NRC FORM 464 Part I (6-1998) | U.S. NUCLEAR REGULATORY COMMISSION

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

FOIA/PA	RESPONSE NUMBER
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 * $

* See comments for details

☐ You will be billed by NRC for the amount listed.

☐ You will receive a refund for the amount listed.

☐ None. Minimum fee threshold not met.

☑ Fees waived.

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 Carol Ann Reed

FOIA No. 2000-0103

APPENDIX A
RECORDS ALREADY AVAILABLE IN THE PDR

NO.	DATE	ACCESSION NUMBER	DESCRIPTION/(PAGE COUNT)
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.

FOIA No. 2000-0103

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

NO.	DATE	DESCRIPTION/(PAGE COUNT)
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 *)

NO.	DATE	DESCRIPTION/(PAGE COUNT)
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 & Atmosperic 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 *)

NO.	DATE	DESCRIPTION/(PAGE COUNT)
19.	6/3/98	E-mail to T. Essig, NRC from J. Wilson, NRC, Re: Ltr to NMFS, requesting reinitiation 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).

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

SEPTEMBER 1998

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 is $0.08 per page, except for oversized records and engineering drawings which are $0.15 per page for 11" x 17" full size. Over 11" x 17" is $1.50 per page. NOTE: Pages greater than legal size, 8 ½" x 14" but smaller than or equal to 11" x 17", shall be reduced to legal size and reproduced for $0.08 per page, unless the order specifically requests full size reproduction.

   A self-service copier is provided in the reading room at a charge of $0.08 per page.

2. Microform to microform is $0.75 per microfiche or aperture card.

3. Microform to paper is $0.08 per page for pages on microfiche and $5.00 for a full-sized print or $3.00 for a reduced 18" x 24" sized print of a drawing on an aperture card.

4. Orders completed for mailing or for a special delivery service will have an additional fee for the actual mailing, shipping, or delivery service rate. Unless a user requests special packing materials, there is no additional charge by the contractor for wrapping materials and handling.

5. At a person's request, the reproduction contractor will transmit by facsimile. The rate for local telephone numbers is $0.30 per page and the rate for long distance numbers is $0.50 per page. The rate for long distance outside the continental U.S. is $1.50 per page.

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

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8910190107 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 51563-317 51563-320
Size: 4pp.

Document Type: External correspondence Issued: 880810
Desc/: Instructs util to implement procedures to reduce mortality of impinged
Title: marine turtles.Util should also statistically study turtle impingement
: correlation w/factors which may help predict when impingement most
: likely.
Authors: CATTANEO,L.T. New Jersey, State of

Recipients: SHISSIAS,J.A. Public Service Electric & Gas Co. of New Jersey

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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 S 880810 Package: 8910190107 #
PDR ADOCK 05000311 S 880810

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
V 0 <Replace0

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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8809120236 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 46813-286 46813-293
Size: 8pp.

Document Type: Incoming Correspondence Issued: 880819
Desc/: Requests that NRC reinitiate formal Section 7 consultation on Unit 1
Title: to include effect of impingements of endangered or threatened marine
: species.
:
Authors: CRESTIN,D.C. Commerce, Dept. of, National Oceanic & Atmospheric A

Recipients: FISCHER,D.C. NRC - No Detailed Affiliation Given (Post 750119)

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 880819 Package: 8809120236 #
PDR ADOCK 05000311 P 880819

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<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8910170268 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 51532-300 51532-300
Size: 1p.

Document Type: External correspondence Issued: 880908
Desc/: Responds to 880810 ltr discussing recommended interim measures to
Title: reduce mortality of sea turtles at water intake.
:
:
Authors: PRESTON,B.A. Public Service Electric & Gas Co. of New Jersey

Recipients: CATTANEO,L.T. New Jersey, State of

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-E88385

File Locations: PDR ADOCK 05000272 P 880908 Package: 8910170268 #
PDR ADOCK 05000311 P 880908

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<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8809210159 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 46920-304 46920-305
Size: 2pp.

Document Type: Incoming Correspondence Issued: 880908
Desc/: Requests NRC approval for util to prepare biological assessment re
Title: reinitiation of Endangered Species Act,Section 7 pertaining to sea
: turtle occurrences in circulating water intake at facility.
:
Authors: PRESTON,B.A. Public Service Electric & Gas Co. of New Jersey

Recipients: STONE,J. NRC - No Detailed Affiliation Given (Post 750119)

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-E88386

File Locations: PDR ADOCK 05000272 P 880908 Package: 8809210159 #
PDR ADOCK 05000311 P 880908

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Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8811020316 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 47409-094 47409-096
Size: 3pp.

Document Type: Incoming Correspondence Issued: 881020
Desc/: Forwards tenative outline for biological assessment of sea turtle
Title: occurrences & operational impacts at plant,per 880920 request.
:
:
Authors: MILTENBERGER,S. 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 NLR-E88466

File Locations: PDR ADOCK 05000272 P 881020 Package: 8811020316 #
PDR ADOCK 05000311 P 881020

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
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<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== **TCON112** ========== Accession Number - **8812060222** ====== Start ==== End ===
Availability: **PDR** Format: * Microfilm Address: **47745-009 47745-013**
Size: **5pp.**

Document Type: **Meeting minutes** Issued: **881201**
Desc/: **Summary of 881122 meeting w/util in Rockville,MD re preparation of**
Title: **biological assessment of sea turtle occurrences at plant.Agenda encl.**
:
:
Authors: **STONE,J.C.** **Project Directorate I-2 (NRR, Post 870411)**

Recipients: * **Project Directorate I-2 (NRR, Post 870411)**

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** **881201** Package: **8812060222 #**
PDR ADOCK 05000311 P **881201**

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<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8812210025 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 47881-157 47881-160
Size: 4pp.

Document Type: Outgoing correspondence Issued: 881214
Desc/: Approves 881022 outline of biological assessment re sea turtles,subj
Title: to including description of trash bar cleaning process & details of
: operational aspects to minimize capture of sea turtles.
:
Authors: STONE,J.C. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 69356
Internal Tracking # TAC 69357

File Locations: PDR ADOCK 05000272 P 881214 Package: 8812210025 #
PDR ADOCK 05000311 P 881214

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

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8901100399 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 48123-086 48123-089
Size: 2pp.

Document Type: Outgoing correspondence Issued: 890103
Desc/: Advises that util designated party responsible for preparation of
Title: biological assessment of sea turtle occurrences at facilities,per
: 50CFR402.08.Util anticipates preparing assessment approx 12 wks from
: approval date.
Authors: BUTLER,W.R. Project Directorate I-2 (NRR, Post 870411)

Recipients: CRESTIN,D.C. Interior, Dept. of, Fish & Wildlife Service

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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 69356
Internal Tracking # TAC 69357

File Locations: PDR ADOCK 05000272 P 890103 Package: 8901100399 #
PDR ADOCK 05000311 P 890103

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Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8907180328 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 50572-174 50572-269
Size: 3pp.

Document Type: Incoming Correspondence Issued: 890712
Desc/: Forwards "Assessment of Impacts of Salem & Hope Creek Generating
Title: Stations on Kemp Ridley (Lepidochelys Kempi) & Loggerhead (Caretta
: Caretta) Sea Turtles." Rept incorporates items outlined in 881214 ltr
: & NRC suggestions.
Authors: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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

Dockets: 05000000 50-000 Generic Docket
05000272 50-272 Salem Nuclear Generating Station, Unit 1,Public Servi
Other Related Number NLR-N89130

File Locations: PDR ADOCK 05000272 P 890712 Package: 8907180328 *
PDR ADOCK 05000311 P 890712

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

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9101100193 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 56310-254 56310-256
Size: 3pp.

Document Type: Outgoing correspondence Issued: 910102
Desc/: Ack receipt of info provided during 900917 drop-in visit at Region
Title: I.Summary of discussion encl.
:
:
Authors: BLOUGH,A.R. Region 1 (RI, Post 820201)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 910102 Package: 9101100193 #
PDR ADOCK 05000311 P 910102

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
V 0 <Replace0

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9101090403 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 56363-207 56363-234
Size: 28pp.

Document Type: Incoming Correspondence Issued: 910102
Desc/: Reviews biological assessment of impacts of facilities on Kemp ridley
Title: & loggerhead sea turtles.Plant operation unlikely to jeopardize
: endangered or threatened species. Recommendation contained in encl
: biological opinion.
Authors: FOX,W.W. Commerce, Dept. of, National Oceanic & Atmospheric A

Recipients: VARGA,S.A. Division of Reactor Projects - I/II (NRR, Post 87

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 910102 Package: 9101090403 #
PDR ADOCK 05000311 P 910102

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
==== TCON112 ========== Accession Number - 9103210193 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 57179-302 57179-304
Size: 3pp.

Document Type: Incoming Correspondence Issued: 910311
Desc/: Requests that listed changes be made to Incidental Take Statement
Title: contained in Endangered Species Act,Section 7, consultation biological
: opinion.Frequency of trash bar cleaning should be changed to once per
: day.
Authors: PRESTON,B.A. 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 NLR-E91070

File Locations: PDR ADOCK 05000272 P 910311 Package: 9103210193 #
PDR ADOCK 05000311 P 910311

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9104190381 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 57451-273 57451-303
Size: 31pp.

Document Type: Outgoing correspondence Issued: 910411
Desc/: Forwards biological opinion issued by Natl Marine Fisheries Svc of
Title: Dept of Commerce on 910102.
:
:
Authors: BUTLER,W.R. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 79361
Internal Tracking # TAC 79362

File Locations: PDR ADOCK 05000272 P 910411 Package: 9104190381 #
PDR ADOCK 05000311 P 910411

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

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9105090302 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 57702-129 57702-133
Size: 5pp.

Document Type: Outgoing correspondence Issued: 910430
Desc/: Ack receipt of util 910102 request to modify incidental take
Title: statement.NRC concurs w/proposed changes & forwards list of requested
: changes for review.
:
Authors: VARGA,S.A. Division of Reactor Projects - I/II (NRR, Post 87041

Recipients: FOX,W.W. Commerce, Dept. of, National Marine Fisheries Ser

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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 910430 Package: 9105090302 #
PDR ADOCK 05000311 P 910430

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9106110239 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 58098-169 58098-171
Size: 3pp.

Document Type: Incoming Correspondence Issued: 910530
Desc/: Concurs w/request to amend incidental take statement, including
Title: requirements for reporting take of endangered & threatened
: species.Revised incidental take statements & incidental take reporting
: form encl.
Authors: FOX,W.W. Commerce, Dept. of, National Oceanic & Atmospheric A

Recipients: VARGA,S.A. Division of Reactor Projects - I/II (NRR, Post 87

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 910530 Package: 9106110239 #
PDR ADOCK 05000311 P 910530

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
V 0 <Replace0

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9208190120 ====== Start ==== End ===
Availability: CF Format: * Microfilm Address: 71425-013 71425-033
Size: 21pp.

Document Type: Incoming Correspondence Issued: 920804
Desc/: Forwards biological opinion per Section 7, "Consultation" of
Title: Endangered Species Act concluding,that due to success of monitoring
: program to fulfill incidental take requirements, continued plant
: operation will not jeopardize sea turtles.
Authors: FOX,W.W. Commerce, Dept. of, National Oceanic & Atmospheric A

Recipients: VARGA,S.A. Division of Reactor Projects - I/II (NRR, Post 87

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: CF ADOCK 05000272 920804 Package: 9208190120 #
CF ADOCK 05000311 920804

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9211250133 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 64004-360 64004-361
Size: 2pp.

Document Type: Incoming Correspondence Issued: 921120
Desc/: Submits comments on revised Section 7, "Consultation, Biological
Title: Opinion," prepared by Natl Marine Fisheries Svc & issued to util by
: NRC on 920825.
:
Authors: MILTENBERGER,S. 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 NLR-E92334

File Locations: PDR ADOCK 05000272 P 921120 Package: 9211250133 #
PDR ADOCK 05000311 P 921120

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

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9107010076 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 58257-001 58257-007
Size: 2pp

Document Type: Outgoing correspondence Issued: 910619
Desc/: Discusses 910102 ltr requesting mod of incidental take statement
Title: contained in biological opinion of impacts of operations of
: facilities.
:
Authors: STONE,J.C. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 80549
Internal Tracking # TAC 80550

File Locations: PDR ADOCK 05000272 P 910619 Package: 9107010076 #
PDR ADOCK 05000311 P 910619

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

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9302230116 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 64914-356 64914-360
Size: 5pp.

Document Type: Outgoing correspondence Issued: 930218
Desc/: Responds to comments on revised section 7 consultation, biological
Title: opinion.
:
:
Authors: MILLER,C.L. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 M85124
Internal Tracking # TAC M85125

File Locations: PDR ADOCK 05000272 P 930218 Package: 9302230116 #
PDR ADOCK 05000311 P 930218

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

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9305250372 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 75038-302 75038-323
Size: 22pp.

Document Type: Incoming Correspondence Issued: 930514
Desc/: Forwards biological opinion reinitiates consultation w/NRC under
Title: Section 7(a) of endangered species act re Salem & Hope Creek Nuclear
: Generating Stations in Lower Alloways Creek Township,Salem County,NJ.
:
Authors: FOSTER,N. Commerce, Dept. of, National Oceanic & Atmospheric A

Recipients: MILLER,C.L. Project Directorate I-2 (NRR, Post 870411)

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 930514 Package: 9305250372 #
PDR ADOCK 05000311 P 930514

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

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9306100380 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 75319-119 75319-145
Size: 3pp.

Document Type: Outgoing correspondence Issued: 930602
Desc/: Informs that because there have been no documented sea turtle
Title: takes,monitoring beyond normal cleaning is no longer
: required.Biological opinion issued by National Marine Fisheries Svc of
: Dept of Commerce dtd 930514 encl.
Authors: STONE,J.C. Project Directorate I-2 (NRR, Post 870411)
EMBEK,S. Project Directorate I-2 (NRR, Post 870411)
Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 M86410
Internal Tracking # TAC M86411

File Locations: PDR ADOCK 05000272 P 930602 Package: 9306100380 #
PDR ADOCK 05000311 P 930602

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 9209010217 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 62921-279 62921-303
Size: 4PP.

Document Type: Outgoing correspondence Issued: 920825
Desc/: Forwards Biological Opinion issued by Natl Marine Fisheries Svc on
Title: 920804,for review.Requests that util propose changes to environ
: protection plan,app B of plant licenses as necessary to implement new
: Biological Opinion.
Authors: MILLER,C.L. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 M84255
Internal Tracking # TAC M84256

File Locations: PDR ADOCK 05000272 P 920825 Package: 9209010217 #
PDR ADOCK 05000311 P 920825

Use HOME/TAB To View Additional Information, ENTER To View Text, ESCape To Exit.
0 <Replace0

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 7911140102 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 01325-314 01325-315
Size: 2pp.

Document Type: Outgoing correspondence Issued: 791031
Desc/: Requests formal consultation re effects of facility on endangered
Title: shortnose sturgeon of DE River & estuary.
:
:
Authors: REGAN,W.H. Assistant Director for Environmental Projects

Recipients: GORDON,W. Commerce, Dept. of, National Oceanic & Atmospheri

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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 791031 Package: 7911140102 #
PDR ADOCK 05000311 A 791031

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8001170395 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 01762-264 01762-265
Size: 2pp.

Document Type: Incoming Correspondence Issued: 800109
Desc/: Responds to NRC 791031 ltr.Reflects agreements reached at 800107
Title: meeting re monitoring shortnose sturgeon.EPA joins in consultation
: w/NRC prior to agency action w/Natl Marine Fisheries Svc.
:
Authors: SANCHEZ-MORALES Environmental Protection Agency

Recipients: REGAN,W.H. Assistant Director for Environmental Projects

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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 800109 Package: 8001170395 #
PDR ADOCK 05000311 A 800109

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 8112030620 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 11073-344 11073-347
Size: 4pp.

