles with 6 being lethal, 5 green sea turtles with 2 being lethal, 8 Kemp's ridley sea turtles with 2 being lethal, and 1 (lethal or live) leatherback or hawksbill sea turtle could be incidentally taken annually (January 1-December 31), as a result of this action.

The following reasonable and prudent measures and terms and conditions are specified as required by 50 CFR 402.14 (i)(1)(ii) and (iv) to monitor and minimize the impact of incidental takings associated with the operation of the water intake system at the BSEP.

1. BSEP shall conduct daily sea turtle patrols to inspect intake trash racks as near to low tide as possible during the period from late April through August. This period coincides with the historical higher-than-average occurrences of sea turtles in the area. The inspection will consist of visual observations of the entire length of the canal from the diversion structure to the plant's intake trash racks. As part of this protocol, visual examination of one-half hour to one hour of the plant's intake and diversion structures are required to note sea turtle surfacing.
2. Plant personnel will inspect the diversion structure each spring to ensure its integrity. The inspection will include a subsurface check by divers.
3. Crews that maintain the diversion structure on a year round basis will also look for signs of sea turtles inside the canal, on the diversion structure, or outside the diversion structure on the river side, while completing their duties. Plant security will report any signs of sea turtles in the canal noticed while on patrol.
4. Once a turtle is sighted, plant environmental personnel will attempt to capture the turtle. Live turtles will be photographed, tagged, and released in the surf at Yaupon Beach, NC. This beach is about 6 miles south of BSEP. Injured sea turtles will be taken to a veterinarian or, if severely injured they are taken to the North Carolina Sea Turtle Coordinator. Dead turtles will be removed from the canal, photographed, and a necropsy will be performed.
5. If any listed species are apparently injured or killed in the intake canal, or the diversion structure or the trash racks, a report, summarizing the incident, must be provided to the NMFS Southeast Regional Office by the following business day.

VIII. Conservation Recommendations

Pursuant to section 7(a)(1) of the ESA, the following conservation recommendations are made to assist BSEP in reducing/eliminating impacts to listed and proposed species and promoting their conservation and recovery.

1. BSEP should conduct inspections of the diversion structure, to ensure the structure's integrity, to include subsurface inspections at least twice during the time between late April through August and one time outside that time period.
2. BSEP should monitor the trash racks, canal and diversion structure for signs of shortnose sturgeon.

3. BSEP should contact the Fisheries Department of the University of North Carolina-Wilmington on at least a yearly basis to determine if shortnose sturgeon have been tracked near the area of the intake canal.
4. BSEP should continue their experimentation with blocker panels. If a successful system is found, BSEP should notify NMFS.

IX. Reinitiation of Consultation

Reinitiation of formal consultation is required if (1) the amount or extent of taking specified in the incidental take statement is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat (when designated) in a manner or to an extent not previously considered, (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion, or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, BSEP must immediately request reinitiation of formal consultation.

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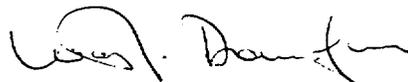
BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT CAROLINA POWER &
LIGHT COMPANY'S BRUNSWICK STEAM ELECTRIC PLANT

Gentlemen:

Carolina Power & Light (CP&L) Company is submitting the enclosed biological assessment, involving the operation of the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, to support an Endangered Species Act (ESA) Section 7 consultation between the NRC and the National Marine Fisheries Service. While the species of sea turtles involved are listed as "endangered" or "threatened" under the ESA of 1973 and as amended, the assessment concludes that operation of BSEP represents no jeopardy to any sea turtle species. No regulatory commitments are made in the enclosed assessment.

Please refer any questions regarding this submittal to Mr. Warren J. Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,



Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

GMT

Enclosure:

Biological Assessment of Impact to Sea Turtles at CP&L's BSEP

B/16

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ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
BIOLOGICAL ASSESSMENT OF IMPACT TO SEA TURTLES AT
CAROLINA POWER & LIGHT COMPANY'S
BRUNSWICK STEAM ELECTRIC PLANT

**Biological Assessment of Impact to Sea Turtles at
Carolina Power & Light Company's
Brunswick Steam Electric Plant**

December 1997

Prepared by

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Summary

This report provides an assessment of the impact of the current operation of Carolina Power & Light Company's two-unit Brunswick Steam Electric Plant (BSEP) on the species of sea turtles that are federally listed as "endangered" or "threatened" under the Endangered Species Act (ESA) of 1973 and as amended. The BSEP began operation in the mid-1970s after being licensed in the early 1970s. BSEP's Final Environmental Statement, which was prepared as part of the licensing process for the facility, was completed in January 1974. The Endangered Species Act was originally enacted on December 28, 1973, and postdated the design, construction, and licensing of the BSEP such that there was no biological assessment or other regulatory review relating to sea turtles at the BSEP. Notwithstanding, BSEP has initiated actions to observe, remove, and release sea turtles from the plant's intake canal in cooperation with the North Carolina Wildlife Resources Commission to mitigate impacts on these species. This report is submitted to the United States Nuclear Regulatory Commission (NRC) to support an ESA Section 7 consultation with the National Marine Fisheries Service (NMFS) and the issuance of a biological opinion with an incidental take statement.

Since the plant began operation in 1975, three species of sea turtles have been observed in the power plant's intake canal. They are the loggerhead, green, and Kemp's ridley sea turtles. When sea turtles enter the intake canal, the majority of them are removed and returned to the ocean alive and unharmed.

This biological assessment demonstrates that reasonable and prudent mitigation measures have been taken at BSEP. It is recommended that the NMFS conclude that BSEP represents no jeopardy to any of the sea turtle species and therefore issue an incidental take statement allowing both lethal and non-lethal "takes" (use as defined in ESA) of sea turtles. While the total number of lethal sea turtle takes has not exceeded four in any year, the variability of the species mix warrants each species having a separate incidental lethal take limit. It is recommended that BSEP's annual incidental lethal take limits be established as; three green sea turtles, three Kemp's ridley sea turtles, and four loggerhead sea turtles. These three species have been collected at the Brunswick Steam Electric Plant and represent historical trends of lethal takes in the plant's intake canal over the past six years. It is further recommended that three leatherback sea turtles and three hawksbill sea turtles be established as an additional component of BSEP's

lethal take. Although these latter two species of sea turtles have never been collected at BSEP, they are known to visit along the North Carolina coast. The basis for this further recommendation relates to the success to date of release of those turtle species that have historically entered the intake canal. Because we have been successful with the Kemp's ridleys, greens, and loggerheads, we would expect similar results with leatherbacks and hawksbills.

CP&L is recommending that no limit be established for non-lethal takes of sea turtles as a result of this biological assessment. The programs in place to discover, remove, and return sea turtles have been demonstrated to be effective and successful.

The populations of sea turtles historically encountered at BSEP or which may be encountered in the future will not be detrimentally affected by the operation of the facility, nor is there jeopardy to the continued existence of the species. The mortalities of turtles experienced at BSEP are conservative and the numbers are minor compared to mortalities from other causes such as natural illnesses, incidental net entanglement in fishing and shrimping gear, and ingestion of debris.

Introduction

The United States Endangered Species Act (ESA or Act) of 1973 (PL93-205) is designed to conserve endangered and threatened species of fish, wildlife, and plants. Section 7 of the Act provides for cooperation among federal agencies to ensure that actions by an agency do not jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of the habitat of the species under consideration. Such cooperation allows for what is referred to as a formal consultation. In the case of the review of sea turtle occurrences near the Brunswick Steam Electric Plant (BSEP), consultation involves the United States Nuclear Regulatory Commission (NRC) (the licensing federal agency for BSEP) and the United States National Marine Fisheries Service (NMFS), which has jurisdiction over sea turtles in waters of the United States. The consultation would not involve the United States Fish and Wildlife Service, which has jurisdiction over sea turtles only when they venture onto land for nesting purposes and during egg incubation. The impact at BSEP, discussed below, does not involve nesting sea turtles.

The purpose of this biological assessment is to determine the impact, if any, of the operation of BSEP on sea turtles that are protected under the ESA of 1973 and as amended. This assessment was prepared to support a consultation between the NRC and the NMFS in accordance with Section 7 of the ESA.

BSEP is located in Brunswick County, North Carolina, near Southport, on the Cape Fear River estuary (Figure 1). BSEP's initial licensing, which occurred during the mid-1970s, did not include a review of sea turtle impacts. Notwithstanding, BSEP initiated a monitoring program in 1976, less than a year after the first of the two units began commercial operation. In 1981, upon renewal of the National Pollutant Discharge Elimination System (NPDES) permit, various plant modifications were initiated including the installation in November 1982 of a permanent diversion structure across the mouth of the plant intake canal to minimize large fish and shellfish from entering the intake canal.