Document Type: Outgoing correspondence Issued: 811117
Desc/: Forwards questions re endangered & threatened species of sea turtles
Title: collected at station.Response requested within 30 days.
:
:
Authors: VARGA,S.A. Operating Reactors Branch 1

Recipients: SCHNEIDER,F.W. Public Service Electric & Gas Co. of New Jersey

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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 811117 Package: 8112030620 #
PDR ADOCK 05000311 P 811117

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON112 ========== Accession Number - 7911140093 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 01332-015 01332-016
Size: 2pp.

Document Type: Outgoing correspondence Issued: 791031
Desc/: Notifies that NRC has requested input from Natl Marine Fisheries Svc
Title: re impact of facilities on endangered shortnose sturgeon.Joint
: consultation w/EPA may be advisable.
:
Authors: REGAN,W.H. Assistant Director for Environmental Projects

Recipients: MORALES-SANCHEZ Environmental Protection Agency

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 791031 Package: 7911140093 #
PDR ADOCK 05000311 A 791031

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON54 ========== Accession Number - 8809230031 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: 46945-293 46945-295
Size: 3pp.

Document Type: Outgoing correspondence Issued: 880920
Desc/: Requests proposed schedule for preparation of biological assessment re
Title: increase in number of sea turtles impringed on trash bars,in response
: to 880908 ltr per Section 402.16 of Endangered Species Act,Interagency
: Cooperation regulation.
Authors: STONE,J.C. Project Directorate I-2 (NRR, Post 870411)

Recipients: MILTENBERGER,S. Public Service Electric & Gas Co. of New Jersey

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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 880920 Package: 8809230031 #
PDR ADOCK 05000311 P 880920

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 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

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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

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Count: *0 <Replace>

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 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

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Count: *0 <Replace>

<<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 HDQ42 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 <Replace>

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 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

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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 <Replace>

<<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

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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.
Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== 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 Fisherie s 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 *
PDR ADOCK 05000311 P 970801

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 - 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 Servic

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 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

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Count: *0 <Replace>

<<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 990503 Package: 9905120021 A
PDR ADOCK 05000311 Q 990503

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
==== TCON66 ========== Accession Number - 9904280024 ====== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A7948-014 A7948-023
Size: 10pp.

Document Type: NRC Information Notice Issued: 990429
Desc/: NRC Info Notice 99-013, "Insights From NRC Insps of Low-&
Title: Medium-Voltage Circuit Breaker Maint Programs."
:
:
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-99-013
Internal Tracking # IEIN-98-038

File Locations: PDR I&E * NOTICE99-013 990429 Package: 9904280024 #
PDR ADOCK 05000003 Q 990429

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
==== TCON66 ========== 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 Servic

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 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
==== TCON66 ========== 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

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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

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Count: *0 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON66 ========== 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 <Replace>

<<NUDOCS/AD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 9812300132 ====== Start ==== End ===
Availability: **PDR** Format: * Microfilm Address: **A6394-235 A6394-244**
Size: **10pp.**

Document Type: **License, Operating & Amend to License** Issued: **981218**
Desc/: **Amends 216 & 196 to licenses DPR-70 & DPR-75, respectively, revising TS**
Title: **Section 4.2.1 of App B to require that licensee adhere to Incidental**
: **Take Statement issued by Natl Marine Fisheries Svc.**
:
Authors: **CAPRA,R.A.** **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
License Number **DPR-70 A 216**
License Number **DPR-75 A 196**

File Locations: **PDR ADOCK 05000272 P** 981218 Package: **9812300126 A**
PDR ADOCK 05000311 P 981218

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 9812300126 ====== Start ==== End ===
Availability: **PDR** Format: * Microfilm Address: **A6394-232 A6394-246**
Size: **3pp.**

Document Type: **Outgoing** correspondence Issued: **981218**
Desc/: **Forwards amends 216 & 196 to licenses DPR-70 & DPR-75, respectively &**
Title: **SE.Amends revise** TS 4.2.1 of Appendix B to require **that licensee**
: **adhere to Incidental** Take Statement issued by **Natl Marine Fisheries**
: **Svc.**
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 981218 Package: **9812300126 ***
PDR ADOCK 05000311 P 981218

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
==== TCON66 ========== Accession Number - 9810130234 ====== Start ==== End ===
Availability: PDR Format: TXT Microfilm Address: A5425-044 A5425-088
Size: 45pp.

Document Type: Inspection report, NRC-generated Issued: 981005
Desc/: Insp repts 50-272/98-08 & 50-311/98-08 on 980802-0912. violations
Title: noted.Major areas inspected:aspects of licensee
: operation,engineering,maint & plant support.
:
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 # 50-272/98-08
Inspection Report # 50-311/98-08

File Locations: PDR ADOCK 05000272 Q 981005 Package: 9810130227 B
PDR ADOCK 05000311 Q 981005

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

<<NUDOCS/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON66 ========== 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 [illegible] ew Text, ESCape To Exit.
Count: *0 <Replace>

<<NUDOCS/HD>> Nuclear Regulatory Commission ADQ42 V6.3.23.0
==== TCON66 ========== 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 & Ga 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/HD>> Nuclear Regulatory Commission HDQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 9708080130 ====== Start ==== End ===
Availability: PDR Format: * Microfilm Address: A0010-358 A0010-359
Size: 2pp.

Document Type: Technical Specifications Issued: 970801
Desc/: Proposed tech specs Section 4.2.1 rewording section to state util will
Title: adhere to Section 7,Incidental Take Statement approved by Natl Maring
: Fisheries Svc.
:
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 9701 1 Package: 9708080129 A
PDR ADOCK 05000311 P 97 1

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

<<NUDOCS/HD>> Nuclear Regulatory Commissio HDQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 970808001 ==== Start ==== End ===
Availability: PDR Format: TXT Microfilm Ad : 94757-050 94757-068
Size: 19pp.

Document Type: Inspection report. NRC-generated Issued: 970731
Desc/: Insp rpts 50-272/97-10 & 50-311/97-10 on 970 -0614.No violations
Title: noted.Major areas inspected:aspects of testin or startup of Salem
: Unit 2.
:
Authors: * Region 1 (R1, Post 820201)

Recipients:

Dockets: 05000272 50-272 Salem Nuclear Generating St on, Unit 1,Public Servi
05000311 50-311 Salem Nuclear Generating St on, Unit 2, Public Serv
Inspection Report # 50-272/97-10
Inspection Report # 50-311/97-10

File Locations: PDR ADOCK 05000272 Q 970 1 Package: 9708080014 A
PDR ADOCK 05000311 Q 97 1

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

<<NUDOCS/AD>> Nuclear Regulatory Commissi(ADQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 97080400? ==== Start ==== End ===
Availability: PDR Format: * Microfilm Add .: 94694-202 94694-276
Size: 75pp.

Document Type: General External Technical Reports Issued: 970630
Desc/: "Evaluation of Macrohabitat Utilization by L(head Sea Turtles in
Title: Delaware Estuary Using Sonic & Satellite Trac g Techniques."
:
:
Authors: * Public Service Electric & G. Co. of New Jersey

Recipients:

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

File Locations: PDR ADOCK 05000272 P 9) Package: 9708040031 A
PDR ADOCK 05000311 P 9)

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

<<NUDOCS/AD>> Nuclear Regulatory Commissi ADQ42 V6.3.23.0
==== TCON66 ========== Accession Number - 97080400 ==== Start ==== End ===
Availability: PDR Format: * Microfilm Ad : 94694-199 94694-276
Size: 3pp.

Document Type: Incoming Correspondence Issued: 970730
Desc/: Forwards "Evaluation of Macrohabitat Utiliza by Loggerhead Sea
Title: Turtles in Delaware Estuary Using Sonic & Sa te Tracking
: Techniques," supporting proposal to delete H t Utilization Study.
:
Authors: POWELL,D.R. Public Service Electric & o. of New Jersey

Recipients: * Document Control Branch ument Control Desk) (

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

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

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

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE MONITORING PROGRAM FROM NMFS INCIDENTAL TAKE PERMIT FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

July 30 and 8/1

The staff has received your letter, dated 1997, wherein you proposed to delete the Habitat Utilization Study required by Item 7 of the Incidental Take Permit issued by the National Marine Fisheries Service.

If you have any further questions, please contact me at (301) 415-1419.

Sincerely,

Leonard N. Olshan, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

3/1

SALEM, ITF

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE MONITORING PROGRAM FROM NMFS INCIDENTAL TAKE PERMIT FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

The staff has received your letter dated 7/30 1997, wherein you proposed elimination of the loggerhead turtle study required by your incidental take permit issued by the National Marine Fisheries Servicd (NMFS) pursuant to the Endangered Species Act.

The staff has contacted NMFS and [illegible] 7/30

If you have any further questions, please contact me at (301) 415-1419.

Sincerely,

~~Leonard N. Olshan, Senior Project Manager~~
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

SLM-PSE6.SIT

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

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE MONITORING PROGRAM FROM NMFS INCIDENTAL TAKE PERMIT FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

The staff has received your letter dated July, 30, 1997, wherein you provided new information in the form of a report dated June 1997, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." In the July 30, 1997, letter, you also proposed to eliminate the habitat utilization study required by the statement of incidental take for the Salem and Hope Creek Nuclear Generating Stations, issued by the National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA). You should note that, as the action agency regulating operation of your Salem facility, the NRC has responsibility for interactions with the NMFS involving the Salem Generating Station, Units 1 and 2, resulting from compliance with the ESA..

Accordingly, the staff has transmitted the June 1997 habitat utilization study to the NMFS and has reinitiated consultation under Section 7 of the ESA.

If you have any further questions, please contact me at (301) 415-1108.

Sincerely,

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

B/2

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

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE ~~MONITORING PROGRAM~~ FROM NMFS INCIDENTAL TAKE ~~PERMIT~~ FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

The staff has received your letter dated July, 30, 1997, wherein you provided new information in the form of a report dated June 1997, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." In the July 30, 1997, letter, you also proposed to eliminate the habitat utilization study required by the statement ~~of incidental take~~ for the Salem and Hope Creek Nuclear Generating Stations, issued by the National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA). You should note that, as the action agency regulating operation of your Salem facility, the NRC has responsibility for interactions with the NMFS involving the Salem Generating Station, Units 1 and 2, resulting from compliance with the ESA..

Accordingly, the staff has transmitted the June 1997 habitat utilization study to the NMFS and has reinitiated consultation under Section 7 of the ESA.

If you have any further questions, please contact ~~me~~ at (301) 415-1108.

Sincerely,

Robert A. Capra, Chief
~~Thomas H. Essig, Acting Chief~~
~~Generic Issues and Environmental~~
Projects Branch
~~Division of Reactor Program Management~~
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

JLM-PSEG.SIT

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

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE MONITORING PROGRAM FROM NMFS INCIDENTAL TAKE PERMIT FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

The staff has received your letter dated July, 30, 1997, wherein you provided new information in the form of a report dated June 1997, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." In the July 30, 1997, letter, you also proposed to eliminate the habitat utilization study required by the statement of incidental take for the Salem and Hope Creek Nuclear Generating Stations, issued by the National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA). You should note that, as the action agency regulating operation of your Salem facility, the NRC has responsibility for interactions with the NMFS involving the Salem Generating Station, Units 1 and 2, resulting from compliance with the ESA..

Accordingly, the staff has transmitted the June 1997 habitat utilization study to the NMFS and has reinitiated consultation under Section 7 of the ESA.

If you have any further questions, please contact me at (301) 415-1108.

Sincerely,

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Dr. Andrew A. Rosenberg, Regional Administrator
National Marine Fisheries Service, Northeast Region
National Oceanographic and Atmosperic Administration
1 Blackburn Drive
Glouster, MA 01030

SUBJECT: REQUEST FOR REINITIATION OF CONSULTATION ON SEA TURTLES AT SALEM NUCLEAR GENERATION STATION (TAC NOS. M99361 and M99362)

Dear Dr. Rosenburg:

In a letter to the NRC dated July 30, 1997, the Public Service Electric and Gas Company (PSE&G) submitted a report dated June 1997, and entitled, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." A copy of this report is ~~provided as Enclosure 1~~. enclosed.

In light of the new information contained in this report, the NRC staff is seeking to reinitiate consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act. Because PSE&G has completed its telemetry studies of sea turtle habitat utilization, the staff believes that it is appropriate to remove the requirement to obtain more definitive habitat utilization data (Requirement 7) from the incidental take statement for the Salem and Hope Creek Nuclear Generating Stations.

Please contact J. H. Wilson of my staff at (301) 415-1108 if you need to contact the NRC to discuss this consultation process..

Sincerely,

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272/50-311

Enclosure: As stated

cc w/o enclosure: See next page

Dr. Andrew A. Rosenberg, Regional Director
National Marine Fisheries Service, Northeast Region
National Oceanographic and Atmosperic Administration
1 Blackburn Drive
Glouster, MA 01930

SUBJECT: REQUEST FOR REINITIATION OF CONSULTATION ON LOGGERHEAD TURTLES AT SALEM NUCLEAR GENERATION STATION

Dear Dr. Rosenburg:

In a letter to the NRC dated July 30, 1997, the Public Service Electric and Gas Company (PSE&G) submitted a report dated June 1997, and entitled, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." A copy of this report is provided as Enclosure 1.

In light of the new information contained in this report, the NRC staff is seeking to reinitiate consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act. Because PSE&G has completed the habitat utilization study, the staff believes that it is appropriate to remove the requirement for it from the statement of incidental take for the Salem and Hope Creek Nuclear Generating Stations.

Please contact J. H. Wilson of my staff at (301) 415-1108 if you need to contact the NRC to discuss this consultation process..

Sincerely,

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272/50-311

Enclosure: As stated

cc w/o enclosure: See next page

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE REQUIREMENT TO DEVELOPE MORE DEFINITIVE HABITAT UTILIZATION DATA FROM FROM NMFS INCIDENTAL TAKE STATEMENT FOR SALEM UNITS 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Eliason:

The staff has received your letter dated July, 30, 1997, wherein you provided new information in the form of a report dated June 1997, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." In the July 30, 1997, letter, you also proposed to eliminate the requirement to obtain more definitive habitat utilization data from the incidental take statement (Requirement 7) in the biological opinion for the Salem and Hope Creek Nuclear Generating Stations, issued by the National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA). You should note that, as the action agency regulating operation of your Salem facility, the NRC has responsibility for interactions with the NMFS involving the Salem Generating Station, Units 1 and 2, resulting from compliance with the ESA..

Accordingly, the staff has transmitted your June 1997 habitat utilization study to the NMFS and has reinitiated consultation under Section 7 of the ESA.

If you have any further questions, please contact J. H. Wilson of our environmental staff at (301) 415-1108.

Sincerely,

Robert A. Capra, Chief
Project Directorate II-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

B/4

Salem

need modified incidental [illegible]

· coordination through NRC to bring incidental take

- ok to take [illegible] out of [illegible] 3

Action is not administrative, ∴ need environmental impact assessment - licensee should provide info as part of OL amendment request

need BA & BO & incidental take statement

Salem wants relief during outage for cleaning trash racks

we will re-initiate consultation - (this was on loggerhead turtle telemetry study

the character of this action has changed in the last several months)

B/5

Salem

5/14

1420

Rick Ennis — Shortnose Sturgeon impinged at Salem. Still alive — notify for NMFS to consult mission
1457
Pat Moore (609) 935-5151

¹ on the ... traveling screens
² ... incidental Take Permit for A. brevirostrum?
³ what does NMFS want to do? initiate consultation?