Initially, in the first several years of operation of the BSEP in the 1970s, there were few occurrences of sea turtles entering the plant's intake canal. As the sea turtle populations in the area increased, incidences of turtles in the plant's intake area also increased. To date, three species of sea turtles have been collected in the intake canal at BSEP since it began operation.

These are the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and Kemp's ridley (*Lepidochelys kempii*). The United States Fish and Wildlife Service (USFWS) has listed Kemp's ridley as "endangered" and the loggerhead and the green sea turtles as a "threatened" species under the ESA. Neither the leatherback (*Dermochelys coriacea*) nor the hawksbill (*Eretmochelys imbricata*) turtles, which are also protected under the ESA and are listed as "endangered," has ever been captured at BSEP.

BSEP Site Description and Intake System

BSEP is comprised of two units: Unit No.2 (approximately 821 MWe net) began commercial operation in 1975 and Unit No. 1 (approximately 821 MWe net) began commercial operation in 1977. BSEP operates in a once through cooling mode by withdrawing water from the Cape Fear River through a three-mile-long intake canal. It is this canal, secluded from the main river channel and closed to net fishing by fishermen, that sea turtles occasionally enter. The location of water withdrawal from the river into the intake is about six miles north (upstream) of the mouth of the Cape Fear River. The intake canal is approximately 300 feet wide and 18 feet deep. After passing through the plant's condensers, the water travels through a six-mile-long discharge canal and is then pumped 2,000 feet offshore through subaqueous pipes into the Atlantic Ocean at a depth of approximately 18 feet. The two units operate independently of each other but share a common intake and discharge canal. Approximately 1.5 billion gallons of water pass through the plant per day during normal dual-unit operations. At each of the two units, trash racks and traveling screens collect and remove debris and aquatic organisms prior to the water's entering the plant's cooling water system.

Carolina Power & Light Company was issued a permit to discharge cooling water from BSEP in 1974, under the Clean Water Act's National Pollutant Discharge Elimination System program, and as a condition of the permit, biological monitoring was initiated in 1976 to provide continuous assessment of power plant impact on marine and estuarine organisms in the Cape Fear Estuary. The NPDES permit was re-issued in 1981 and CP&L constructed a permanent diversion structure at the mouth of the intake canal in November 1982 (an earlier experimental temporary structure had been installed and evaluated in 1979) to reduce the number of large fish and shellfish entering the intake canal. This structure (Figure 2) effectively reduces overall

impingement of the larger shellfish and larger fish on the plant's trash racks and traveling screens. The diversion system is V-shaped to increase screen area and to reduce approach-flow velocity, which reduces the impact to marine organisms. It consists of 37 panels of screens made of a copper-nickel alloy with a mesh size of 3/8 x 5/8 inches. The intake canal at the diversion structure varies from a depth of approximately 18 feet at its center (apex) to about four feet at the end bays on either side. Screen panels are designed to release from their frames under high-debris loads to prevent overall damage to the diversion system. Each "screen release" creates an opening of approximately 2 x 4 to 3 x 4 feet—or less than one percent of the diversion structure (Figure 3). The potential exists solely during these screen-release periods for turtles to enter the canal. CP&L provides a maintenance crew for servicing and repairing the diversion structure and gives priority to repairs.

Monitoring studies have shown that the installation of the diversion structure has resulted in a demonstrated high degree of effectiveness in reducing larger fish and shellfish from entering the canal. Sea turtle movement into the intake canal is also blocked except when screens release because of debris loading, extreme tides, or unusual weather conditions.

Sea Turtles Along the North Carolina Coast

The loggerhead is the most common sea turtle in coastal waters of the United States. Along North Carolina waters, the loggerhead is an annual nester, the green is an occasional nester, and the Kemp's ridley nests only rarely along North Carolina beaches. Most egg clutches of the three species consist of about 110 eggs. The loggerhead and the green are circumglobal in distribution and are mainly found in the tropical to mid-latitudes. The Kemp's ridley is primarily a species of the Gulf of Mexico, nesting at a single location near Rancho Nuevo, Mexico, but juveniles are found off the Atlantic seaboard as far north as the state of New York. In terms of overall size of the adults, the loggerhead and green are the largest, while the Kemp's ridley is the smallest of the three. Neither the leatherback (*Dermochelys coriacea*) nor the hawksbill (*Eretmochelys imbricata*) turtles, also protected under the ESA, has ever been captured at BSEP. They are not as common along North Carolina's coasts and sounds.

Sea turtle hatchlings live in the open sea (pelagic) and return as juveniles and subadults to the near-shore areas where they feed. Two of the three species that have been observed at BSEP

(the loggerhead and the Kemp's ridley) are primarily carnivorous in their feeding habits. In the inshore areas, estuaries, and shallows they tend to feed on crustaceans and mollusks and other invertebrates including jellyfish. The adult green sea turtle is herbivorous, feeding primarily on algae, and sea grasses. Information on near-shore movement of sea turtles around electric generating power stations along the east coast of the United States is further detailed by Florida Power & Light Company (1995) and by General Public Utilities Nuclear Inc. (1994), whose assessments have been forwarded to the NRC.

Sea turtles migrate northward from south of Cape Hatteras, North Carolina, in the spring of the year and move southward in the autumn. There are relatively few sightings during the winter months along the inshore waters of North Carolina. It is not likely that sea turtles overwinter by burying themselves in the bottom in inshore waters of North Carolina because the water temperatures are too cold. Various studies have shown that the post-pelagic juvenile greens and loggerheads frequently utilize Atlantic coast estuaries for feeding (Epperly, et al. 1995).

During the period between 1980 and 1994, the North Carolina statewide sea turtle strandings (i.e., the number of dead or debilitated turtles found on coastal beaches and sounds) averaged 196 turtles annually (North Carolina Wildlife Resources Commission 1997). In 1995, the actual reported strandings increased to 347 turtles and in 1996 the number was 502, which was higher than any strandings reported in the previous 15 years (Tables 1, 2, and 3). These increased strandings may have resulted from population increases as a result of successful conservation efforts and more general public awareness and increased "spotters" who report strandings.

Sea Turtles at BSEP

Data on the occurrence of sea turtles at BSEP have been reported to the North Carolina Sea Turtle Coordinator (NCSTC) of the North Carolina Wildlife Resources Commission (NCWRC). Since 1986 there have been 136 sea turtles incidentally collected and removed from the BSEP intake canal (Figure 4). Of this total, 110 turtles were released alive while 26 were removed dead. Of those turtles collected on the plant trash racks, drowning appears to be the cause of death.

Since 1992, of the total sea turtles collected live, the majority were loggerheads (64); nine were green turtles, and eight were Kemp's ridley. Of those that were removed dead since 1992, five were loggerheads, two were greens, and four were Kemp's ridleys (Figure 5).

"Seasonality" is the monthly or seasonal pattern of distribution or occurrence of sea turtles at a particular location. At BSEP, the seasonality of sea turtles is primarily late April through August based on data from the last 11 years. A few turtle "takes" have occurred as late as November and December (Figure 6). However, the peak season is May through July when takes significantly increase over all the other months combined. This observation of seasonality is generally consistent with Epperly, et al. (1995) who reported two peaks: one in April-June for the entire coast of North Carolina, and the other during October-December for waters on the northern coast of North Carolina.

The diversion structure excludes sea turtles from the plant intake canal, except during those times when there are screen releases. Typically, turtles that move into the canal are classified as incidental takes and are thus deemed to have been associated with plant operations. A few turtles that enter the intake canal are considered as non-incidental takes (i.e., they floated into the intake canal dead or dying, of injuries or illnesses that occurred prior to encountering the canal). This determination of incidental versus non-incidental is made by the NCSTC (Boettcher 1997). Since 1992, the number of non-incidental takes has usually been 0 to 2 turtles per year. However, in 1996, there were 10 non-incidental lethal takes.

Most turtles taken at BSEP are immature (juvenile) turtles based on their carapace length as confirmed by the NCSTC. The young turtles move into the Cape Fear estuary, including the area near the intake canal, for feeding and foraging. It has been confirmed that immature turtles use shallow waters for foraging areas (Epperly, et al. 1995), particularly during the months of April through June. During the last 11 years only one of the incidentally taken turtles (loggerheads) has been an adult of reproductive age. None were adult green or Kemp's ridley turtles.

No turtles are known to nest in the area of BSEP intake canal because the habitat is unsuitable for nesting and greater than 99% of those turtles collected are foraging, non-reproducing juveniles.

Sea Turtle Monitoring at BSEP

CP&L has an aggressive program in place to determine the presence of sea turtles in the plant's intake canal. There are procedures utilized to identify the presence of sea turtles at the diversion structure, in the intake canal, and on the plant's trash racks. The protocol, modified and adapted to respond to increasing numbers of turtles in the intake canal, describes the actions taken by CP&L (Appendix 1).

Sea Turtle Patrols

CP&L generally inspects the plant's intake trash racks as conditions warrant on a daily basis as near low tide as possible during the period from late April through August unless inclement weather or other conditions prevent it. This period coincides with historical higher-than-average occurrences of sea turtles in the area. The inspection consists of visual observations of the entire length of the intake canal from the diversion structure to the plant's intake trash racks.

Mandated as part of this protocol to discover sea turtles is visual examination of each trash rack, an adequate observation (one-half-hour to one-hour) of the plant's intake to note any surfacing sea turtles, and adequate observations (one-half-hour to one-hour) at the diversion structure. In addition, personnel inspect the diversion structure each spring to ensure its integrity. The inspection includes a below-the-water-level check by divers as part of the overall preventive maintenance program.

Further, those crews that maintain the diversion structure on a year-round basis are also instructed to report any observations of dead or live turtles inside the canal, on the diversion structure itself, or outside the structure on the river side. Finally, plant security personnel who patrol the plant intake area year-round are instructed to report any sightings of turtles in the canal.

Live Sea Turtle Sightings

CP&L currently has an environmental staff including a marine biologist who coordinates the company's turtle monitoring, capture, and release program. If sea turtle reports or sightings are received by CP&L employees or contractors, the information is reported to an individual on

the plant's environmental staff who then goes to the area of the sighting and observes for a minimum of one hour. When a sighting is confirmed, attempts are made to capture the turtle using nets of different lengths and mesh sizes depending on the location and the size of the turtle. A 200-foot-long net is used for capture near the plant intake and a 300-foot-long net may be used near the diversion structure. Two net sizes are used: a four-inch mesh for capturing small turtles and an eight-inch mesh for larger turtles.

CP&L has a permit, renewed annually, from the North Carolina Wildlife Resources Commission that allows the temporary possession, tagging, and release of live sea turtles, and the transport and burial of dead ones (Appendix 2). Currently, Passive Injectable Transponder (PIT) electronic scanning tags are placed on the body of a live sea turtle in a predetermined location (the front left flipper). Iconel (clip-on) identification tags are placed on each of the two rear flippers. Turtles weighing less than eight pounds are not generally tagged with Iconel tags. Turtle stranding reports with the tag numbers are filed by CP&L with the NCSTC using the Sea Turtle Stranding and Salvage Network Stranding Report Form (Appendix 3). This tagging information is also sent via the NCSTC to the NMFS's Miami Laboratory, which coordinates the overall marine turtle tagging program (Appendix 4). Upon advice from the NCSTC, injured or stressing turtles are taken to a local veterinarian for treatment prior to release. Severely injured turtles are transported to the NCSTC. Live turtles are photographed and released in the surf at the Yaupon Beach area of Oak Island, North Carolina. The release point is located approximately six miles from the BSEP. Since 1992, there have been 76 sea turtles tagged by CP&L personnel at the plant and released. Turtles transported to the sea turtle coordinator are not tagged by CP&L. The residence time of sea turtles in the intake canal before they are captured and removed varies from a few hours to several days depending on the activity level of the turtle.

Turtles that are found dead in the intake canal or on the trash racks are removed, photographed, and a necropsy performed on them (Wolke and George 1981). As advised by the NCSTC, dead sea turtles are buried on the BSEP site. The coordinator is notified prior to burial and a stranding report is also filed. The left front flipper is removed from the dead turtles as part of a program whose purpose is to provide age determination, and DNA analysis for population genetics studies of the turtles. This flipper program is a volunteer program coordinated by the

NCSTC (NCWRC 1995). BSEP is a repository for sea turtle flippers collected by volunteers in Brunswick County, N.C.

Measures to Reduce Sea Turtle Impact

As sea turtle populations have increased along the North Carolina coast and more turtles have entered the plant's intake canal, CP&L has adapted its maintenance programs and patrols to respond to this increase. If debris or other conditions result in higher-than-normal screen releases on the permanent diversion structure, personnel and other resources are dispatched to respond to these conditions.

The primary means to prevent takes of sea turtles at BSEP is the diversion structure at the mouth of the intake canal. The screens on the diversion structure are generally maintained daily during periods of high-debris loading associated with seasonal vegetation regrowth and high rains (usually May through September), or as conditions warrant. The company has dedicated two boats (one 32-foot long and one 18-foot long) with a three-to-four-person crew to maintain the structure. During the inspections, screens are generally pulled from the water and washed. Any damaged screens are repaired. Removable blocker panels are dropped into place in the opening to prevent sea turtles from entering the intake canal during the maintenance. Repairs to a panel of screens usually take 30 minutes to two hours. Generally the entire diversion structure is cleaned each day during periods of high debris loads unless inclement weather or other conditions prevent it. When the maintenance crew identifies screens that are worn but not damaged, they, too, are removed and replaced.

During the "turtle season" (primarily late April through August), environmental personnel make daily patrols of the intake canal unless inclement weather or other conditions prevent it. Patrols are made from the plant intake trash racks to the diversion structure. Nets, crews, and a boat are dedicated to the effort so that live captures can be made as quickly and efficiently as possible. Plant security personnel who patrol the intake area are instructed to be on the lookout for turtles in the canal. Plant environmental personnel are on call 24 hours per day to respond to turtle sightings.

Environmental Stewardship Programs

CP&L has voluntarily taken several initiatives to promote awareness of sea turtles along our beaches. Environmental stewardship has been an important component of CP&L's activities for a number of years, including projects for education about and protection of sea turtles. In 1993-1994, CP&L provided funding to the North Carolina Wildlife Resources Commission's Non-Game Program to place signs at all coastal public beach and boating access areas in CP&L's service area from the South Carolina-North Carolina state line northward to Cedar Island in Carteret County. The signs, entitled "Help Our Shore Birds and Sea Turtles," advised the public to be aware of beach-nesting wildlife (turtles, sea birds, and shore birds), to stay out of closed areas, not to disturb nests or nest markers, and to keep pets on leashes. In addition, *Wildlife in North Carolina* (May 1993), a monthly publication issued by the North Carolina Wildlife Resources Commission, featured an article on the installation of the signs relating to nesting shore birds and sea turtles and noted CP&L's participation in the program (Appendix 5).

In 1992, the company placed a notice in its customer bill inserts about nesting sea turtles and requested the public, during the nesting and hatching season, to shield, redirect or turn off unnecessary lights along the beach that might cause disorientation of egg-laying females and later of the hatchling turtles. This was done under the auspices of the "Take Pride in America" campaign in conjunction with the Raleigh Field Office of the U.S. Fish and Wildlife Service (May/June 1992 CP&L "Energy Notes") (Appendix 6). CP&L plans another educational North Carolina and South Carolina customer bill insert in the spring of 1998 regarding protection of nesting sea turtles and shore birds along our coastal areas. The public will be asked to avoid crowding or harassing turtles or birds that are on beaches and to keep clear of all nests. In 1998, CP&L is also funding the placement of nesting area signs through a program with the NCSTC.

The Brunswick Visitors Center at Southport, N.C., consists of various educational displays. One display, installed in 1995, describes protection of turtles in general as endangered species and includes information on protection of sea turtles at the BSEP plant intake area; and a section of a diversion structure screen panel. The attendance from the public at the center is about 10,000 visitors per year. Attendees include school and college groups, civic organizations, as well as individuals and seasonal tourists.

Assessment of Current BSEP Operations

The permanent diversion structure installed in the fall of 1982 has played a significant role in reducing potential sea turtle passage into the plant intake canal. Generally, sea turtles are not “drawn” into the intake area because they have the ability to swim faster than the flow at the diversion structure unless they are at the screen when there is a screen release. Flow in the canal itself is approximately 0.6 feet/sec at normal design depth, which is well within the swimming ability of the turtle to freely move around in the canal.

The residence time of sea turtles in the intake canal varies from a few hours to several days with the longer time frequently associated with the activity of the turtle itself and the degree of difficulty in capturing it. One of the indirect effects of those turtles that temporarily reside in the canal before removal is limited disruption of the normal migrations up and down the Atlantic coast. However, because the great majority are subadults or juveniles, their breeding or nesting activities are not impaired during their temporary residence in the canal. Because the canal is closed to net fishing, there is no opportunity for the turtles to become entrapped in fishermen’s nets and there is no evidence that turtles are preyed upon while in the canal. A few turtles that are collected and removed have been found with fish hooks in their mouths and flippers. The CP&L turtle capture and removal program has not resulted in any incidences where sea turtles were drowned or injured during the netting and capture attempts. There has been no evidence that turtles sustain scrapes or injuries during the netting and capturing because nylon twine nets are used, which are not abrasive to the turtles. When turtles are captured and detained for measurement and tagging, every attempt is made to limit the holding and handling time to minimize stress to the animal. The estimated “holding” time from capture (removal from the canal) to release at Yaupon Beach on Oak Island is generally less than an hour—unless the turtle is injured, in which case the NCSTC is contacted for advice and possible attention by a veterinarian, or turned over to the NCSTC for attention. Under unusual circumstances, a turtle may be held overnight at the BSEP biology lab before release, primarily if collected late at night or if weather conditions don’t favor a timely and safe release.