Rick Ennis — from Resident Inspector
over the last 2 wks – 3 specimens
circ water trash racks, 1st 2 alive 3rd dead
PSE&G released fish after contact, NMFS & State (NJ)
1 near Circ water trash racks
1 near Snake sling Cove

B/4

Lenny Olshan 415-149

Salem

works for Laurie — NOAH core office — couple years

NMFS - NE Protection Specialist Scott Sandorf (508) 281-9388 Fish Biologist

reorganized Laurie Allen Silva 508) 281-9291 - me MMPA & ESA

field office Millford, CT
Nancy Halley (203) 783-4264
ESA actions 7 fish biologist Section

recomposed
ice barriers removed - no problem w/ inclusion 20-30

Barbara Schroeder NMFS HQ (301) 713-1401
Natl Sea Turtle Coordinator

[I want to initiate consultation w/ letter & new info developed by licensee ^ attached to report]

Dr Andrew Rosenberg
R Administrator
NE Region
NOAH
1 Blackburn Dr
Gloucester MA 01930

Briefly - orig intent was to get

ocean based Orig intent was to get info ^ Habitat
Satellite not good info

Start the clock - NMFS gets report 90 days to work w/ agency - further conservation recommendations
the 45 days
total 135 to come out w/ final doc

HQ final sign off

Colleen Coogan SE Region

Hilda Diaz - Soltero Director Office of Protected Resources

12/11

Robert Boot Public Service Elec & Gas - NJ re Laurie Silva reinitiation of Sect. 7 ESA
(609) 339-1169

separate petitions for license amendment to remove details of incidental take permit for Appx to CTC ...

B/7

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

DEC 6 1979

REGULATORY DOCKET FILE COPY

MEMORANDUM FOR: George Lear, Chief
Environmental Specialists Branch, DSE

THRU: Robert B. Samworth, Section Leader
Aquatic Resources Section
Environmental Specialists Branch, DSE

FROM: James H. Wilson, Environmental Scientist
Environmental Specialists Branch, DSE

SUBJECT: MEETING WITH NMFS AND THE SHORTNOSE STURGEON RECOVERY TEAM

On November 29, 1979, I traveled to the National Marine Fisheries Service (NMFS) Northeast Regional Office in Gloucester, Massachusetts, to meet with Sal Testaverde and Doug Beach concerning shortnose sturgeon in the Northeast. We discussed the status of the shortnose sturgeon at three nuclear power plants in the Northeast (Maine Yankee, Indian Point, and Salem), and speculated on the distribution of the species at other facilities along the Atlantic coast. We also discussed the kinds of information that NMFS would need to render a biological opinion on shortnose sturgeon at Salem 2 and Hope Creek 1 and 2. The NMFS has made its shortnose sturgeon files available and I was able to gather a significant quantity of new information on shortnose sturgeon which had been previously unavailable.

On November 30, 1979, I met with the Shortnose Sturgeon Recovery Team and a group of scientists who are considered to be the leading experts on shortnose sturgeon. A list of participants and their affiliation is provided in Enclosure 1. Discussion at this meeting revolved around work done by Dadswell on the St. Johns River, New Brunswick, and by Hoff, Clauda, Petrovich and Dovel on the Hudson River. The need for information on shortnose sturgeon in the Delaware River was emphasized by the shortnose sturgeon experts and the NMFS as well as study designs which were likely to provide that information.

James H. Wilson

James H. Wilson, Environmental Scientist
Environmental Specialists Branch
Division of Site Safety and
Environmental Analysis

Enclosure:
List of participants

B/8

7912310 134

LIST OF ATTENDEES AT MEETING OF SHORTNOSE STURGEON RECOVERY TEAM

November 30, 1979

Bob Hanks - Northeast Region, NMFS
Sal Testaverde - Northeast Region, NMFS
Doug Beach - Northeast Region, NMFS
Mike Dadswell - Department of Fisheries and Oceans, Canada
Jim Hoff - Southern Massachusetts University
Tom Hoff - Texas Instruments
Ron Clauda - Texas Instruments
Byron Young - New York Department of Environmental Conservation
Tony Petrovich - Oceanic Society
Bill Doval - Oceanic Society
John McClain - Jew Jersey Division of Fish, Game and Shellfish
Jim Wilson - U.S. Nuclear Regulatory Commission

NUCLEAR REGULATORY COMM.
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406
ATTN: ~~MARGIE MILLER~~ Dave Chaveaga

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Division of Water Quality
CN 029 Trenton, NJ 08625-0029
FAX: (609) 984-7938

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 642 591 847

Mr. Edward Keating
PS&G - Hope Creek Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

FEB 14 1997

Dear Mr. Keating:

Re: NJPDES/DSW Permit No. NJ0025411
PSE&G - Hope Creek Generating Station
Lower Alloways Creek Township, Salem County

Enclosed is the final NJPDES/DSW permit renewal, to discharge pollutants to Zone 5 of the Delaware River, issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations, N.J.A.C. 7:14A-1 et seq. The facility has been classified as a major facility by the New Jersey Department of Environmental Protection (the Department). Violation of any condition of this NJPDES permit may subject the permittee to significant penalties.

The Department's current Discharge Monitoring Report (DMR) Instruction Manual is available, if needed, by contacting the Bureau of Point Source Permitting - Region 2 at (609)292-4860. Please note that if there is a discrepancy between the NJPDES permit and the DMR Instruction Manual, the NJPDES permit always takes precedence.

All monitoring shall be conducted in accordance with the Department's current Field Sampling Procedures Manual, which is available from the Maps and Publications Sales Office, Bureau of Revenue, CN-417, Trenton, New Jersey 08625, (609)777-1038.

The permittee, or any interested party pursuant to N.J.A.C. 7:14A-8.9(a), may submit a written request for an adjudicatory hearing within 30 calendar days following the receipt of this final NJPDES permit to contest the conditions of the permit. Any reasonably ascertainable issues must have been raised during the public comment period, pursuant to N.J.A.C. 7:14A-8.4. The requirements for requesting an adjudicatory hearing can be found in N.J.A.C. 7:14A-8.9. The enclosed Administrative Hearing Request Checklist and Tracking Form for Permits must be completed and a copy of the completed form, along with the information required by Part III of that form, including attachments, must be

ITEM # 1

submitted to each party listed on the form. If a STAY of contested conditions is requested pursuant to N.J.A.C. 7:14A-8.10, a copy of the STAY request and supporting documentation shall be sent to the parties listed on the Administrative Hearing Request Checklist and Tracking Form for Permits and to John Covino, DAG, Asst. Section Chief, Environmental Permitting and Counseling Section, Division of Law, Hughes Justice Complex, CN-093, Trenton, NJ 08625.

An application for renewal of this NJPDES permit must be submitted at least 180 days prior to expiration of the permit pursuant to N.J.A.C. 7:14A-2.1(g)5.

Should you have any questions regarding this action, please contact Suzanne U. Dietrick of my staff at (609) 292-4860.

Sincerely,

Debra Hammond, Chief
Bureau of Point Source Permitting - Region 2
Division of Water Quality

WFM342:sud

Enclosures

c: Final Permit Distribution List

Administrative Hearing Request Checklist
and Tracking Form for Permits

I. Permit Being Appealed:

_____
Title and Type of Permit

_____ _____
Issuance Date of Permit **Permit Number**

II. Person Requesting Hearing:

_____ _____
Name/Company **Name of Attorney (if applicable)**

_____ _____

_____ _____
Address **Address of Attorney**

III. Please Include the Following Information as Part of Your Request:

A. The date the permittee received the final permit;
B. A copy of the permit, list of all permit conditions and issues contested;
C. The legal and factual questions at issue;
D. A statement as to whether or not the permittee raised each legal and factual issue during the public comment period on the permit;
E. Suggested revised or alternative permit conditions;
F. An estimate of the time required for the hearing;
G. A request, if necessary, for a barrier-free hearing location for physically disabled persons;
H. A clear indication of any willingness to negotiate a settlement with the Department prior to the Department's processing of your hearing request to the Office of Administrative Law; and
I. This form, completed, signed, and dated with all of the information listed above, including attachments, to:

1. Office of Legal Affairs
   ATTENTION: Adjudicatory Hearing Requests
   Department of Environmental Protection
   401 East State Street
   CN 402, Trenton, New Jersey 08625-0402

2. Director
   Division of Water Quality
   CN 029, Trenton, New Jersey 08625-0029

3. All co-permittees (w/attachments)

IV. Signature: _____ **Date:** _____

New Jersey Department of Enviromental Protection

Division of Water Quality

NJPDES Permit No. NJ0025411

PSE&G Hope Creek Generating Station

The following language was not included in the Fact Sheet of the draft permit issued October 31, 1996. It is being included in the final permit in order to complete the Administrative Record for the permit. Documents used in the preparation of this language will also be added to the Adminstrative Record.

A discussion of Hope Creek's compliance with 33 U.S.C. §1326(b) (Section 316(b)) was inadvertently omitted from the Fact Sheet/Statement of Basis accompanying the draft permit. Hope Creek has a shoreline intake structure which withdraws cooling water for the Service Water System. After use in the Service Water System, the cooling water is utilized as makeup water for the closed cycle cooling system which relies on a natural draft cooling tower for evaporative cooling of the condenser cooling water.

The Hope Creek intake structure is equipped with Ristroph travelling screens and a fish return system. The intake structure is located parallel to and nearly flush with the shoreline. This location increases tidal flushing of the forebay, and eliminates long intake canals and blind pockets, thus reducing the entrapment potential. The intake structure is equipped with vertical travelling screens, and a fish return system that includes screen panel buckets, a low pressure fish removal system, a high pressure debris removal system,

and troughs to return debris and fish to the river. Such operation reduces impingement mortality.

There are low flow velocities through the trash racks and travelling screens. The intake flow velocities through the trash racks and travelling screens are approximately 0.1 foot per second and 0.39 foot per second, respectively. This reduces the swim speed necessary for a fish to escape the intake's attractive forces and allows most organisms to escape impingement.

The volumes of water associated with Hope Creek's closed cycle cooling system are relatively low, approximately 76 cubic feet per second during normal operations. Because of the low flow volume the number of organisms susceptible to entrainment and impingement is low. Water usage at the Station during normal operations accounts for less than 0.02 percent of the tidal flow of the Estuary.

The Department determines that the location, design, construction, and capacity of Hope Creeks cooling water intake structure continues to reflect the best technology available for minimizing adverse impact. This technology significantly minimizes the potential mortality of aquatic life typically associated with cooling water intake structures, i.e. impingement and entrainment. There are no better technologies and practices available to Hope Creek which would minimize any alleged remaining adverse environmental impacts at Hope Creek's cooling water intake structure.

Documents added to the Administrative Record:

1. A letter, dated September 3, 1975, from Donald T. Graham, Acting Director, NJDEP to Mr. R.L. Mittl, General Manager - Projects of PSE&G regarding the Coastal Area Facility Permit Application, CA #74-014, Hope Creek Generating Station with attachment entitled CAFRA Opinion No. 20.

2. "Hope Creek Generating Station, Applicant's Environmental Reporting-Operating License Stage, Volume 1, PSE&G" dated March 1983.

3. A letter, dated October 18, 1983, from Lawrence Schmidt Acting Director, Planning Group, NJDEP to Mr. James Moran of PSE&G regarding Hope Creek Environmental Report.

4. Final Environmental Statement - PSE&G Hope Creek Generating Station prepared by the Office of Nuclear Reactor Regulation, dated December 1984.

PERMIT NUMBER NJ0025411

Permittee	Co-Permittee
HOPE CREEK GENERATING STATION P.O. BOX 236 / N21 HANCOCKS BRIDGE, NJ 08038 ATTN: MANAGER - LICENSING AND REGULATION	

Property Owner	Location of Activity
PUBLIC SERVICE ELEC. & GAS CO. 80 PARK PLAZA P.O. BOX 570 NEWARK, NJ 07101	PSE&G HOPE CREEK GENERATING STATION LOWER ALLOWAYS CREEK TOWNSHIP SALEM COUNTY, NEW JERSEY

	Type of Permit Covered By This Approval	Issuance Date	Effective Date	Expiration Date
A :	Sanitary SW Discharge	02/19/1997	04/01/1997	03/31/2002
B :	Ind/Comm.SW Discharge	02/19/1997	04/01/1997	03/31/2002
C :	Thermal SW Discharge	02/19/1997	04/01/1997	03/31/2002
RF:	Group I - Stormwater Runoff	02/19/1997	04/01/1997	03/31/2002

DISCHARGED TO: Delaware River

CLASSIFICATION: Zone 5

By Authority of:
Commissioner's Office

Debra Hammond

NJDEP AUTHORIZATION
DEBRA HAMMOND, CHIEF
POINT SOURCE PERMITTING REGION II
WATER QUALITY

CHECKLIST OF PARTS AND MODULES COMPRISING THIS NJPDES PERMIT

1. **Cover Page**

2. **Checklist**

3. **Part I (General Conditions for All NJPDES Discharge Permits)**

4. **Part II - Additional General Conditions for the types of NJPDES Permits checked as follows:**

___ Part II - A (Municipal/Sanitary)

_X_ Part II - B/C

___ Part II - L (SIU)

___ Part II - IWMF (Industrial Waste Management Facility)

___ Part II - DGW Specify type(s): _____

5. **Part III - Effluent Limitations and Monitoring Requirements**

___ Part III - A

_X_ Part III - B/C

___ Part III - L

___ Part III - DGW Specify type(s): _____

6. **Part IV - Special Conditions**

___ Part IV - A

_X_ Part IV - B/C

___ Part IV - L

___ Part IV - IWMF

___ Part IV - DGW Specify type(s): _____

_X_ Part IV - RF (Stormwater)

7. _X_ **Part V - Chronic Toxicity Methods**

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY

STANDARD CONDITIONS FOR ALL NJPDES/DSW PERMITS

The permittee shall comply with all the conditions set forth in this permit **and** all the applicable requirements relevant to the permittee's discharge(s) that can be found in the Federal Clean Water Act and the New Jersey Water Pollution Control Act (the State Act as amended), N.J.S.A. 58:10A-1 et seq. The permittee may be subject to penalties for any violations thereof.

The following conditions that are applicable to all NJPDES/DSW permits are incorporated **by reference.** The permittee is required to comply with the regulations which were in effect as of the effective date of the final permit.