Based on the observations of turtles that are removed live from the canal, they are in good condition as judged by overall appearance and activity. CP&L’s on-site environmental staff oversees and coordinates the turtle monitoring, capture, tagging, and release program at

BSEP. The current sea turtle monitoring program at BSEP demonstrates a high success rate of live turtle removal from the canal.

CP&L takes extra steps to have a veterinarian ensure that any injuries are identified and treated before the turtles are returned to the ocean. Examinations performed on all injured and dead sea turtles taken at BSEP indicate injuries from boat collision, boat motors and propellers, and possibly sharks. There may also be human-induced mortalities, primarily from net entanglement (perhaps from fishermen or shrimp trawling in the estuary near the BSEP). The National Research Council estimated that between 5,000 to 50,000 turtles per year are killed by the shrimping industry in United States waters (National Research Council 1990). This report also noted that power plant intake systems represent a minor source of turtle mortality.

The period of increased sea turtle occurrences at BSEP of the past two years coincides with increased public awareness and conservation efforts and presumably overall higher nesting success for turtles. There has been greater statewide awareness regarding reporting of sightings of sea turtles. It is possible that with increased nesting success resulting from public education and conservation efforts, there may be occurrences similar to that of the past two, higher-than-normal years. This is likely to be true when successful hatchlings return as juveniles and subadults from their pelagic foraging offshore. The relationship of large tropical storms and hurricanes along the North Carolina coast during the past two years to increased sea turtle strandings is unknown.

In this evaluation of potential impact to turtles, BSEP operations other than the intake canal have been considered. There are no known impacts to sea turtles from other plant operations: chlorination system, thermal discharge, or lights. The location and design of the discharge system and its six-mile canal isolate it from the intake area where turtles may be found. The plant's chlorination system is used to reduce fouling from marine organisms on plant equipment such as condenser tubes and heat exchangers. The chlorine concentration in the discharge waters meets North Carolina water quality standards of 0 mg/l.

Further, there are no lights that might attract or disorient adult or hatchling sea turtles toward the plant diversion structure. Further, given that the area around the structure is not suitable beach or nesting habitat, no additional impacts are known. While potential nesting sites exist on the beach in the vicinity of the discharge point in the ocean, there are no known impacts to sea turtles.

Cumulative Impact on Operation of BSEP

During the period of 1986-1997, there were 26 turtles that died and they were believed to be causally related to plant operations since they were collected and removed from the BSEP's trash racks. However, 110 turtles have been successfully removed from the plant's intake canal and released alive and unharmed.

Positive results from public education and conservation efforts could increase strandings along the North Carolina coast and increase takes at BSEP. Nevertheless, the populations as a whole of the species of sea turtles historically encountered or apt to be encountered in the future at the BSEP will not be detrimentally affected by the continued operation of the facility.

An annual incidental lethal take of three each is proposed for BSEP for the green and Kemp's ridley sea turtles and four for the loggerhead. The basis for these recommended allowed lethal takes of the three species is the historical record of incidental lethal captures over the last six years as indicated in Figure 5. The data show that despite the higher incidences in the past three years of live incidental takes in the plant's intake canal, there has not been a similar rise in lethal takes, suggesting that the turtle capture and return program in place by CP&L is effective. It is also recommended that three lethal takes each be allowed annually for the leatherback and the hawksbill turtles. While never having been collected at BSEP, these two species are known to be along North Carolina coasts and may move into the plant's intake canal in the future.

CP&L is recommending that no limit for non-lethal takes of sea turtles be established as a result of this biological assessment. The programs in place to discover, remove, and return sea turtles are effective and successful, even during the recent periods of increased numbers of sea turtles in the plant's intake canal.

The current monitoring and patrolling, capture and tagging, and release activities in coordination with the NCSTC are adequate to respond to turtles that enter the canal in the future. No additional mitigation is warranted or necessary to protect the turtle species.

Overall Assessment

The current diversion structure intake design for the BSEP significantly minimizes impact on the sea turtles that travel near the plant intake canal. The plant's diversion structure, initially installed to prevent movement of large fish and large shellfish into the canal, is equally effective in significantly reducing the numbers and kinds of most large organisms that enter the canal, including sea turtles. Coupled with CP&L's aggressive monitoring and patrol program, any turtles that enter the canal have a good chance of being successfully removed and returned to the ocean away from the plant. The company's turtle stewardship programs relating to public education complement efforts by the North Carolina Wildlife Resources Commission to provide increased awareness regarding nesting and hatchling turtles along our coastal areas.

CP&L continues to evaluate enhancements and new processes that may improve the effectiveness of our ability to keep turtles out of the intake canal. One such method being investigated is blocker panels. At the end of July 1997, CP&L installed experimental fixed six-inch-mesh blocker panels on the river side of the intake canal's diversion structure to minimize entry of turtles into the canal. These blocker panels are especially useful during routine maintenance and for replacement of worn or damaged diversion structure screens, including times when screens release. Although unproven for long duration, based on the success of the experimental turtle-blocker panels in the summer of 1997, CP&L is continuing to evaluate long-term use of the blocker panels, including other designs and types of materials.

CP&L believes that a biological opinion from the National Marine Fisheries Service with an incidental take statement is appropriate and that the operation of the BSEP is not a significant risk to the three species of sea turtles that occasionally enter the plant's intake canal. Operation with an allowed annual incidental lethal take for the five sea turtle species poses no significant threat to the sea turtle populations and is unlikely to jeopardize the continued existence of any of the five species. The mortalities of turtles experienced at the BSEP are conservative and the numbers are minor compared to mortalities from other causes such as natural illnesses, incidental net entanglement in fishing and shrimping gear, and ingestion of debris.

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Table 1. Number (and percent in parentheses) of quarterly sea turtle strandings in North Carolina, 1995-1996.

Quarter	1995	1996
	Number of Strandings	Number of Strandings
First	16 (4)	54 (11)
Second	187 (54)	231 (46)
Third	86 (25)	124 (25)
Fourth	58 (17)	93 (18)
Total	347 (100)	502 (100)

Table 2. Number (and percent in parentheses) of sea turtle strandings by coastal North Carolina county, 1995-1996.

County	1995	1996
	Number of Strandings	Number of Strandings
Beaufort	1 (0)	1 (0)
Brunswick	51 (15)	86 (17)
Carteret	58 (17)	187 (37)
Craven	1 (0)	1 (0)
Currituck	32 (9)	15 (3.5)
Dare	152 (44)	162 (32)
Hyde	14 (4)	19 (4)
New Hanover	10 (3)	9 (2)
Onslow	20 (6)	15 (3.5)
Pamlico	1 (0)	0 (0)
Pender	7 (2)	7 (1)
Total	347 (100)	502 (100)

Table 3. Number (and percent in parentheses) of sea turtle species that stranded in North Carolina, 1995-1996.

Species	1995	1996
	Number of Strandings	Number of Strandings
Loggerhead	280 (81)	377 (75)
Green	24 (7)	61 (12)
Leatherback	18 (5)	12 (2)
Kemp's ridley	14 (4)	39 (8)
Unknown	11 (3)	13 (3)
Total	347 (100)	502 (100)

Source: North Carolina Wildlife Resources Commission (N.C. Sea Turtle Coordinator), 1997.