Section A. GENERAL CONDITIONS		N.J.A.C.
1.	Penalties for Violations	7:14-8.1 et seq.
2.	Consolidation of Permit Process	7:14A-1.4
3.	Incorporation by Reference	7:14A-1.10
4.	Duty to Comply	7:14A-2.5(a)
5.	Duty to Reapply	7:14A-2.1(g)5
6.	Continuation of Expired Permits	7:14A-2.3
7.	Duty to Mitigate	7:14A-2.1(f)
8.	Permit Actions	7:14A-2.5(a)8
9.	Duration of Permits	7:14A-2.7
10.	Effect of Permit/other Laws	7:14A-2.10(a)(b) & (c)
11.	Inspection and Entry	7:14A-2.5(a)11
12.	Severability	7:14A-1.5
13.	Toxic Pollutants	7:14A-2.5(a)3
14.	Reopener Clause	7:14A-3.13(a)3
15.	Treatment Works Approval	7:14A-22

Section B. OPERATION AND MAINTENANCE		
1.	Proper Operation and Maintenance	7:14A-2.5(a)7
2.	Need to Halt or Reduce not a defense	7:14A-2.5(a)5
3.	Bypass of Treatment Facilities	7:14A-3.10
4.	Upset	7:14A-3.10
5.	Power Failure	7:14A-2.5(a)5&7
6.	Emergency Plans	7:14A-3.12(b)
7.	Capacity Assurance Program	7:14A-22.16

Section C. MONITORING AND RECORDS		
1.	Representative Sampling	7:14A-2.5(a)12.i
2.	Monitoring Procedures	7:14A-2.5(a)12.ii
3.	Retention of Records	7:14A-2.5(a)12.iii
4.	Monitoring Records	7:14A-2.5(a)12.iv
5.	Additional Voluntary Monitoring	7:14A-2.5(a)12.vi
6.	Averaging of Measurements	7:14A-2.5(a)12.vii
7.	Required Additional Monitoring	7:14A-2.5(a)12.xi

Section D. **REPORTING REQUIREMENTS**		**N.J.A.C.**
1.	Planned Changes	7:14A-2.5(a)14.i
2.	Change in Discharge	7:14A-2.5(a)14.ii
3.	Anticipated Noncompliance	7:14A-2.5(a)14.i & v
4.	Transfer	7:14A-2.11 & 7:14A-2.5(a)14.iii
5.	Reporting of Monitoring Results	7:14A-2.5 (a)14
6.	Compliance Schedules	7:14A-2.8
7.	Twenty-four Hour Reporting	7:14A-2.5(a)14.vi.(2)(3)&(4)
8.	Duty to Provide Information	7:14A-2.5(a)10
9.	Signatory Requirements	7:14A-2.4
10.	Availability of Reports	7:14A-11.1
11.	Other Noncompliance	7:14A-2.5(a)14.viii
12.	Other Information	7:14A-2.5(a)14.ix
13.	Confidentiality	7:14A-11.2

Section E. DEFINITIONS

The following definitions can be found in N.J.A.C. 7:14A-1.9

1. Average Monthly Discharge Limitation
2. Average Weekly Discharge Limitation
3. Daily Discharge
4. Grab Sample
5. Maximum Daily Discharge Limitation
6. Priority Pollutant

Copies of the NJPDES regulations may be obtained, for a nominal charge, by contacting:

Office of Administrative Law
Publications
CN 049
Trenton, New Jersey 08625-0049
(609) 588-6606

The following conditions that are applicable to all NJPDES/DSW permits and are incorporated expressly:

Section F. ADDITIONAL STANDARD CONDITIONS

Operator Certification

The facility operator shall meet the requirements of the Department of Environmental Protection (Department) pursuant to the provisions of N.J.A.C. 7:10-13 et seq. and any amendments thereto. The name of the proposed operator shall be submitted to the Department in order that his/her qualifications may be determined prior to initiating operation of the treatment works. Further information regarding this requirement may be obtained from:

NJDEP
Bureau of Revenue
Examinations and Licensing Unit
CN 417
Trenton, New Jersey 08625-0417
(609) 777-1012

Operation Restrictions

The operation of a waste treatment or disposal facility shall at no time create: **(a) a direct discharge to the surface waters of the State, except as authorized by the Department and into the receiving water(s) at the specified location(s) as referenced in the Part III of this permit;** (b) a persistent standing or ponded condition for water or waste on the permittee's property except as specifically authorized by this or another permit; or (c) any standing or ponded condition for water or waste on adjacent properties unless these activities are specifically included within this or another permit.

This permit does not authorize or approve any activities other than the discharge(s) as referenced above.

Monitoring and Reporting

A. Monitoring results shall be summarized and reported on the appropriate Discharge Monitoring Reports (DMRs) following the completed monitoring period. If a discharge does not occur during a particular reporting period, the permittee should write "NODI" across the face of the DMR. Unless otherwise specified or directed, signed copies of these DMRs shall be submitted postmarked no later than the 25th day of the calendar month following the completed monitoring period to the address given below:

NJDEP
Bureau of Permits Management
CN 029
Trenton, New Jersey 08625-0029
Attn. Monitoring Reports

B. In addition, a duplicate signed copy of all other monitoring reports required from the permittee including the DMRs shall be submitted to the DRBC **(only for dischargers to the Delaware River Basin)**, and the ISC **(only for dischargers to the Interstate Sanitation Commission district)**, at the following addresses:

Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628
Attn: Executive Director

Interstate Sanitation Commission
311 West 43rd Street
New York, New York 10036
Attn: Director/Chief Engineer

Sampling Points

All samples shall be taken at the monitoring points specified in this permit, and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water or substance. Monitoring points shall not be changed without notification to and the approval of the Department.

Stormwater Only Discharges

Stormwater shall be sampled during the first precipitation event of the monitoring period which causes a discharge at the site during working hours, unless otherwise directed in the permit. Stormwater monitoring should not necessarily be conducted at 30-day intervals. Therefore, it is incorrect for the permittee to choose a sampling date which remains the same every month, and report "NODI" on the DMR if it does not rain on that particular day.

Intermittent Discharges

For permitted discharges which occur on an intermittent basis, the permittee is required to provide representative sampling of the monitored activity pursuant to N.J.A.C. 7:14A-2.5(a)12i. Therefore, although a discharge may occur on an intermittent basis, it does not exempt the permittee from complying with the conditions of the permit. For example, if a permittee has a monthly monitoring and reporting requirement and the discharge occurs three separate times during the month, the permittee should obtain a sample during at least one of the discharge events occurring during the monitoring period. The permittee should report "NODI" on the DMR only if there are no discharge events during the entire reporting period.

Compliance/Noncompliance

The permittee shall notify the Department of any noncompliance in accordance with N.J.A.C. 7:14A-2.8(a)3 and N.J.A.C. 7:14A-2.5(a)14 et seq. Such a notification shall be submitted to the **appropriate** Bureau of Water and Hazardous Waste Enforcement in the Division of Enforcement Field Operations.

Removed Substances

This permit does not authorize discharge of solids, sludge, filter backwash or other pollutants removed in the course of treatment or control of wastewaters to the waters of the State unless specifically authorized in this permit. All solids, sludges, filter backwash, or other pollutants removed from, or resulting from the treatment or control of discharges must be disposed of in accordance with all applicable Federal, State, Local and other appropriate agency requirements.

Schedule of Maintenance

Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted engineering/scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/-10% from the true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

A. "A guide to Methods and Standards for the Measurement of Water Flow", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421).

B. "Water Measurement Manual", U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

C. "Flow Measurement in Open Channels and Closed Conduits", U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

D. "NPDES Compliance Sampling Manual", U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver CO 80225.)

Oil and Grease Effluent Limitations

Oil & Grease and/or Petroleum Hydrocarbons samples shall be collected and analyzed in accordance with N.J.A.C. 7:14A-14.1 et seq.

Section G. ADDITIONAL DEFINITIONS

"Aliquot" means an individual sample of specified volume used to make up a total composite sample.

"Annual monitoring" means monitoring conducted at a minimum frequency of once every calendar year, beginning with the Effective Date of the Permit unless there is a different period specified in the permit.

"Col/100 mL" means the coliform colonies per 100 milliliters.

"Composite Sample" means a combination of individual (or continuously taken) samples (aliquots) of at least 100 milliliters, collected at periodic intervals over a specified time period. The composite can be either time proportional or flow proportional; either the time interval between each aliquot or the volume of each aliquot should be proportional to either the flow at the time of sampling or the total flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. For intermittent discharges of less than four (4) hours duration, aliquots shall be taken at intervals not to exceed 15-minutes. For intermittent discharges of four (4) hours or more duration, aliquots shall be taken at intervals not to exceed 30-minutes.

"Daily Monitoring" means monitoring conducted every day, including weekends and holidays.

"EDP" means Effective Date of the Permit.

"EDPM" means Effective Date of the Permit Modification

"g/day" means grams per day

"kg/d or kg/day" means kilograms per day.

"Maximum Value" means the highest value measured during the monitoring period.

"mg/L" means milligrams per liter.

"Minimum Value" means the lowest value measured during the monitoring period.

"Monthly Monitoring" means monitoring conducted at a minimum of once every calendar month, beginning with the EDP unless there is a different period specified in the permit.

"Multiple Grab Composite" means a combination of individual samples (aliquots) collected at a specified frequency over a specified time period. Each aliquot must be collected in a glass vial with a septum cap and iced until delivered for analysis. An air space should remain in the vial. Each aliquot shall be analyzed individually. The recorded value will be the flow proportioned average of the individual analyses for the specific time period.

"Quarterly Monitoring" means monitoring conducted at a minimum frequency of once every three calendar months, beginning with the EDP unless there is a different period specified in the permit.

"Semiannual Monitoring" means monitoring conducted at a minimum frequency of once every six calendar months, beginning with the EDP unless there is a different period specified in the permit.

"Seven Day" or "Weekly Average Value" means the sum of all daily discharges measured during any seven consecutive days, divided by the number of daily discharges measured during that period. Results may be expressed in loading (g/day or kg/d) and/or concentration (µg/L or mg/L). Only data collected within a single calendar month may be used in the calculation of a seven day or weekly average value for that month.

"Six Hour Composite Sample" means a combination of individual aliquots obtained at a minimum frequency of one aliquot at 30-minute intervals over a 6-hour period.

"Thirty Day Average Value" or ***"Monthly Average Value"*** means the sum of all daily discharges measured during a calendar month, divided by the number of daily discharges measured during that month. Results may be expressed in loading (g/day or kg/d) or concentration (µg/L or mg/L).

"Twenty-four Hour Composite Samples" means a combination of individual aliquots obtained at a minimum frequency of one aliquot at hourly intervals over a 24-hour period.

"µg/L" means micrograms per liter.

"Weekly Monitoring" means monitoring conducted at a minimum of once every seven calendar day period, beginning with the EDP unless there is a different period specified in the permit.

**ADDITIONAL STANDARD CONDITIONS FOR
ALL NJPDES/DSW PERMITS FOR INDUSTRIAL DISCHARGES**

1. Permit Conditions Relating to Treatment Works

A Treatment Works Approval (TWA) Permit is required prior to the construction, operation, or modification of a treatment works pursuant to N.J.A.C. 7:14A-22.1 et. seq. and the amendments thereto. Applications for a TWA Permit shall be submitted to the following address:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Construction and Connection Permits
CN-029
Trenton, New Jersey, 08625-0029
Attn. Chief

The operation of the treatment works shall be under the supervision of a licensed operator of the appropriate classification in accordance with the "Rules Governing the Examination and Licensing of Operators", N.J.A.C. 7:10-13.1 et seq., which became effective July 2, 1984. The licensed operator shall meet the requirements of the TWA Permit pursuant to the provisions of N.J.S.A. 58:11-64 and the amendments thereto.

2. Permit Conditions Relating To Industrial Residuals Management

A. Collected grit and screenings, scums, sand bed sands, slurries, and sludges, and all other solids from the treatment process shall be managed in such a manner as to prevent such materials from entering the ground and/or surface waters of the State except in accordance with the NJPDES permit. If for any reason such materials are placed in the water or on the lands where they may cause pollutants to enter the ground and/or surface waters of the State or for any other noncompliance which may endanger public health or the environment, the following information shall be reported to the Water and Hazardous Waste Enforcement Element and to the Bureau of Pretreatment and Residuals pursuant to the requirements as outlined under N.J.A.C. 7:14A-2.5(a)(14):

(i) Dates of occurrence;
(ii) A description of the noncomplying discharge (nature and volume);
(iii) Cause of noncompliance;
(iv) Steps taken to reduce and eliminate the noncomplying discharge; and
(v) Steps taken to prevent recurrence of the condition of noncompliance.

B. The permittee shall not be permitted to store sludge on-site beyond the capacity of the structural treatment and storage components of the treatment works nor shall the permittee be permitted to store residuals on-site in any manner which is not in accordance with the Solid Waste Management Rules, N.J.A.C. 7:26.

C. The permittee shall comply with the Sludge Quality Assurance Regulations, N.J.A.C. 7:14-4. Where quality information is required by these regulations, analyses must reflect the quality of the final sludge product which the permittee must remove.

D. The permittee shall manage all residuals generated from the treatment works in compliance with the New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the New Jersey Water Quality Planning Act N.J.S.A. 58:11A-1 et seq., which require conformance with District Solid Waste Management Plans and Water Quality Management Plans. The permittee shall also comply with all applicable rules and regulations promulgated pursuant to the federal Resource Conservation and Recovery Act.

E. The permittee shall at all times have on file with the Department, proof of proper residuals management at a facility/operation duly licensed and permitted. To satisfy this requirement, the permittee shall submit proof of ownership or contractual arrangement with a permitted facility/operation for the ultimate management of residuals.

Where such permitted residuals management does not extend for the full term of this permit, the permittee shall submit similar proof of new permitted management arrangements which shall become effective no later than the expiration date of the previous arrangements. All such proofs of ultimate management must be submitted to:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Pretreatment and Residuals
CN-029
Trenton, New Jersey 08625-0029
Attn: Chief

The permittee shall assure that residuals produced by the treatment works is suitable for management at the site identified on such submitted proof of proper residuals management.

F. The permittee shall comply with the provisions concerning the management of sludge in the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1E et seq., and the implementing regulations.

1. FACILITY INFORMATION

A. Discharge Point(s)

DSN	Latitude	Longitude	Receiving Stream	Stream Classification
461A	N 39° 28'15"	W75°32'30"	Delaware River	Zone 5
461C	N 39° 28'15"	W 75°32'30"	Delaware River	Zone 5
462A	N 39° 28'15"	W 75°32'30"	Delaware River	Zone 5
462B	N 39° 28'15"	W 75°32'30"	Delaware River	Zone 5
463A	N 39° 28'00"	W 75°32'30"	Delaware River	Zone 5
464A	N 39° 28'15"	W 75°32'30"	Delaware River	Zone 5

B. Description of Facility

The applicant operates an electric generating station (SIC number 4911) consisting of one nuclear-powered boiling water reactor rated at approximately 1067 Mwe and operated with a recirculating cooling water system. The permit authorizes discharges to Zone 5 of the Delaware River. DSN 461A is the discharge from the recirculating cooling water system and discharges approximately 40 MGD of cooling tower blowdown as well as limited quantities of treated wastewater from DSN 461C and radioactive liguid waste (DSN 461B)regulated by the NRC. DSN 461C (an internal monitoring point) discharges approximately 0.06 MGD of oil/water separator effluent. DSN 462B discharges approximately 0.03 MGD of sewage treatment plant effluent. DSNs 462A, 463A and 464A each discharge approximately 0.2 MGD of stormwater runoff and groundwater.

DSN	Monthly Average Flow (Appl.)	Long Term Average Flow (DMR)	Description of Treatment (if any)	Licensed Operator Classification
461A	31.4 MGD	34.8 MGD	treated with ammonium bisulfite	N/A
461C	0.06 MGD	0.05 MGD	oil/water separator	N2
462A	0.169 MGD	0.15 MGD	None	N/A
462B	0.03 MGD	0.02 MGD	oxidation ditch, clarification, filtration	N2
463A	0.2 MGD	0.19 MGD	None	N/A
464A	0.23 MGD	0.22 MGD	None	N/A

C. Major/Minor Rating

The facility has been classified as a major discharger by the New Jersey Department of Environmental Protection in accordance with the U.S. EPA rating criteria.

1.A EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + five (5) years, the permittee is authorized to discharge cooling tower blowdown and process wastewaters from outfall serial number **461A**.

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation "N/A" in the table below denotes "Not Applicable" while the abbreviation "NL" denotes "Not Limited" with both monitoring and reporting required.

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge monitoring point of DSN 461A and reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATION			MONITORING REQUIREMENT	
	DLY.MIN.	MON. AVG.	DLY. MAX.		SAMPLE
Effluent Flow (MGD)	N/A	NL (6)	NL (6)	Continuous(1)	Meter (1)
Temperature-Influent °F(°C)	N/A	NL	NL	Continuous(1)	----
Temperature-Effluent °F(°C)	N/A	NL (6)	97.1 (6) (36.2)	Continuous(1)	----
Heat Rate(2) (MBTU/HR) (Sep-May)	N/A	NL	662	Daily	Calculated
Heat Rate(2) (MBTU/HR) (Jun-Aug)	N/A	NL	534	Daily	Calculated
Chlorine Produced Oxidants (mg/l)	N/A	0.2	0.5	3/Week	Grab
pH, Effluent (S.U.)	6.0	N/A	9.0	Weekly	Grab
Organic Carbon, Total (mg/l) Net(3)	N/A	NL	20	Monthly	Grab
Acute Toxicity, LC 50	NL	N/A	N/A	Quarterly (4)	(4)
Chronic Toxicity, NOEC	NL	N/A	N/A	Quarterly (4)	(4)
Phosphorus, mg/l (5)	N/A	NL	NL	Monthly	Grab

Footnotes to DSN 461A Effluent Limitiations Table

(1) See Part IV-B/C 1.H.