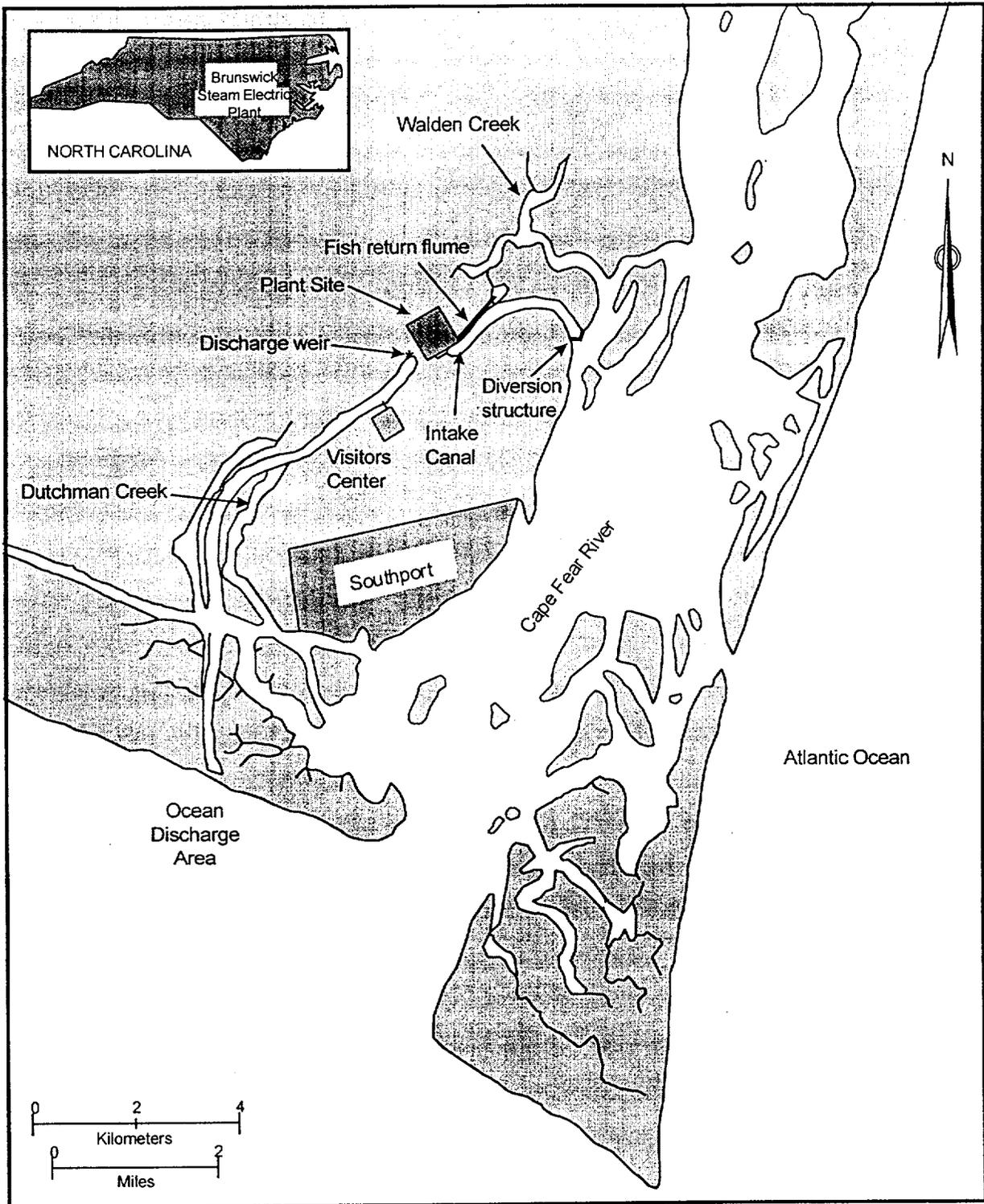


Figure 1. Location of Brunswick Steam Electric Plant near Southport, North Carolina.

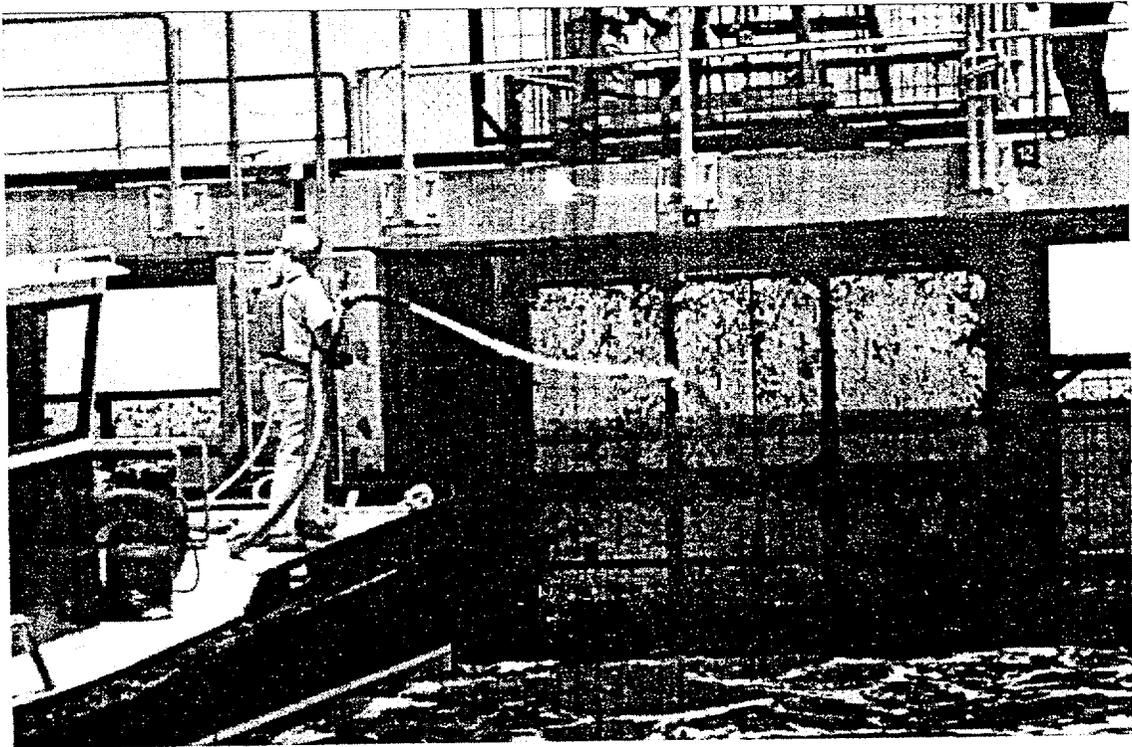


Figure 2. Photograph of fish diversion structure at the mouth of intake canal at Brunswick Steam Electric Plant.

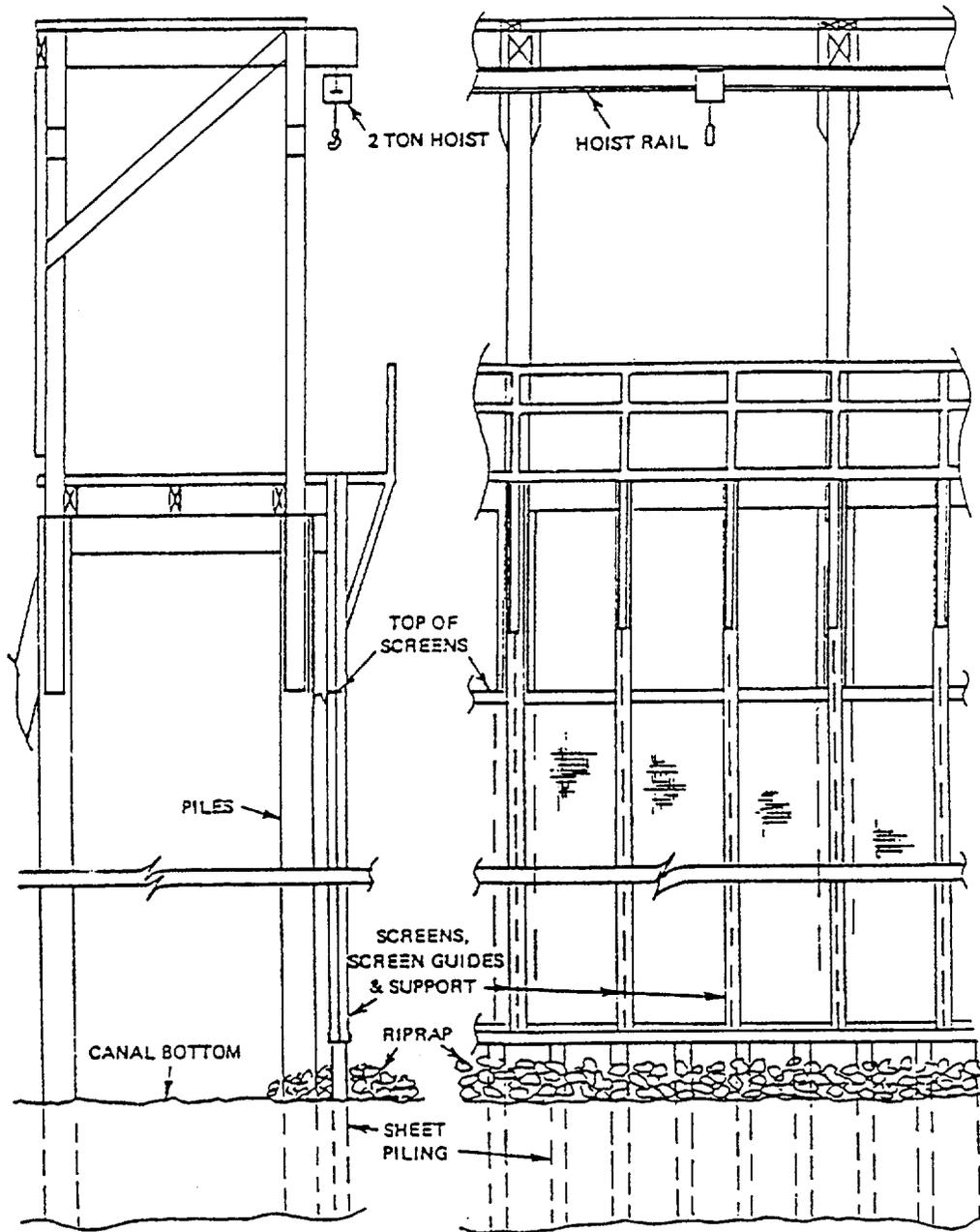


Figure 3. Schematic drawing of the Brunswick Steam Electric Plant permanent diversion structure in the intake canal.

BSEP Sea Turtle Recovery

Incidental Capture

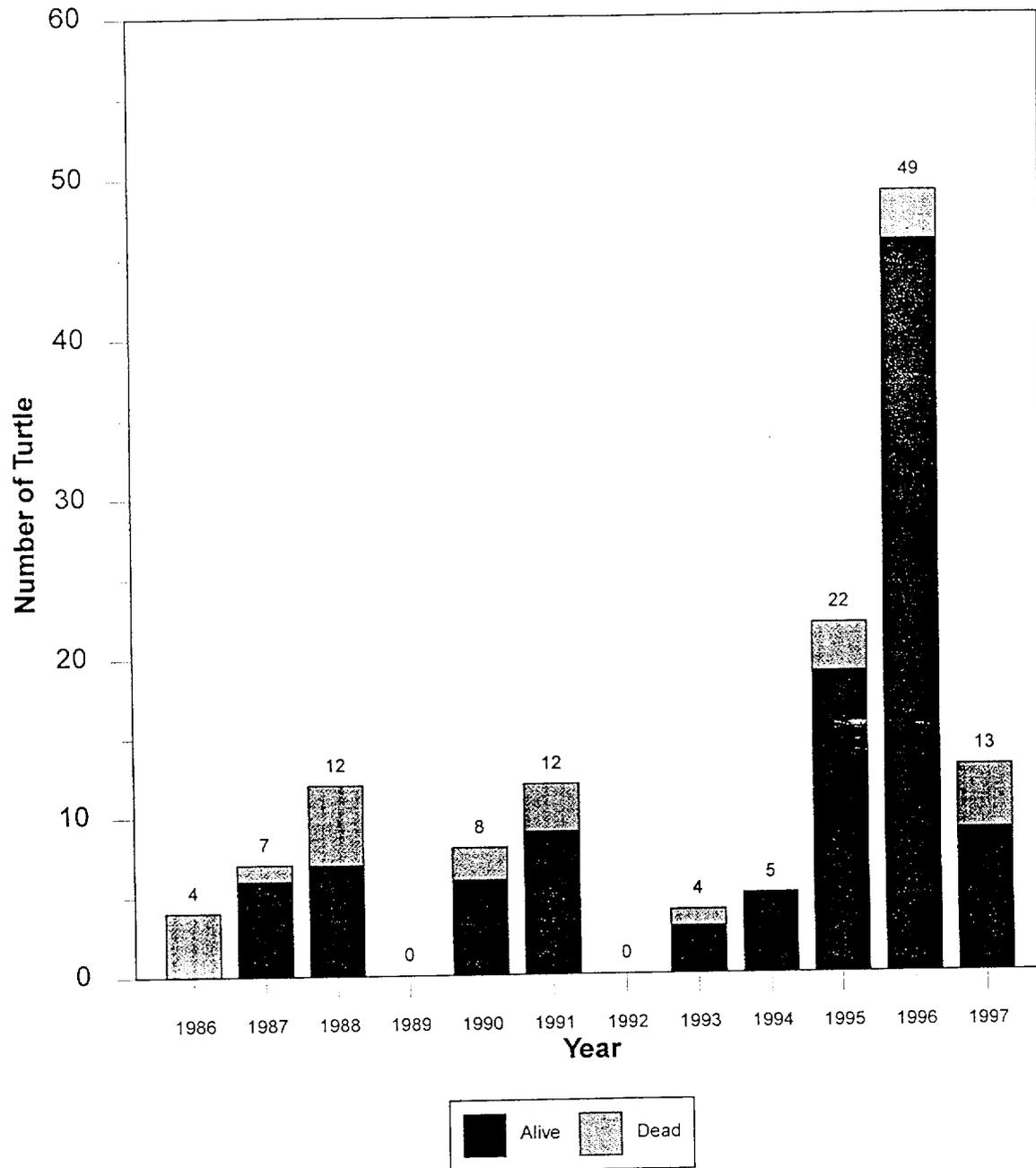


Figure 4. Brunswick Steam Electric Plant sea turtle recovery incidental capture (alive and dead) by year, 1986-1997.

BSEP Sea Turtle Recovery

Incidental Capture by Species

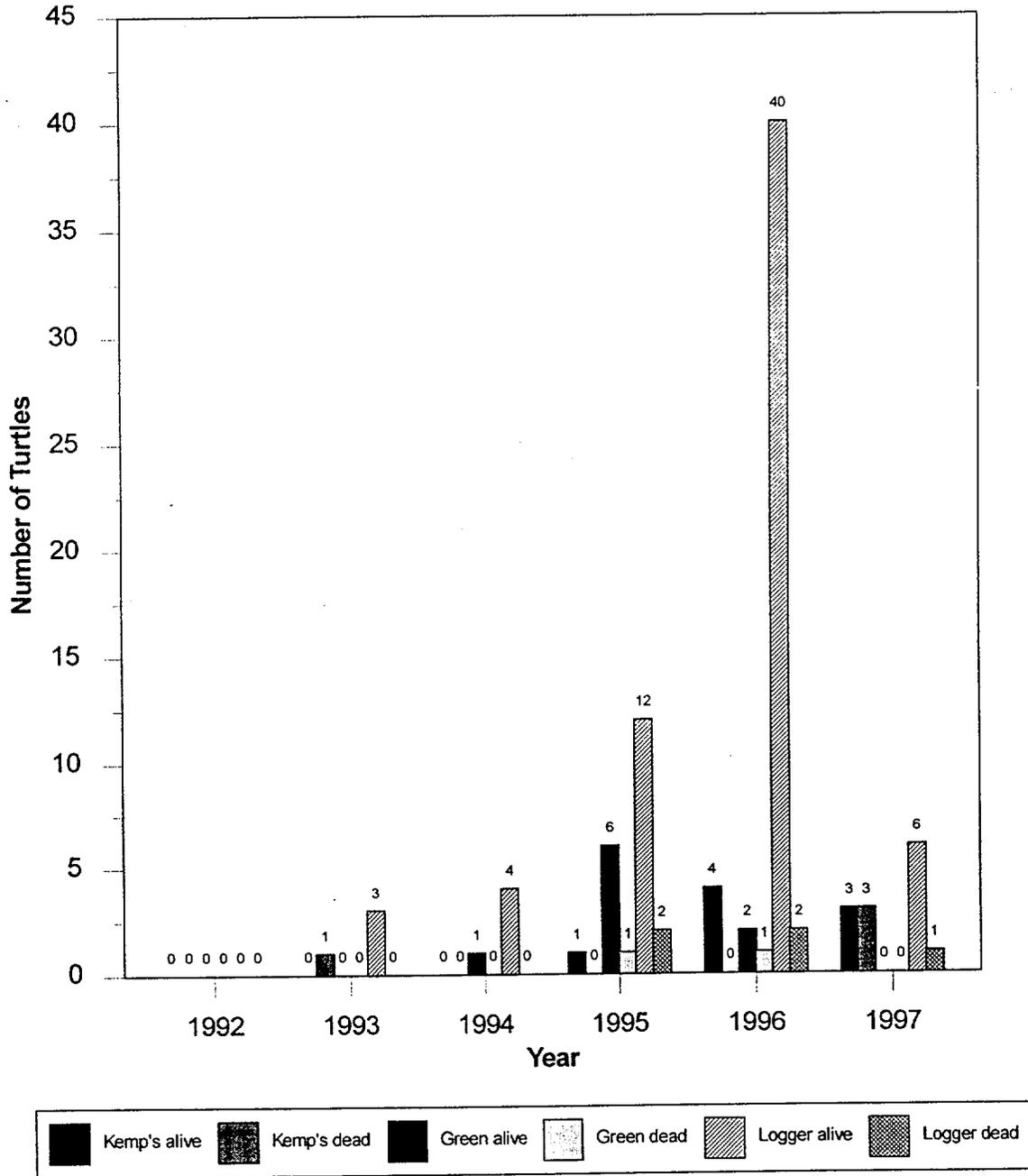


Figure 5. Brunswick Steam Electric Plant sea turtle recovery incidental capture (dead and alive) by species, 1992-1997.