(2) The amount of heat per unit time (Heat Rate) is determined by the product of the heat capacity, discharge flow and the difference between influent and effluent temperatures.

(3) Net Concentration = $\frac{\text{(Effluent Conc.)*(Effluent Flow) - (Influent Conc.)*(Influent Flow)}}{\text{Effluent Flow}}$

(4) See Part IV-B/C 1.D and 1.E for toxicity testing requirements.

(5) Monitoring and reporting for this parameter is not required unless the permittee initiates the use of an anti-scalant containing phosphorus upon approval from the Department. See Part III-B/C, Section 4.

(6) For continuous monitoring, the daily value shall consist of all the values over a given calendar day (24-hour period) averaged together. The permittee shall report the highest of these daily values as the daily maximum on the DMR, and the average of the daily values as the monthly average.

1.B EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + five (5) years, the permittee is authorized to discharge the effluent of the oil water separator from area, building, and equipment drains; auxiliary boiler blowdown and miscellaneous stormwater sources through outfall serial number **461C**.

The abbreviation "N/A" in the table below denotes "Not Applicable" while the abbreviation "NL" denotes "Not Limited" with both monitoring and reporting required.

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge of the separator system and reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATION			MONITORING REQUIREMENT	
	DLY.MIN.>	MON.AVG.	DLY.MAX.		SAMPLE
Flow (MGD)	N/A	NL	NL	Continuous[1]	Meter
Petroleum Hydrocarbons (mg/l)	N/A	10	15	Twice/Month	Grab
Organic Carbon, Total (mg/l)	N/A	NL	50	Monthly	Composite
Total Suspended Solids (mg/l)	N/A	30	100	Monthly	Composite

[1] See Part IV-B/C 1.H. For continous monitoring, the daily value shall consist of all the values over a given calendar day (24-hour period) averaged together. The permittee shall report the highest of these daily values as the daily maximum on the DMR, and the average of the daily values as the monthly average.

1.C.1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP and lasting through EDP + one (1) year, the permittee is authorized to discharge sewage treatment plant effluent through outfall serial number **462B.**[1]

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation "N/A" in the table below denotes "Not Applicable" while the abbreviation "NL" denotes "Not Limited" with both monitoring and reporting required.

Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge of the Sewage Treatment Plant and reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATION			MONITORING REQUIREMENT	
	DLY.MIN.	MON.AVG.	DLY.MAX.		SAMPLE
Flow (MGD)	N/A	NL	NL	Daily	Meter
BOD_5 (kg/day)	N/A	8[2]	NL	Monthly	Composite
BOD_5 (% Removal)	87.5	N/A	N/A	Monthly	Calculated
Total Suspended Solids (mg/l)	N/A	30[3]	NL	Monthly	Composite
Total Suspended Solids (% Removal)	85	N/A	N/A	Monthly	Calculated
F.Coliform (MPN/100ml)	N/A	200[4]	400[4]	Monthly	Grab
Oil and Grease (mg/l)	N/A	10	15	Monthly	Grab
pH, Effluent (S.U.)	6.0	N/A	9.0	Monthly	Grab
Chlorine Produced Oxidants (mg/l)[5]	N/A	NL	NL	Monthly	Grab

(1) See Part IV-B/C.G.

(2) This corresponds to the First Stage Oxygen Demand (FSOD) DRBC allocation of 9.5 kg/day (21 lbs/day).

(3) TSS shall not exceed 45 mg/l as a 7-day average.

(4) The average shall be the geometric mean over a 30 consecutive day period and the maximum shall be the geometric mean over a 7-consecutive day period.

(5) Chlorine Produced Oxidants (CPO) shall be monitored using an EPA test method from 40 CFR 136 that acheives a minimum detection level of 0.1 mg/l.

1.C.2 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP + one (1) year and lasting through EDP + five (5) years, the permittee is authorized to discharge sewage treatment plant effluent through outfall serial number **462B.** (1)

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no visible sheen.

The abbreviation "N/A" in the table below denotes "Not Applicable" while the abbreviation "NL" denotes "Not Limited" with both monitoring and reporting required.

Samples taken in compliance with the specified monitoring requirements shall be taken at the effluent of the Sewage Treatment Plant prior to combining with DSN 461A and reported monthly.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATION			MONITORING REQUIREMENT	
	DLY. MIN.	MON.AVG.	DLY. MAX.		SAMPLE
Flow (MGD)	N/A	NL	NL	Daily	Meter
BOD_5 (kg/day)	N/A	8(2)	NL	Monthly	Composite
BOD_5 (% Removal)	87.5	N/A	N/A	Monthly	Calculated
Total Suspended Solids (mg/l)	N/A	30	NL	Monthly	Composite
Total Suspended Solids (% Removal)	85	N/A	N/A	Monthly	Calculated
F.Coliform (MPN/100ml)	N/A	200(3)	400(3)	Monthly	Grab
Oil and Grease (mg/l)	N/A	10	15	Monthly	Grab

(1) See Part IV-B/C.G.

(2) This corresponds to the First Stage Oxygen Demand (FSOD) DRBC allocation of 9.5 kg/day (21 lbs/day).

(3) The average shall be the geometric mean over a 30 consecutive day period and the maximum shall be the geometric mean over a 7-consecutive day period.

2. Additional Effluent Limitations-Delaware River Basin Commission (DRBC)

The permittee shall discharge in a manner so as not to violate the Water Quality Regulations of the Delaware River Basin Commission for Zone 5 of the Delaware River Basin.

3. Use of Biocides or Other Cooling Water Additives

The permittee has informed the Department that it does not use any corrosion inhibitors, biocides, or other cooling water additives with the exception of sodium hypochlorite, ammonium bisulfite, and sodium hydroxide in its recirculated cooling water and cooling tower blowdown. If the permittee decides to begin using any additional agents in these systems in the future, the permittee must notify the Bureau of Standard Permitting at least 180 days prior to use so that the permit may be reopened to incorporate any additional limitations or conditions the Department deems necessary.

4. Cooling Tower Anti-Scalant

Addition of the anti-scalant containing phosphorus to the cooling water tower system is currently not required. If anti-scalant addition is required in the future, the permittee shall notify the Bureau of Standard Permitting prior to initiation of anti-scalant chemical addition. Upon approval from the Department, the permittee shall be allowed to add the anti-scalant containing phosphorus and be required to monitor and report the phosphorus concentration from DSN 461A. Monitoring shall be conducted monthly by grab sample.

5. Modification of Monitoring Requirements

The permittee may request a minor modification of its permit to decrease monitoring frequencies for limited parameters if the permittee believes that site-specific conditions indicate applicability of such a modification.

The Department will consider reducing the monitoring frequency of a parameter provided that:

(1) ELGs applicable to the facility do not specify the required monitoring frequency;

(2) the frequency reduction conditions are included in the Draft Permit, Fact Sheet, or Statement of Basis accompanying the public notice of the draft permit;

(3) the permittee has shown consistent compliance with all permit conditions for the affected parameter(s) for:

- (a) a minimum period of one (1) year for a monitoring frequency of weekly;
- (b) a minimum period of two (2) years for a monitoring frequency of twice per month;
- (c) a minimum period of three (3) years for a monitoring frequency of monthly;
- (d) a minimum period of five (5) years for a monitoring frequency of quarterly (except WET testing); and
- (e) a minimum period of four tests for Whole Effluent Toxicity (WET) limitations;

(4) A monitoring frequency can be reduced as follows:

- (a) from weekly to monthly;
- (b) from twice monthly to monthly;
- (c) from monthly to quarterly; or
- (d) from quarterly to semi-annually or annually.

Reduction of monitoring frequency is not automatic. The Department shall determine whether or not a reduction is warranted. The DMRs shall be reviewed to verify consistent compliance with permit limitations and conditions for the affected parameter(s). If the Department agrees to grant the request, the Department will perform a conditional change to the permit to change the monitoring frequency of the affected parameters. After the modification, the permittee's DMRs are subject to periodic review to insure that the above requirements are still satisfied.

A request for a modification of the monitoring frequency should be sent to the Chief of the Bureau of Permit Management, CN-029, Trenton, New Jersey 08625. A copy of the letter should also be sent to the Chief of the Bureau of Standard Permitting at the same address.

6. Toxic Pollutant Reopener Clause

Pursuant to N.J.A.C. 7:14A-3.13(a)3.iv., the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.

7. Chlorine Produced Oxidants

Neither free available chlorine nor chlorine produced oxidants may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or chlorine produced oxidants at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NJPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

1. ADDITIONAL REQUIREMENTS OF THIS PERMIT

A. State and Local Requirements - Radiation

(a) The permittee shall comply with all regulations set forth in N.J.S.A. 26:2D-1 et seq. regarding Radiation Protection.

(b) All radioactive wastes shall be collected, removed, and disposed of in accordance with N.J.A.C. 7:28-11.1 et seq.

B. There shall be no discharge of polychlorinated biphenyl compounds such as those which were commonly used for transformer fluid.

C. The permittee is licensed by the U.S. Nuclear Regulatory Commission (USNRC) and responsible to that agency for compliance with radiological effluent limitations, monitoring requirements, and other licensing conditions.

D. Acute Toxicity Biomonitoring Requirements

The permittee shall perform an Acute Toxicity Characterization Study by conducting definitive flow-through or definitive static renewal acute toxicity tests (bioassays) on its wastewaters discharged at the cooling tower blowdown (DSN 461A). Such testing will determine if appropriately selected effluent concentrations will affect the survival of the test species.

1. All toxicity tests shall be conducted in accordance with the following:

   (a) Acute toxicity test procedures shall conform to the "Regulations Governing the Certification of Laboratories and Environmental Measurements" (N.J.A.C. 7:18) Subchapter 7 and 9.5 of the regulations contains the criteria and

procedures for acute toxicity testing and analysis. The laboratory performing acute toxicity testing shall be within the laboratory certification program included within those regulations.

(b) Test results shall be expressed in terms of the mortalities in each effluent concentration and, if they can be calculated, the median lethal concentration (LC50) with confidence interval.

(c) All samples taken for the purpose of monitoring shall be representative of the monitored DSN.

2. Test Species and Test Duration

(a) The test duration shall be 96 hours.

(b) The test species is Mysid (*Mysidopsis bahia*).

3. Monitoring Frequency

(a) The monitoring frequency shall be one test each quarter for at least four consecutive quarters. The first test shall be conducted no later than EDP + 15 months.

(b) Any test that does not meet the specifications of N.J.A.C. 7:18-7 and N.J.A.C. 7:18-9.5, the laboratory certification regulations, must be repeated as soon as practical within the monitoring period.

(c) The Acute Toxicity Characterization Study shall not be completed until four tests, which are acceptable to the Department, have been completed.

4. The following information shall initially be submitted within EDP + 14 months. If there is a change in the acute toxicity testing contract

laboratory, this information shall again be submitted within two (2) months of that change. This information shall be submitted in duplicate to the Department at the address in paragraph 5 below.

(a) A fully completed "Methodology Questionnaire for Acute Toxicity Tests" form, which includes an identification of the certified acute toxicity testing laboratory responsible for the testing. Copies of this form are provided to certified laboratories.

(b) A schematic diagram which depicts the location that the effluent samples will be taken; the diagram shall indicate the location of effluent sampling in relation to any wastewater treatment facilities (including chlorination/disinfection if present) and all DSNs.

(c) A photocopy of a county map or USGS quad with the location of the dilution water sampling site relative to the effluent discharge point marked (unless the use of a reconstituted water has been approved).

5. Acute toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Acute Bioassays," copies of which are provided to certified laboratories and may be obtained from the address below. TWO COPIES of each completed report form shall be submitted within 60 days of test completion to:

Division of Water Quality
Bureau of Standard Permitting
CN-029
Trenton, New Jersey 08625
Attention: Industrial Biomonitoring Program

E. Chronic Toxicity Characterization Study

The permittee shall conduct a Chronic Toxicity Characterization Study. This study shall consist of concurrent chronic toxicity testing with two species, conducted on the wastewater discharge at the cooling tower blowdown (DSN 461A). Such testing will provide data regarding the effects of appropriately selected effluent concentrations on the survival, growth and/or reproduction of the test species and determine which test species is consistently most sensitive to the effluent.

1. All testing shall be conducted in accordance with the following procedures:

   (a) Testing shall be in conformance with the guidelines contained in the "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program, Version 2.0, February 1996".

   (b) The laboratory performing the toxicity testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18.

   (c) Test results shall be expressed as the NOEC (No Observable Effect Concentration), the LOEC (Lowest Observable Effect Concentration), and IC25 (25% Inhibition Concentration) for each test endpoint.

2. Test Species and Test Duration

   (a) Chronic toxicity tests shall be conducted concurrently with split samples, using the following test species and test durations:

      i. Sheepshead minnow (Cyprinodon variegatus), 7 day larval survival and growth test; and,

ii. Mysid (Mysidopsis bahia), 7 day larval survival, growth and fecundity test.

(b) The permittee has the option of concurrently testing with a third species from among the methods specified in paragraph 1.a. above. The selection of the third species must be approved by the Department prior to initiating testing with this species.

3. Monitoring Frequency

(a) The first test shall be conducted no later than EDP + 15 months. Subsequent tests shall be conducted quarterly for at least four consecutive quarters.

(b) The chronic toxicity characterization study shall not be complete until four tests, using split samples on the two species, which are acceptable to the Department, have been completed.

(c) If a test has been reviewed for quality control and found to be unacceptable to the Department, the split sample tests shall be repeated as soon as practicable within the monitoring period.

4. The following information shall be submitted in duplicate to the address in paragraph 5 below within EDP + 14 months and within 2 months following a change in the chronic toxicity contract laboratory.

(a) an identification of the fish species selected for the study;

(b) an identification of the acute toxicity certified laboratory responsible for conducting the chronic toxicity tests;

(c) a completed chronic methodology summary questionnaire (copies of this form will be provided to the certified laboratories and is available from the address below); and

(d) a schematic diagram of the facility with the sampling points and all other discharges clearly marked.

5. Test results shall be reported on forms provided to the certified laboratories by the Department. Two copies of all test reports shall be submitted within sixty (60) days of each test completion to:

Division of Water Quality
Bureau of Standard Permitting
CN-029
Trenton, New Jersey 08625
Attention: Industrial Biomonitoring Program

F. <u>Dilution Study</u>

1. To enable the Department to determine the need for Water Quality-Based Effluent Limitations, the permittee may be required to perform a Dilution Study and/or a Toxicity Identification Evaluation (TIE), if the effluent from the cooling tower blowdown outfall, DSN 461A, exhibits toxicity. Toxicity for this purpose is defined in paragraphs (a) or (b) below:

(a) the result of a valid acute toxicity test during the Acute Toxicity Characterization Study is reported as an LC50 less than 100%; or,

(b) the result of a valid chronic toxicity test during the Chronic Toxicity Characterization Study is reported as an NOEC less than 100%.

2. If the effluent from the cooling tower blowdown outfall, DSN 461A, exhibits toxicity as defined in paragraphs 1.(a) or 1.(b) above during the chronic or acute toxicity study testing required in Part IV-B/C, Section D and E,

additional acute and chronic testing will be required. The additional acute and chronic toxicity testing shall consist of four sets of chronic toxicity tests on the test species conducted at an increased frequency of monthly. Acute toxicity tests shall also be conducted at an increased monitoring frequency of monthly.

3. If the effluent from the cooling tower blowdown outfall, DSN 461A, exhibits toxicity as defined in paragraphs 1.(a) or 1.(b) above during conduct of additional acute and chronic toxicity testing as required in (2) above in two consecutive acute or chronic toxicity tests, the permittee shall initiate a Dilution Study in accordance with paragraph 4 below unless the Department approves the permittee's request to initiate a Toxicity Identification Evaluation (TIE) in accordance with paragraph 5 below prior to the conducting a dilution study.