BSEP Sea Turtle Recovery

Incidental by Month

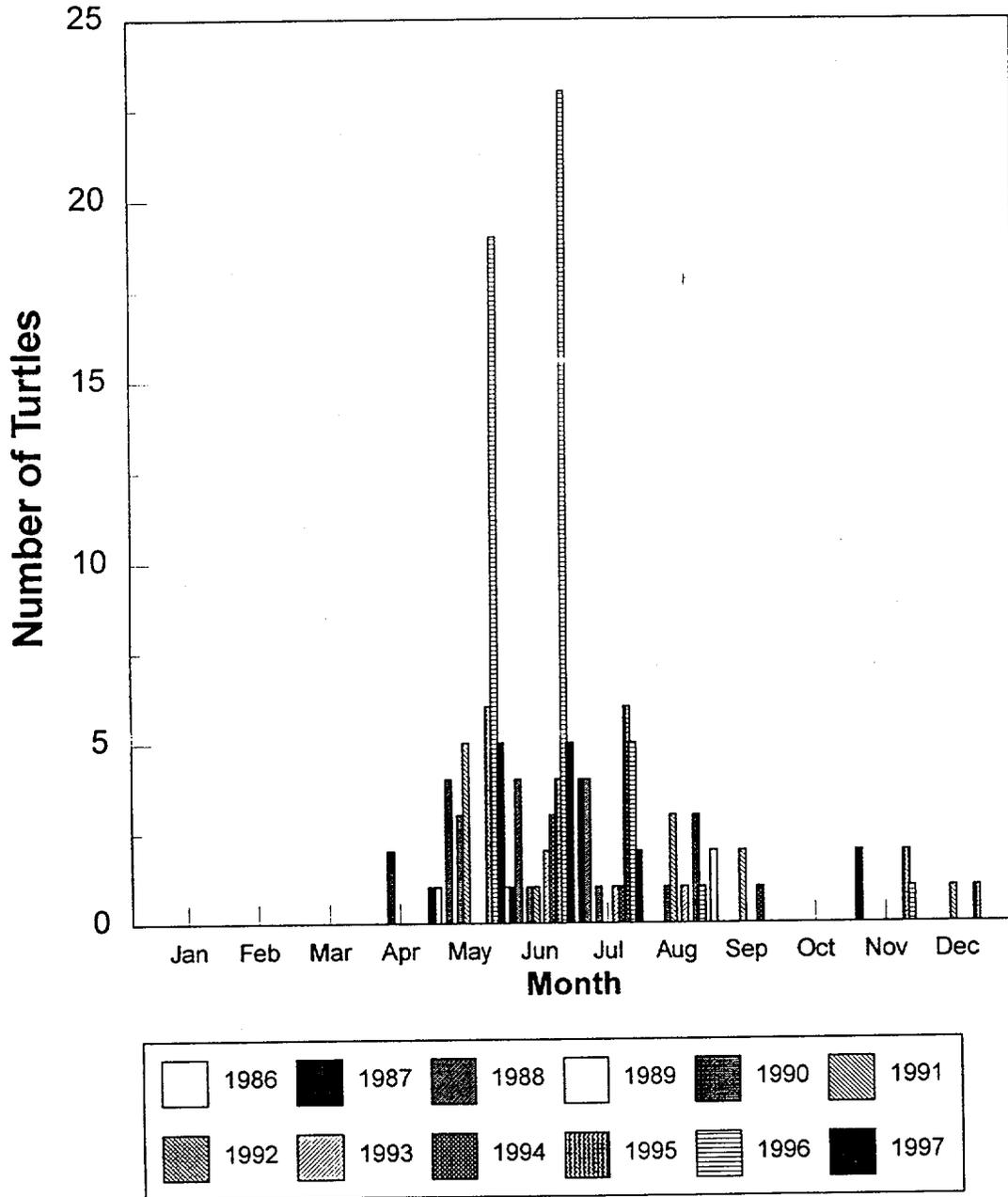


Figure 6. Brunswick Steam Electric Plant sea turtle recovery incidental capture by month and percent of total number capture by month, 1986-1997.

Appendix I. Current Sea turtle sighting and capturing protocol at Brunswick Steam Electric Plant.

Sea Turtle Patrols

As conditions warrant:

Inspect the intake trash racks generally daily during turtle season (late April through August) unless inclement weather or other conditions prevent it. Conduct inspections at or near low tide.

Inspections of the trash racks should include close-up inspection of each rack and 30 to 60 minutes in the area to observe for sea turtle surfacing.

Observe the entire length of the canal while traveling between plant intake screens and the diversion structure.

Observe the diversion structure area for 30 to 60 minutes.

Live Sea Turtle Sightings

If a live sea turtle is observed by other employees, question them about:
the species,
the approximate size, and
the exact location.

If a live sighting is reported, observe the area for one hour.

If a live turtle is observed, set the turtle capture net.

Ensure that you have the Endangered Species Permit in your possession before setting the net.

Use the 200-foot-long net if the turtle is observed near the plant intake structure.

Net should be securely tied to the fence post directly across the canal from the intake structure.

Deploy the net toward the intake structure until the net is completely set.

The net may be left unattended for only a few minutes at a time.

If a turtle becomes tangled in the net, remove it immediately.

Use the 300-foot-long net if the turtle is observed near the diversion structure.

Net should be securely tied to a ladder or cleat on the diversion structure near the area

where the turtle was last observed.

Deploy the net until it is completely set.

Observe the net in the water flow and make adjustments as needed.

The net may be left unattended for only a few minutes at a time.

If a turtle becomes tangled in the net, remove it immediately.

Sea Turtle Tagging

Ensure that you have the Endangered Species Permit in your possession.

All live sea turtles should be tagged except those under eight pounds.

Place a PIT tag just anterior of the second scale from the shoulder on the left front flipper.

Ensure the PIT tag is operational by scanning the tag.

Place an Iconel clip-on tag on each rear flipper on sea turtles that weigh greater than 8 pounds.

Ensure that the Iconel tag is locked into place.

Stranding and Tagging Reports

Complete a sea turtle stranding report for each turtle captured.

Complete a sea turtle tagging report for each tagged turtle.

Give reports to CP&L sea turtle coordinator.

Sea Turtle Release

Ensure that you have the Endangered Species Permit in your possession.

Photograph the turtle.

Transport sea turtle to Yaupon Beach and release it in the surf.

Dead Sea Turtles

Ensure that you have the Endangered Species Permit in your possession.

Remove sea turtle from canal.

Complete the Sea Turtle Stranding Report.

Call Ruth Boettcher, the N.C. Sea Turtle Coordinator at (919) 729-1359.

Photograph the turtle.

Bury the turtle on site near the Land Clearing Inert Debris (LCID) landfill.

Give report to CP&L sea turtle coordinator.

Appendix 2. Carolina Power & Light Company-held endangered species permit.



NORTH CAROLINA WILDLIFE RESOURCES COMMISSION
 512 North Salisbury St.
 Raleigh, NC 27604-1188

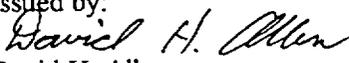
ENDANGERED SPECIES PERMIT		
Date Issued: 1/15/97	Expiration Date: 12/31/97	Permit No.: 97ST16
Issued to: George Baird Environmental Coordinator CP&L, Brunswick Nuclear Power Plant PO Box 10429 Southport, NC 28461	SPECIES: Loggerhead (<i>Caretta caretta</i>), Green (<i>Chelonia mydas</i>), Kemp's Ridley (<i>Lepidochelys kempii</i>), Leatherback (<i>Dermochelys coriacea</i>), Hawksbill (<i>Eretmochelys imbricata</i>). Sea Turtles.	
The above named person and those under his(her) authority is(are) hereby authorized to conduct the following activities with the specified Federally-listed endangered or threatened species as a designated agent of the North Carolina Wildlife Resources Commission:		

AUTHORIZED ACTIVITIES

Possession and Disposition of Stranded Sea Turtles - this permit authorizes the possession and transportation of injured or sick stranded sea turtles for the purpose of rehabilitation and/or release and the possession and transportation of dead stranded sea turtles for the purposes of disposition.