4. Within 3 months of the Dilution Study being triggered under paragraph 3 and if the Department has not authorized a TIE priorto the dilution study, the permittee shall submit a Dilution Study Work Plan to the Department. The Dilution Study Work Plan shall be developed consistent with the Department's "Procedures and Requirements for Conducting Dilution Studies".

(a) Upon receipt of the Department's approval of the Dilution Study Work Plan, the permittee shall implement the Dilution Study in accordance with the approved plan and schedule.

(b) The permittee shall commence field work during the first designated "critical period" which occurs at least ninety (90) days after approval by the Department of the Dilution Study Work Plan. The "critical period(s)" shall be defined in the Dilution Study Work Plan and is that period which produces the minimal dilution. If a critical period exists during the 90 days after approval from the Department, the permittee is not precluded from commencing the Study during that period.

(b) The permittee shall submit to the Department a report of the results obtained from the Dilution Study within six (6) months of completion of the field work associated with the Dilution Study.

5. If a TIE is authorized by the Department under paragraph 3 above, the TIE shall be conducted as follows:

(a) The permittee shall submit a proposed plan to the Department within 90 days of the occurrence of the triggering toxicity test. The proposed TIE plan shall be prepared in accord with: "Methods for Aquatic Toxicity Identification Evaluations, Phase I Toxicity Characterization Procedures" (EPA 600 3-88 034) to address acute toxicity, or, "Toxicity Evaluation Identification:Characterization of Chronically Toxic Effluents" (EPA/600/6-91/005) to address chronically toxic effluents, or the most current revision to these documents.

(b) Upon receipt of the Department's approval of the proposed plan and schedule, the permittee shall implement the TIE in accordance with the approved plan and schedule. Progress reports detailing the activities undertaken and the data collected in connection with the TIE shall be submitted to the Department beginning 90 days from the date of receipt of NJDEP's approval of the TIE. Progress reports shall then be submitted on or before January 1, April 1, July 1, and October 1 of each year until the TIE is completed. The respective toxicity tests shall continue to be performed monthly during performance of the TIE unless reduced sampling frequency is approved by the Department.

G. DSN 462B Rerouting Modification

The permittee shall redirect the discharge from the Sewage Treatment Plant, DSN 462B, to the Cooling Tower Blowdown for treatment prior to discharge through DSN 461A. This modification shall be completed no later than EDP + one (1) year. Upon completion of the modification, the Permittee shall notify the Department of same and the effluent limitations and monitoring requirements of Part III-B/C.1.C.2 shall apply.

H. Continuous Monitoring

Part III-B/C requires continuous monitoring for certain parameters. In the event the continuous monitors are temporarily unavailable at DSN 461A or DSN 461C due to maintenance, calibration, or inoperability of the continuous monitor, the permittee may use one of the following methods for reporting during such interim periods:

1. DSN 461A Effluent Temperature - temperature detector located at the dechlorination system, a temporary continuous temperature monitor, or manual sampling once per shift.

2. DSN 461A Influent Temperature - a temporary continuous temperature monitor, or manual sampling once per shift.

3. DSN 461A Effluent Flow - an installed float meter, manual measurement of the height over the effluent weir once per shift, or a calculation based on the difference between intake flow and estimated evaporative losses.

4. DSN 461C Effluent Flow - calculations based on lift station pump operating hours or pumping events.

Any results from the alternative monitoring methodologies shall not be reported for periods when the primary monitoring device is correctly operating. This authorization to use alternative monitoring methodologies does not alleviate

permittee's obligation to maintain the primary monitoring instrumentation and devices and to ensure their proper operability and availability to the maximum extent practicable consistent with the applicable requirements of N.J.A.C. 7:14A-1 et. seq.

I. Service Water Bypass

To facilitate necessary Station maintenance, the permittee is authorized to temporarily redirect service water to discharge through DSN 463A, bypassing DSN 461A. The addition of sodium hypochlorite (or any other chemical biocide) shall be terminated during the bypass discharge. The following conditions must be met by the permittee:

1. Provide written notification to the Chief, Bureau of Standard Permitting and the Southern Bureau of Water and Hazardous Waste Enforcement prior to the bypass discharge. This notification shall include the expected dates of the bypass, confirmation that sodium hypochlorite addition to the service water will be terminated during the bypass, and a brief description of the reason the bypass is necessary.

2. Provide oral notification to the Southern Bureau of Water and Hazardous Waste Enforcement at least 24 hours prior to commencing the bypass discharge.

J. Flow Measurements using Rhodamine WT Dye

The permittee is authorized to perform periodic flow measurement testing of the cooling tower related systems using Rhodamine WT dye as a tracer. This dye will discharge to the Delaware River through outfall DSN 461A. The following conditions must be met by the permittee:

1. Provide written notification to the Chief, Bureau of Standard Permitting and the Southern Bureau of Water and Hazardous Waste Enforcement prior to the use of Rhodamine

WT dye. This notification shall include the expected dates of the discharge, the expected concentration of Rhodamine WT dye in the effluent, and the anticipated concentration of Rhodamine WT dye to be added.

2. Provide oral notification to the Southern Bureau of Water and Hazardous Waste Enforcement at least 24 hours prior to commencing the discharge of Rhodamine WT dye.

3. Within thirty (30) days of completion of the flow measurement testing, provide written notification of completion to the Chief, Bureau of Standard Permitting and the Southern Bureau of Water and Hazardous Waste Enforcement. This notification shall include the actual dates of the discharge, the actual concentration of Rhodamine WT dye in the effluent at DSN 461A, and the total quantity of Rhodamine WT dye added.

K. <u>Cooling Tower Total Suspended Solids Study</u>

1. The Permittee shall perform a cooling tower system TSS study to determine if the cooling tower system is quantitatively changing the volume of total solids from the influent in accordance with subsections (2) and (3) below.

2. The Permittee shall submit a Plan of Study to the Department within EDP+6 months. The Plan of Study shall eb implemented as approved by the Department. All sampling under the TSS Study shall be completed within 18 months after the Department's approval of the Plan of Study. The Final Study Report shall be submitted to the Department no later than 6 months after the scheduled date of completion of the sampling. The Plan of Study shall include, at a minimum:

   a. Proposed sample locations for influent and effluent samples. The Plan of Study shall include an initial evaluation of the efficacy of identified sample

points. This initial evaluation shall be completed within 6 months from initiation of the Study such that at least 12 months of data are collected at the designated sample locations. Upon completion of the initial evaluation, the Permittee shall submit the identification of the designated sample locations to the Department. If the Permittee determines a more representative sample location should be designated during the Study, the Permittee shall propose, in writing, a new designated sample location(s) and the basis for changing designated sample location(s). The Department may reject any change to the designated sample location by notifying the Permittee within 30 days of the Permittee's written submittal of the new sample location(s). The Permittee is not precluded from obtaining samples at additional locations and utilizing these data in the Final Report as long as the designated sample location data is also included.

b. Sample types proposed, such as grab, 24 hours composite, 6 hour composite, multiple grab, or sampling event relative to an external influence such as meteorology, time delay, or tide. The Plan of Study should include a discussion of the proposed sample types and the rationale for selection. The initial evaluation sample type(s) should be specified in the Plan of Study and the sample type(s) chosen for the remainder of the Study may be submitted to the Department at the time.

c. The following schedule for completing the Study:
   i. submittal of the Plan of Study by EDP+6 months;
   ii: completion of the initial evaluation within 6 months of Department approval of the Plan of Study;
   iii: completion of all sampling for the Study within 18 months of Department approval of the Plan of Study;
   iv: submittal of the final Study report within 6 months of completion of sampling.

d. Sampling shall be conducted at least two times per month during the sampling period at both the influent and the effluent of the cooling tower system.

3. The Permittee shall submit a final report summarizing the analytical data and presenting the results of the Study. The Permittee shall retain copies of all analytical data, including laboratory data sheets, for at least five years following submittal of the final report. Copies of this data shall be provided to the Department upon request.

L. Section 316 Determination Upon Reissuance

With respect to Section 316(b), the Department will make a determination at the time of permit renewal which will include, but will not be limited to, an evaluation of whether technologies, their costs and benefits, and potential for application at the Station have changed.

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 2.0

February 1996

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Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-2.5(a)12 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, consitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint, one effluent concentration shall be the chronic permit limitation, unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor, there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g., limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

				Permit Limit						Permit Limit	
Col #	1	2	3	4	5	Col #	1	2	3	4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

* Select the dilution series by finding the row which contains the permit limit in column #4.
NOTE: All values are in units of "% effluent" not toxic units.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt, except for *Champia parvula,* which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q^{R} or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameter are representative of the test concentrations during the test, measurements for these parameters should be taken in a additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints in must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicates that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (ICp) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC25 values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the ICp method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the ICp is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC25's can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC25 value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefigerated samples or unnapproved pretreatment of an effluent sample.

3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unnapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of ≥15 young per surviving female
Selenastrum capricornutum	Density ≥$2x10^5$cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
Champia parvula	100%	N/A	≥10 cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, postassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein.
The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purpose, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.

2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements, SRT data is considered applicable to a compliance test when an the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of a least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

Bureau of Point Source Permitting Region 1 **OR**
Bureau of Point Source Permitting Region 2 (as indicated in the cover letter)

New Jersey Department of Environmental Protection
Division of Water Quality
CN-029
Trenton, NJ 08625

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). J. Crustacean Biology 5:130-136.

2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.

3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). Proc. Natl. Acad. Sci. USA 81:3433-3437.

4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.

5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.

6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
CN 029
TRENTON, NEW JERSEY 08625
BIOMONITORING PROGRAM

CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM

THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST IS PREMATURELY ENDED FOR ANY REASON

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: ____/____/____ TEST END DATE: ____/____/____

REASON FOR CANCELLATION: _____

_____

_____

_____

_____

_____

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

_____

SAMPLING INITIATED: DATE: ___/___/___ TIME: _____

SAMPLING ENDED: DATE: ___/___/___ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

_____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.

October 26, 1993

MEMORANDUM FOR: Sholly Coordinator

FROM: James C. Stone, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II

SUBJECT: REQUEST FOR PUBLICATION IN BI-WEEKLY FR NOTICE - NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE (TAC NOS. M87183 AND M87184)

Public Service Electric & Gas Company, Docket Nos. 50-272 and 50-311, Salem Nuclear Generating Station, Unit Nos. 1 and 2, Salem County, New Jersey

Date of application for amendments: August 6, 1993

Brief description of amendments: These amendments modify Appendix B, Section 4.2.1, "Aquatic Monitoring," of the Environmental Protection Plan by incorporating the requirements of a revised Biological Opinion, issued by National Marine Fisheries Service on May 14, 1993.

Date of issuance: October 26, 1993

Effective date: October 26, 1993

Amendment Nos. 146 and 124

Facility Operating License Nos. DPR-70 and DPR-75. These amendments revised the Technical Specifications.

Date of initial notice in FEDERAL REGISTER: September 15, 1993 (58 FR 48388)

The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated October 26, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Salem Free Public Library, 112 West Broadway, Salem, New Jersey 08079

/S/

James C. Stone, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II

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

October 26, 1993

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Project Directorate I-2
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James C. Stone

James C. Stone, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II

9310280467 1p.

December 18, 1998

#1

Mr. Harold W. Keiser
Executive Vice President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Keiser:

The Commission has issued the enclosed Amendment Nos. 216 and 196 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 1, 1997, as supplemented on October 6, 1997, February 18 and July 7, 1998.

These amendments revise Technical Specification Section 4.2.1 of Appendix B to require that Public Service Electric & Gas Company (PSE&G) adhere to the Incidental Take Statement, issued by the National Marine Fisheries Service (NMFS), but removes the specific language in the Incidental Take Statement. Removing the specific language from Section 4.2.1 enables PSE&G to utilize relief granted by the NMFS on a case-by-case basis without further action by the NRC staff.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,
original signed by:
Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272/50-311

Enclosures: 1. Amendment No.216 to License No. DPR-70
2. Amendment No. 196 to License No. DPR-75
3. Safety Evaluation

cc w/encls: See next page

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B/11

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

December 18, 1998

Mr. Harold W. Keiser
Executive Vice President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Keiser:

The Commission has issued the enclosed Amendment Nos.216 and 196 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 1, 1997, as supplemented on October 6, 1997, February 18 and July 7, 1998.

These amendments revise Technical Specification Section 4.2.1 of Appendix B to require that Public Service Electric & Gas Company (PSE&G) adhere to the Incidental Take Statement, issued by the National Marine Fisheries Service (NMFS), but removes the specific language in the Incidental Take Statement. Removing the specific language from Section 4.2.1 enables PSE&G to utilize relief granted by the NMFS on a case-by-case basis without further action by the NRC staff.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272/50-311

Enclosures: 1. Amendment No.216 to
License No. DPR-70
2. Amendment No. 196 to
License No. DPR-75
3. Safety Evaluation

cc w/encls: See next page

Mr. Harold W. Keiser
Public Service Electric & Gas
Company

Salem Nuclear Generating Station,
Units 1 and 2

cc:

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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 216
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated August 1, 1997, as supplemented October 6, 1997, February 18 and July 7, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-70 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 216 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

Robert A. Capra, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: December 18, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 216

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix B as follows:

Remove Pages	Insert Pages
4-1	4-1
4-2	4-2

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events; onsite plant or animal disease outbreaks; mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973; fish kills or impingement events on the intake screens; increase in nuisance organisms or conditions; unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The Nuclear Regulatory Commission (NRC) will rely on the decisions made by the State of New Jersey under the authority of the Clean Water Act and, in the case of sea turtles and shortnose sturgeon, decisions made by the National Marine Fisheries Service (NMFS) under the authority of the Endangered Species Act, for any requirements pertaining to aquatic monitoring.

In accordance with Section 7(a) of the Endangered Species Act, on May 14, 1993, the National Marine Fisheries Service issued a Section 7 Consultation Biological Opinion related to the operation of Salem Unit 1 and 2 Generating Stations. The Section 7 Consultation entitled, "Reinitiation of a consultation in accordance with Section 7(a) of the Endangered Species Act regarding continued operation of the Salem and Hope Creek Nuclear Generating Stations on the eastern shore of the Delaware River in New Jersey," concluded that "...continued operation is not likely to jeopardize the continued existence of listed species."

PSE&G shall adhere to the specific requirements within the Incidental Take Statement, to the Biological Opinion. Changes to the incidental take statement must be proceeded by consultation between the NRC, as the authorizing agency, and NMFS.

The Conservation Recommendations, to the Biological Opinion suggests conservation recommendations for implementation by Salem Generating Station. The Station shall implement these recommendations to the satisfaction of the NRC and National Marine Fisheries Service.

4.2.2 Terrestrial Monitoring

Terrestrial monitoring is not required.

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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 196
License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated August 1, 1997, as supplemented October 6, 1997, February 18 and July 7, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-75 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 196, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: December 18, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 196

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix B as follows:

Remove Pages	Insert Pages
4-1	4-1
4-2	4-2

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events; onsite plant or animal disease outbreaks; mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973; fish kills or impingement events on the intake screens; increase in nuisance organisms or conditions; unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The Nuclear Regulatory Commission (NRC) will rely on the decisions made by the State of New Jersey under the authority of the Clean Water Act and, in the case of sea turtles and shortnose sturgeon, decisions made by the National Marine Fisheries Service (NMFS) under the authority of the Endangered Species Act, for any requirements pertaining to aquatic monitoring.

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PSE&G shall adhere to the specific requirements within the Incidental Take Statement, to the Biological Opinion. Changes to the incidental take statement must be proceeded by consultation between the NRC, as the authorizing agency, and NMFS.

The Conservation Recommendations, to the Biological Opinion suggests conservation recommendations for implementation by Salem Generating Station. The Station shall implement these recommendations to the satisfaction of the NRC and National Marine Fisheries Service.

4.2.2 Terrestrial Monitoring

Terrestrial monitoring is not required.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 216 AND 196 TO FACILITY OPERATING

LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated August 1, 1997, as supplemented on October 6, 1997, February 18 and July 7, 1998, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2, Environmental Protection Plan (EPP), Appendix B to the operating license. The requested changes would revise Section 4.2.1 of Appendix B to require that the licensee adhere to the Incidental Take Statement, approved by the National Marine Fisheries Service (NMFS), but removes the specific requirements. Removing the specific requirements of Section 4.2.1 enables the licensee to utilize relief granted by the NMFS on a case-by-case basis without further action by the NRC staff. The October 6, 1997, February 18 and July 7, 1998, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination nor the Federal Register notice.

2.0 EVALUATION

The current wording of Section 4.2.1 would require, in the event of changes to the Biological Opinion or the Incidental Take Statement, that the licensee continue to maintain, for example, daily cleaning of the trash racks, from June 1 through October 15, 1998, even though granted relief by the NMFS, until an amendment request could be submitted and approved by the NRC. The revision would enable the licensee to have the ability to use approvals from the NRC and NMFS without requiring amendments to the TS.

The proposed changes do not change the intent or the requirements of Section 4.2.1 which requires that the licensee must adhere to the requirements of the Incidental Take Statement and any changes that have been approved by the NMFS. Relief granted or changes to the Incidental Take Statement must be proceeded by consultation between the NRC, as the authorizing agency, and the NMFS. By removing the specific requirements from Section 4.2.1, the licensee may utilize relief granted by the NMFS without submitting an amendment request to the NRC (i.e., without conflicting with the TS).

The amendments do not affect the operation of the plant and do not involve any changes to the plant. Therefore, the NRC concludes that the amendments are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendments. By letter of October 6, 1997, the State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact has been prepared and published in the Federal Register on December 16, 1998 (63 FR 69330). Accordingly, based upon the environmental assessment, the staff has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: B. Buckley

Date: December 18, 1998

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

August 20, 1998

MEMORANDUM TO: Carl F. Dolinka, Acting Chief
Program Analysis Branch
Division of Budget and Analysis
Office of the Chief Financial Officer

FROM: Frank P. Gillespie, Director
Division of Inspection and Support Programs
Office of Nuclear Reactor Regulation

SUBJECT: EXPENDITURES FOR THE CONSERVATION OF ENDANGERED AND THREATENED SPECIES

In FY 1997, NRR staff spent a total of 95.5 hours ($12,510K) on actions directed toward the conservation of endangered species for Shortnose Sturgeons and Green, Kemp's Ridley, Loggerhead, Hawksbill and Leatherback Sea Turtles at St. Lucie 1&2, Salem 1&2, Brunswick 1, and Hope Creek.

In addition, 38 staff hours were spent ($4,978K) on the Endangered Species Action Plan and Coastal Zone Management Activities and $42K on contract activities with PNNL to determine and document NRC compliance with the Endangered Species Act.

If you have any questions, please contact Ron Villafranco on 415-1206 or E-mail RVV.

Attachments: FY 1997 Survey of Expenditures

cc: T. Heavey, OCFO

B/12

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	B	Thrush, large Kauai	Myadestes myadestinus	E			
1	B	Thrush, Molokai (=oloma`o)	Myadestes lanaiensis rutha	E			
1	B	Thrush, small Kauai (=puaiohi)	Myadestes palmeri	E			
2	B	Towhee, Inyo California (=brown)	Pipilo crissalis eremophilus	T			
2	B	Vireo, black-capped	Vireo atricapillus	E			
1	B	Vireo, least Bell's	Vireo bellii pusillus	E			
4	B	Warbler, Bachman's	Vermivora bachmanii	E			
2	B	Warbler, golden-cheeked	Dendroica chrysoparia	E			
3	B	Warbler, Kirtland's	Dendroica kirtlandii	E			
1	B	Warbler, nightingale reed	Acrocephalus luscinia	E			
1	B	White-eye, bridled	Zosterops conspicillatus conspicillatus	E			
4	B	Woodpecker, ivory-billed	Campephilus principalis	E			
4	B	Woodpecker, red-cockaded	Picoides borealis	E			
1	B	`Akepa, Hawaii (honeycreeper)	Loxops coccineus coccineus	E			
1	B	`Akepa, Maui (honeycreeper)	Loxops coccineus ochraceus	E			
1	B	`Akialoa, Kauai (honeycreeper)	Hemignathus procerus	E			
1	B	`Akiapola`au (honeycreeper)	Hemignathus munroi	E			
1	B	`O`o, Kauai (=`o`o `a`a) (honeyeater)	Moho braccatus	E			
1	B	`O`u (honeycreeper)	Psittirostra psittacea	E			
4	C	Anole, Culebra Island giant	Anolis roosevelti	E			
4	C	Boa, Mona	Epicrates monensis monensis	T			
4	C	Boa, Puerto Rican	Epicrates inornatus	E			
4	C	Boa, Virgin Islands tree	Epicrates monensis granti	E			
4	C	Crocodile, American	Crocodylus acutus	E			
4	C	Gecko, Monito	Sphaerodactylus micropithecus	E			
4	C	Iguana, Mona ground	Cyclura stejnegeri	T			
1	C	Lizard, blunt-nosed leopard	Gambelia silus	E			
1	C	Lizard, Coachella Valley fringe-toed	Uma inornata	T			
1	C	Lizard, Island night	Xantusia riversiana	T			
4	C	Lizard, St. Croix ground	Ameiva polops	E			
2	C	Rattlesnake, New Mexican ridge-nosed	Crotalus willardi obscurus	T			
4	C	Skink, bluetail mole	Eumeces egregius lividus	T			
4	C	Skink, sand	Neoseps reynoldsi	T			
4	C	Snake, Atlantic salt marsh	Nerodia clarkii taeniata	T			
2	C	Snake, Concho water	Nerodia paucimaculata	T			
3	C	Snake, copperbelly water (northern pop.)	Nerodia erythrogaster neglecta	T			
4	C	Snake, eastern indigo	Drymarchon corais couperi	T			
1	C	Snake, giant garter	Thamnophis gigas	T			
1	C	Snake, San Francisco garter	Thamnophis sirtalis tetrataenia	E			
1	C	Tortoise, desert	Gopherus agassizii	T			
4	C	Tortoise, gopher	Gopherus polyphemus	T			
4	C	Turtle, Alabama redbelly (=red-bellied)	Pseudemys alabamensis	E			
4	C	Turtle, flattened musk	Sternotherus depressus	T	2740		
2	C	Turtle, green sea	Chelonia mydas	E, T	1768		
2	C	Turtle, hawksbill sea (=carey)	Eretmochelys imbricata	E			

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
2	C	Turtle, Kemp's ridley sea	Lepidochelys kempii	E	2224		
2	C	Turtle, leatherback sea	Dermochelys coriacea	E	1768		
2	C	Turtle, loggerhead sea	Caretta caretta	T	2224		
2	C	Turtle, olive ridley sea	Lepidochelys olivacea	E, T			
5	C	Turtle, Plymouth redbelly (=red-bellied)	Pseudemys rubriventris bangsi	E			
4	C	Turtle, ringed map (=sawback)	Graptemys oculifera	T			
4	C	Turtle, yellow-blotched map (=sawback)	Graptemys flavimaculata	T			
4	D	Coqui, golden	Eleutherodactylus jasperi	T			
1	D	Frog, California red-legged	Rana aurora draytonii	T			
4	D	Gusjon	Eleutherodactylus cooki	T			
2	D	Salamander, Barton Springs	Eurycea sosorum	E			
5	D	Salamander, Cheat Mountain	Plethodon nettingi	T			
1	D	Salamander, desert slender	Batrachoseps aridus	E			
4	D	Salamander, Red Hills	Phaeognathus hubrichti	T			
2	D	Salamander, San Marcos	Eurycea nana	T			
1	D	Salamander, Santa Cruz long-toed	Ambystoma macrodactylum croceum	E			
5	D	Salamander, Shenandoah	Plethodon shenandoah	E			
2	D	Salamander, Sonoran tiger	Ambystoma tigrinum stebbinsi	E			
2	D	Salamander, Texas blind	Typhlomolge rathbuni	E			
1	D	Toad, Arroyo southwestern	Bufo microscaphus californicus	E			
2	D	Toad, Houston	Bufo houstonensis	E			
4	D	Toad, Puerto Rican crested	Peltophryne lemur	T			
6	D	Toad, Wyoming	Bufo hemiophrys baxteri	E			
2	E	Catfish, Yaqui	Ictalurus pricei	T			
4	E	Cavefish, Alabama	Speoplatyrhinus poulsoni	E			
4	E	Cavefish, Ozark	Amblyopsis rosae	T			
6	E	Chub, bonytail	Gila elegans	E			
1	E	Chub, Borax Lake	Gila boraxobius	E			
2	E	Chub, Chihuahua	Gila nigrescens	T			
6	E	Chub, humpback	Gila cypha	E			
1	E	Chub, Hutton tui	Gila bicolor ssp.	T			
1	E	Chub, Mohave tui	Gila bicolor mohavensis	E			
1	E	Chub, Oregon	Oregonichthys crameri	E			
1	E	Chub, Owens tui	Gila bicolor snyderi	E			
1	E	Chub, Pahranagat roundtail (=bonytail)	Gila robusta jordani	E			
4	E	Chub, slender	Erimystax cahni	T			
2	E	Chub, Sonora	Gila ditaenia	T			
4	E	Chub, spotfin (=turquoise shiner)	Cyprinella monacha	T			
6	E	Chub, Virgin River	Gila robusta semidnuda	E			
2	E	Chub, Yaqui	Gila purpurea	E			
1	E	Cui-ui	Chasmistes cujus	E			
1	E	Dace, Ash Meadows speckled	Rhinichthys osculus nevadensis	E			
4	E	Dace, blackside	Phoxinus cumberlandensis	T			
1	E	Dace, Clover Valley speckled	Rhinichthys osculus oligoporus	E			
1	E	Dace, desert	Eremichthys acros	T			

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
N	E	Salmon, chinook, Snake R. spring/summer run	Oncorhynchus tshawytscha	T			
N	E	Salmon, coho	Oncorhynchus (=Salmo) kisutch	T			
N	E	Salmon, sockeye (=red, =blueback), Snake R.	Oncorhynchus nerka	E			
4	E	Sculpin, pygmy	Cottus pygmaeus	T			
2	E	Shiner, beautiful	Cyprinella formosa	T			
4	E	Shiner, blue	Cyprinella caerulea	T			
4	E	Shiner, Cahaba	Notropis cahabae	E			
4	E	Shiner, Cape Fear	Notropis mekistocholas	E			
4	E	Shiner, Palezone	Notropis sp.	E			
2	E	Shiner, Pecos bluntnose	Notropis simus pecosensis	T			
4	E	Silverside, Waccamaw	Menidia extensa	T			
1	E	Smelt, delta	Hypomesus transpacificus	T			
2	E	Spikedace	Meda fulgida	T			
1	E	Spinedace, Big Spring	Lepidomeda mollispinis pratensis	T			
2	E	Spinedace, Little Colorado	Lepidomeda vittata	T			
1	E	Spinedace, White River	Lepidomeda albivallis	E			
1	E	Springfish, Hiko White River	Crenichthys baileyi grandis	E			
1	E	Springfish, Railroad Valley	Crenichthys nevadae	T			
1	E	Springfish, White River	Crenichthys baileyi baileyi	E			
6	E	Squawfish, Colorado	Ptychocheilus lucius	E			
1	E	Stickleback, unarmored threespine	Gasterosteus aculeatus williamsoni	E			
4	E	Sturgeon, Gulf	Acipenser oxyrhynchus desotoi	T			
6	E	Sturgeon, pallid	Scaphirhynchus albus	E			
N	E	Sturgeon, shortnose	Acipenser brevirostrum	E			
1	E	Sturgeon, white (Kootenai River pop.)	Acipenser transmontanus	E			
6	E	Sucker, June	Chasmistes liorus	E		786	
1	E	Sucker, Lost River	Deltistes luxatus	E			
1	E	Sucker, Modoc	Catostomus microps	E			
6	E	Sucker, razorback	Xyrauchen texanus	E			
1	E	Sucker, shortnose	Chasmistes brevirostris	E			
1	E	Sucker, Warner	Catostomus warnerensis	T			
2	E	Topminnow, Gila (incl. Yaqui)	Poeciliopsis occidentalis	E			
2	E	Trout, Apache (=Arizona)	Oncorhynchus apache	T			
2	E	Trout, Gila	Oncorhynchus gilae	E			
6	E	Trout, greenback cutthroat	Oncorhynchus clarki stomias	T			
1	E	Trout, Lahontan cutthroat	Oncorhynchus clarki henshawi	T			
1	E	Trout, Little Kern golden	Oncorhynchus aguabonita whitei	T			
1	E	Trout, Paiute cutthroat	Oncorhynchus clarki seleniris	T			
N	E	Trout, Umpqua River cutthroat	Oncorhynchus clarki clarki	E			
6	E	Woundfin	Plagopterus argentissimus	E			
4	F	Acornshell, southern	Epioblasma othcaloogensis	E			
4	F	Bean, purple (=Fine-rayed purple pearly mussel)	Villosa perpurpurea	E			
5	F	Clubshell	Pleurobema clava	E			
4	F	Clubshell, black (=Curtus' mussel)	Pleurobema curtum	E			
4	F	Clubshell, ovate	Pleurobema perovatum	E			

Public Service
Electric and Gas
Company

Louis F. Storz

Senior Vice President - Nuclear Operations

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-5700

JUL 07 1998

LR-E980232

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

Gentlemen:

**ADDITIONAL INFORMATION FOR LCR S97-04
APPENDIX B - ENVIRONMENTAL PROTECTION PLAN
SECTION 4.2.1 "AQUATIC MONITORING"
SALEM GENERATING STATION NOS. 1 AND 2
FACILITY OPERATING LICENSES DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311**

Public Service Electric & Gas (PSE&G) Company submitted LCR S97-04 (PSE&G Letter NLR-E970065) to revise the Technical Specifications (TS) for the Salem Generating Station Unit Nos. 1 and 2. As requested by the Nuclear Regulatory Commission during the conference call held on April 27, 1998, PSE&G is submitting the enclosed changes to Section 4.2.1 "Aquatic Monitoring" of Appendix B, Environmental Protection Plan as well as an environmental assessment of the changes, which are being submitted under oath. Enclosed are the marked-up pages as discussed, which also include the editorial changes.

This submittal does not impact the original non-significant hazard considerations in accordance with the criteria in 10CFR50.92(c).

Should you have any questions regarding this request, we will be pleased to discuss them with you.

Sincerely,

Affidavit
Attachments (2)

B113

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

REF: LR-E980232
LCR S97-04

STATE OF NEW JERSEY)
) SS.
COUNTY OF SALEM)

L. F. Storz, being duly sworn according to law deposes and says:

I am Senior Vice President - Nuclear Operations of Public Service Electric and Gas Company, and as such, I find the matters set forth in the above referenced letter, concerning Salem Generating Station, Units 1 and 2, are true to the best of my knowledge, information and belief.

L. F. Storz

Subscribed and Sworn to before me
this 7th day of July, 1998

Deloris D. Hadden
Notary Public of New Jersey

DELORIS D. HADDEN
Notary Public of New Jersey
My Commission Expires
03-29-2000

My Commission expires on _____

SALEM GENERATING STATION UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSES DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311
CHANGE TO TECHNICAL SPECIFICATIONS
SECTION 4.2.1 "AQUATIC MONITORING" - EPP

ENVIRONMENTAL ASSESSMENT

PROPOSED CHANGES

The proposed changes modify Section 4.2.1, "Aquatic Monitoring", in Appendix B of the Salem, Units 1 and 2, Facility Operating Licenses (Environmental Protection Plan) as shown in the attached marked up copy.

PSE&G is proposing to restructure Section 4.2.1, "Aquatic Monitoring", of the Environmental Protection Plan to generically state that PSE&G will adhere to the Section 7, Incidental Take Statement. Revising this section will provide PSE&G flexibility as granted by the Nuclear Regulatory Commission (NRC) and the National Marine Fisheries Service (NMFS).