- a. The North Carolina Wildlife Resources Commission's Sea Turtle Stranding Coordinator, Ruth Døettcher (919-729-1359), or Coastal Nongame Project Leader, David H. Allen (919-224-1288), must be contacted within twenty-four hours of *each* stranding event.
- b. A Sea Turtle Stranding Report form must be completed and submitted to the North Carolina Wildlife Resources Commission at the time of each stranding occurrence.

Tagging of Live Sea Turtles Entrained in the Brunswick Nuclear Power Plant's Intake Canal - this permit authorizes the tagging of live sea turtles entrained in the intake canal prior to their release.

Issued by:

 David H. Allen
 Coastal Nongame Project Leader
 (919) 224-1288

cc: Division of Wildlife Enforcement
 Nongame Section Manager

Appendix 3. Turtle stranding and salvage network-stranding report.

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 _____ Stranding Date _____
year month day

Address / Affiliation _____

Area Code / Phone Number _____

Species _____ Turtle Number By Day _____

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

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

State _____ County _____

Location (be specific and include closest town) _____

Latitude _____ Longitude _____

Condition of Turtle (use codes) _____ Final Disposition of Turtle (use codes) _____

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

<p>MEASUREMENTS: CIRCLE UNITS</p> <p>Straight Length _____ cm/in</p> <p>Straight Width _____ cm/in</p> <p>Curved Length _____ cm/in</p> <p>Curved Width _____ cm/in</p> <p>Mark wounds, abnormalities, and tag locations</p>		<p>CODES:</p> <p>SPECIES:</p> <p>CC = Loggerhead CM = Green DC = Leatherback EI = Hawksbill LK = Kemp's ridley UN = Unidentified</p> <p>CONDITION OF TURTLE:</p> <p>0 = Alive 1 = Fresh dead 2 = Moderately decomposed 3 = Severely decomposed 4 = Dried carcass 5 = Skeleton, bones only</p> <p>FINAL DISPOSITION OF TURTLE:</p> <p>1 = Painted, left on beach 2 = Buried: on beach / off beach 3 = Salvaged specimen: all / part 4 = Pulled up on beach or dune 5 = Unpainted, left on beach 6 = Alive, released 7 = Alive, taken to a holding facility</p>
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Appendix 4. National Marine Fisheries Service/Southeast Fisheries Center cooperative marine turtle tagging program report.

NMFS/SEFC COOPERATIVE MARINE TURTLE TAGGING PROGRAM
TAGGING DATA (REHABILITATED, NETTED, OR OTHER RELEASE)

Tag Number(s) _____ Species _____
(list all tag #'s and letter prefix) _____ Date Released _____
407751306F



Describe release location (be specific - include county and lat/long if available):

Describe original stranding or capture location AND stranding or capture date (where did this turtle come from?):

Describe capture method and/or type of gear in use when turtle was caught (if applicable):

Carapace length straight line _____ cm _____ in
Carapace width straight line _____ cm _____ in
Carapace length over curve _____ cm _____ in
Carapace width over curve _____ cm _____ in
Weight _____ kg _____ lbs

Additional remarks or data (use back if necessary): _____

Organization Tagging (include area code/phone number): _____

All completed forms to: NMFS - Miami Lab
Cooperative Marine Turtle Tagging Program
75 Virginia Beach Drive
Miami, FL 33149

Appendix 5. "Wildlife in North Carolina" magazine article on new signs advising protection of shore birds and sea turtles.

CP&L Donates Funds for Signs Coastal Wildlife Nesting Areas Posted with Warnings

Tread with care if you see signs displaying a turtle and a tern posted in coastal areas. The signs are being posted on barrier islands from the Cedar Island area to the South Carolina line and are meant to alert visitors to the presence of wildlife nests on the beach.

"The purpose of these signs is to inform the beach-going public about the need to prevent disturbance in these areas during nesting time for sea turtles and colony-nesting seabirds," said Randy Wilson, section leader for the Wildlife Commission's Non-game and Endangered Wildlife Program. "Walking, playing or driving in these areas can destroy critical nests. Visitors should view wildlife from a distance that doesn't disturb nesters at this critical breeding season."

Carolina Power & Light Company provided \$8,000 in funding for the signs, posts and mounting hardware. "We're pleased to support this project to heighten public awareness of the plight of beach-nesting wildlife in areas of high human development," said Rick Yates, manager of biological assessment for CP&L.

Special care should always be taken when driving anywhere near bird or turtle nests. Not only can vehicles crush nests, but hatchling turtles and some newly hatched seabirds can become trapped in the tire ruts.

Nests of threatened logger-head sea turtles and colony-nesting seabirds are protected by state and federal laws. Violations of these laws may be reported to the Wildlife Commission's toll-free hotline at 1-800-662-7137.



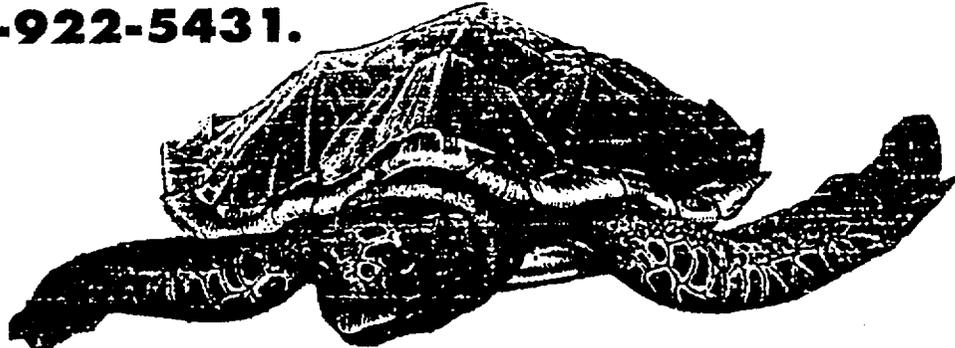
Beach visitors should be aware of signs like this alerting them that beach nesting wildlife is nearby.

Appendix 6. Carolina Power & Light Company customer bill insert on protection of nesting sea turtles.

CP&L Works With Fish & Wildlife Agencies

The Carolinas are home to many endangered creatures including sea turtles. At night they come ashore and lay their eggs in the sand. Lights near the beach can disorient their hatchlings and cause them to wander away. Most die from exposure, dehydration or being run over. You can help just by not disturbing turtles crawling to or from the ocean and by shielding or redirecting lighting away from the beach.

For more information on how you can help, in North Carolina, call **1-800-662-7137**, and in South Carolina call **1-800-922-5431**.





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

July 6, 1999

MEMORANDUM TO: File

FROM: Allen G. Hansen, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

A handwritten signature in black ink, appearing to read "Allen G. Hansen", written over the "FROM:" field.

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 -BIOLOGICAL
OPINION RELATED TO EFFECTS OF PLANT OPERATION ON SEA
TURTLES AND STURGEON (TAC NO. M99318)

The Biological Opinion dated April 30, 1999, prepared by the National Marine Fisheries Service (NMFS) related to the potential effects of the use of the cooling water intake system at the Brunswick Steam Electric Plant, Units 1 and 2, on the local sea turtle and sturgeon population was issued to the Nuclear Regulatory Commission (NRC). This document was prepared in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1521 et seq.).

NMFS stipulated that this Opinion could only be implemented by Brunswick if the terms and conditions of the Opinion were enforceable by NRC. The staff has determined that the licensee should request a change to the Brunswick licenses to add a condition which references the Opinion terms and conditions so that these will be enforceable. When the application is received, new TAC numbers will be opened and the request processed. Action on TAC No. M99318 is complete.

Docket Nos. 50-325
and 50-324

Handwritten initials in black ink, possibly "B/17", located in the bottom right corner of the page.

8/4/97

From: David Trimble -NRR
To: WNP5.CMC1 - Claudia Craig -NRR
Subject: CONSULTATION RE:TURTLES (ENDANGERED SPECIES)

BRUNSWICK, UNITS 1 AND 2
DOCKET NOS. 50-325 AND 50-324

50-324
325

Claudia,

I've opened TAC #M99318 to capture staff hours expended on the subject consultation process.

A copy of this note will be forwarded to Document Control for entry into the Brunswick docket file. This will provide an accession number for the WISP system.

Dave

>>> Claudia Craig 08/01/97 01:32pm >>>

Dave - Sorry to keep bugging you, but would you please open up a TAC to cover our turtle activities: "Consultation process under Endangered Species Act" so we can charge time to it for the trip and any subsequent work we'll need to do. Thanks.

CC: WNP5.KXC1

DF X2/0

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CF ADOCK 05000324
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B/18