BACKGROUND

On May 14, 1993, the National Marine Fisheries Service (NMFS) issued a Biological Opinion in accordance with Section 7 (b)(4) of the Endangered Species Act. Included in the Biological Opinion is an Incidental Take Statement which lists requirements to be implemented to provide reasonable and prudent measures necessary to minimize impacts. The NRC transmitted this Biological Opinion to PSE&G on June 2, 1993, and requested that PSE&G propose changes to the Environmental Protection Plan (EPP), Appendix B of the Salem Units 1 and 2, Facility Operating Licenses, which would reflect the Incidental Take Statement. The proposed EPP changes were submitted to the NRC in PSE&G letters dated August 6, 1993 (NLR-E93114, LCR 93-23).

PSE&G is required to implement these items no matter what the operating scenarios are at the Salem Units 1 and 2. In the past two summers, both Salem Units 1 and 2 were shut down. During that time, few circulating pumps were in operation and little debris was accumulating. PSE&G proposed to NMFS to reduce the cleaning requirements and was granted this relief on daily cleaning of the trash racks. However, due to the wording in Section 4.2.1, PSE&G had to maintain the daily cleaning of the trash racks and could not take advantage of the relief letter from NMFS. With this proposed change, PSE&G will have the ability to use approvals from the NRC and NMFS without conflicting with the Technical Specifications.

The trash rack cleaning requirement within the Section 7, Incidental Take Statement specifies a measure to minimize the impact of the circulating water intake system on threatened and endangered sea turtles. Cleaning the trash racks on a daily basis reduces the overall intake velocity and avoids pockets of high velocity due to accumulated debris. When the circulating pumps are not operating velocity through their associated trash rack is zero.

ENVIRONMENTAL IMPACT

The proposed changes to the Salem 1 and 2 operating licenses are administrative in nature and would result in no significant radiological environmental impact because the changes only affect the wording of the EPP. They do not increase the probability or consequences of any reactor accidents because the change does not affect the operation or performance of any equipment assumed in the accident analysis. The changes do not affect any non-radiological plant effluents.

The changes will not impact debris removal from the intake trash racks as required to support efficient plant operation. The changes will grant PSE&G the ability to avoid daily trash rack cleaning if the need arises and permission from NRC and NMFS is approved. There is no environmental impact from the administrative changes PSE&G is proposing.

CONCLUSIONS

The proposed changes do not change the requirement or intent of Section 4.2.1, "Aquatic Monitoring". Removing the specific wording within this section allows PSE&G to utilize relief granted by NRC and NMFS on a case-by-case basis. There is no environmental impact from the administrative changes PSE&G is proposing.

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events; onsite plant or animal disease outbreaks; mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973; fish kills or impingement events on the intake screens; increase in nuisance organisms or conditions; unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The NRC will rely on the decisions made by the State of New Jersey under the authority of the Clean Water Act and, in the case of sea turtles and shortnose sturgeon, decisions made by the National Marine Fisheries Service (NMFS) under the authority of the Endangered Species Act, for any requirements pertaining to aquatic monitoring.

Delete & insert new section

In accordance with Section 7(a) of the Endangered Species Act, on May 14, 1993, the National Marine Fisheries Service issued a Section 7 Consultation Biological Opinion related to the operation of Salem Unit 1 and 2 Generating Stations. This Section 7 Consultation entitled, "Reinitiation of a consultation in accordance with Section 7(a) of the Endangered Species Act regarding continued operation of the Salem and Hope Creek Nuclear Generating Stations on the eastern shore of the Delaware River in New Jersey," concluded that "...continued operation is not likely to jeopardize the continued existence of listed species."

In accordance with Attachment 1, Incidental Take Statement, to this Biological Opinion, and all subsequent amendments as may be approved by the National Marine Fisheries Services, PSE&G shall:

(1) Inspect the Salem Station circulating water intake trash bars at least once every two hours from June 1 through October 15. These inspections should be documented.

(2) Clean the Salem Station circulating water trash bars once per day from June 1 through October 15. These cleanings should be documented.

DELETE

(3) If a lethal incidental take of an endangered or threatened species occurs between June 1 through September 30, that is directly attributable to the plant intake structure, monitoring of the Salem CWS intake structure must be conducted hourly (rather than every 2 hours). Two hour monitoring may be reestablished from October 1 through October 15, however, if a lethal take occurs, monitoring must be again conducted hourly.

(4) Make use of dip nets and other equipment whenever possible to remove smaller sea turtles from intake water trash racks to reduce trauma caused by the existing cleaning mechanism. Use supplemental lighting during night inspections to assist noting sea turtles at the circulating water intake, impinged on the trash racks.

(5) Implement the sea turtle resuscitation procedures for comatose turtles described in Appendix I of the Section 7 Biological Opinion. These procedures and related materials shall be posted in appropriate areas such as the fish pool buildings and the circulating water intake operators office.

(6) The monitoring and reporting system established in 1981 and modified in Appendix II of the Section 7 Biological Opinion will continue. These reports shall be sent to the NMFS, North East Region (NER) within 30 days of any incidental take. Notification and reporting to the NRC shall be in accordance with Section 4.1 of this EPP.

Attachment 2, Conservation Recommendations, to this Biological Opinion suggests conservation recommendations for implementation by Salem Generating Station. The Station shall implement these recommendations to the satisfaction of the National Marine Fisheries Service.

4.2.2 Terrestrial Monitoring

Terrestrial monitoring is not required.

NEW SECTION

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The Nuclear Regulatory Commission (NRC) will rely on the decisions made by the State of New Jersey under the authority of the Clean Water Act and, in the case of sea turtles and shortnose sturgeon, decisions made by the National Marine Fisheries Service (NMFS) under the authority of the Endangered Species Act, for any requirements pertaining to aquatic monitoring.

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PSE&G shall adhere to the specific requirements within the Incidental Take Statement, to the Biological Opinion. Changes to the incidental take statement must be proceeded by consultation between the NRC, as the authorizing agency, and NMFS.

The Conservation Recommendations, to the Biological Opinion suggests conservation recommendations for implementation by Salem Generating Station. The Station shall implement these recommendations to the satisfaction of the NRC and National Marine Fisheries Service.

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The Conservation Recommendations, to the Biological Opinion suggests conservation recommendations for implementation by Salem Generating Station. The Station shall implement these recommendations to the satisfaction of the NRC and National Marine Fisheries Service.

From: Melinda Malloy
To: pdm – PATRICK Milano
Date: 6/22/98 1:58pm
Subject: Letter to PSE&G on Reinitiation of Consultation

Pat:

Back on June 3, Jim Wilson sent you an email on the reininitation of consultation with NMFS under Section 7 of the Endangered Species Act for Salem 1/2 & Hope Creek. His message included a draft letter to PSE&G to inform it that the staff has reinitiated consultation, which PGEB wanted you to issue once the letter to NMFS requesting reinitiation of consultation was dispatched.

As the letter to NMFS was signed on June 15, this is a reminder on getting the letter to PSE&G in the system while we have some momentum. Jim will be having a busy summer on a couple of new projects, so it would be a good idea to get this item rolling while we have an opportunity. The enclosed file is the draft version of acceptable text for such a letter (Jim sent to you previously). Please put Tom Essig on concurrence.

Thanks...Melinda

If you have any questions, please give me a call at 415-1108.

CC: jhwl

B/14

Dr. Andrew A. Rosenberg, Regional Administrator
National Marine Fisheries Service,
Northeast Region
National Oceanographic
and Atmosperic Administration
1 Blackburn Drive
Glouster, MA 01030

June 15, 1998

D2

SUBJECT: REQUEST FOR REINITIATION OF CONSULTATION ON SEA TURTLES AT SALEM AND HOPE CREEK NUCLEAR GENERATING STATION (TAC NOS. MA2004, MA2005, AND MA2016)

Dear Dr. Rosenburg:

In a letter to the NRC dated July 30, 1997, the Public Service Electric and Gas Company (PSE&G) submitted a report dated June 1997, entitled, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." A copy of this report is enclosed.

In light of the new information contained in this report, the NRC staff is seeking to reinitiate consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act. Because PSE&G has completed its telemetry studies of sea turtle habitat utilization, the staff believes that it is appropriate to remove the requirement to obtain more definitive habitat utilization data (Requirement 7) from the incidental take statement in the biological opinion for the Salem and Hope Creek Nuclear Generating Stations.

Please contact Mr. James H. Wilson of my staff at (301) 415-1108 if you have any questions.

Sincerely,

"Original Signed By"

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Enclosure: As stated

cc w/o encl: See attached list

Docket Nos. 50-272/50-311/50-354
DISTRIBUTION: w/o encl.
Central f/c
PGEB r/f
PMilano
DOCUMENT NAME:G:\JHW1\SLM-NMFS.ITS ***See previous concurrence**

OFC	*PGEB	*PGEB	*DRPE:PDI-2	AC:PGEB
NAME	JWilson:ayw	MMalloy	RCapra	TEssig
DATE	06/05/98	06/09/98	06/09/98	6 /15/98

OFFICIAL RECORD COPY

B/15

Public Service Electric & Gas
Company

Salem Nuclear Generating Station,
Units 1 and 2, and
Hope Creek Generating Station

cc w/o encl:

Mr. Harold W. Keiser
Executive Vice President-
Nuclear Business Unit
Public Service Electric and Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

Jeffrie J. Keenan, Esquire
Nuclear Business Unit - N21
P.O. Box 236
Hancocks Bridge, NJ 08038

General Manager - Salem Operations
Salem Nuclear Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

Mr. Louis Storz
Sr. Vice President - Nuclear Operations
Nuclear Department
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Hancocks Bridge, NJ 08038

Senior Resident Inspector
Salem Nuclear Generating Station
U.S. Nuclear Regulatory Commission
Drawer 0509
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Dr. Jill Lipoti, Asst. Director
Radiation Protection Programs
NJ Department of Environmental
Protection and Energy
CN 415
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Maryland Office of People's Counsel
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Joint Owner Affairs
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Mr. Elbert Simpson
Senior Vice President-
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Nuclear Department
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Hope Creek Resident Inspector
U.S. Nuclear Regulatory Commission
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Hancocks Bridge, NJ 08038

Richard Hartung
Electric Service Evaluation
Board of Regulatory Commissioners
2 Gateway Center, Tenth Floor
Newark, NJ 07102

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Lower Alloways Creek Township
c/o Mary O. Henderson, Clerk
Municipal Building, P.O. Box 157
Hancocks Bridge, NJ 08038

Manager-Licensing and Regulation
Nuclear Busienss Unit - N21
P.O. Box 236
Hancocks Bridge, NJ 08038

Public Service Electric & Gas Company

Salem Nuclear Generating Station, Units 1 and 2, and Hope Creek Generating Station

cc w/o encl:

Mr. David Wersan
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Manager - Joint Generation
Atlantic Energy
6801 Black Horse Pike
Egg Harbor Twp., NJ 08234-4130

Carl D. Schaefer
External Operations - Nuclear
Delmarva Power & Light Company
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Wilmington, DE 19899

Public Service Commission of Maryland
Engineering Division
Chief Engineer
6 St. Paul Centre
Baltimore, MD 21202-6806

General Manager - Hope Creek Operations
Hope Creek Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

From: Melinda Malloy — Patrick Milano
To: WNP3(PDM)
Date: 6/5/98 2:23pm
Subject: TAC Number for Consultation with NMFS on Salem, etc.

Pat:

Jim & I seem to recall that these TAC Nos. (see your message to Jim below) are the ones associated with the removal of specific provisions of the incidental take statement from the TS. We think that there should be a separate TAC No. for the reinitiation of consultation w/ NMFS. Because the biological assessment and biological opinion considered Salem 1/2 & Hope Creek together, the work we do with PSE&G will cover both sites. The TAC title we suggest is: Salem 1/2 & Hope Creek - Reinitiation of Consultation with NMFS under Section 7 of ESA. You may want to coordinate with the Hope Creek PM to find out whether this arrangement is o.k. with him/her and to what extent they want to be involved in the process. If you don't think this will work well, we're open to consider alternatives.

I've had Rob Jolly working on extracting documents & correspondence on Salem/Hope Creek from NUDOCS related to the BA/BO, etc. We've developed a table of correspondence and would like to have your LA and PSE&G look it over for omissions. Please let us know how you would like to accomplish this.

Thanks...Melinda

>>> Patrick Milano 06/04/98 07:20am >>>
M99361 and M99362.

CC: jhwl, cmc1, rxj4, the

From: Patrick Milano
To: WNP5(JHW1) — James Wilson
Date: 6/4/98 7:20am
Subject: TAC Number for Consultation with NMFS on Salem -Reply

M99361 and M99362.

B/17

From: James Wilson
To: WNP3.PDM — PATRICK Milano
Date: 6/3/98 4:24pm
Subject: TAC Number for Consultation with NMFS on Salem

Pat:

Please get me TAC numbers for the Salem reininitation of consultation with NMFS under Section 7 of the Endangered Species Act.

We have prepared a letter to NMFS, requesting reinitiation of consultation (we will be asking Bob Capra to concur). Once we have issued that letter, you should send a letter to your licensee informing it that the staff has reinitiated consultation. The enclosed file contains a draft version of acceptable text for such a letter - please put Tom Essig on concurrence.

If you have any questions, please give me a call at 415-1108.

CC: WNP3.RAC1, THE, MXM

From: James Wilson
To: MXM, THE — melinda Malloy Thomas Essig
Date: 6/3/98 4:29pm
Subject: Letter to NMFS, Requesting Reinitiation of Consultation Under ESA

Please look over the attached file, and give me your comments.

A previous e-mail provided the text of a letter to the licensee for Capra's signature.

CC: CMC

B/19

5/21/98

Laurie Silva Allen ~~(508)~~ 978 281-9291 NMFS, NE Region — out of the office til 6/1

Barbara Schroeder NMFS HQ (301) 713-1401

Nancy Haley (203) 783-4264 Milford, CT

6/3

Laurie Silva Allen (978) 281-9291 No longer working on turtles - call Nancy Haley at Milford CT
recent reorg - Rosenberg is Regional Administrator, not director

Nancy Haley (203) 783-4264 - 15 month old at home — T Wed Th — working on thesis, a Fisheries Biology at U Mass Amherst 9/30

(Colleen Coogan, now in HQ on detail)

1/2 of a part-time person working on Section 7 consultation, 23 hrs/wk - Salem - Hope Cr. #4 in queue
will be having a staff meeting
Send her a copy of the Shortnose Stu

Nancy Haley NMFS
212 Rogers Ave
Milford CT 06460

B/20

10
4/28/98
15 E-11

QUESTIONS FOR SALEM REVIEW OF CHANGES TO EPP

- The staff needs a copy of the Biological Opinion (BO). The NRC should have it in the files. The National Marine Fisheries Service (NMFS) sends the BO to us, then we forward the BO to the licensee.

- Absent the details of the BO requirements in Appendix B, the EPP, how will operators know what actions to take to meet the requirements of the BO. Relief may be granted for some provisions of the BO while others may not. Relief from the BO requirements will be in the form of a letter from the NRC to the licensee, enclosing the NMFS determination. Where will the revised, temporary requirements/reliefs be codified?

- The Endangered Species Act (ESA) and 50 CFR 402 outline responsibilities under the Act. Section 7(a)(2) of the Act requires that Federal agencies ensure that any action it authorizes (i.e., nuclear power plant operation) will not likely jeopardize endangered species. The burden of meeting the ESA is on the NRC and its licensees. NMFS has no direct regulatory authority over NRC licensees. We recognize there may be extenuating circumstances where relief from the requirements of the BO may be needed; however, those requests for relief and the permission of relief will come ~~from~~ through the NRC, not directly from NMFS. Therefore, the EPP, should accurately reflect NRC's role in the implementation of the BO.

B/21

From: Claudia Craig
To: WNP3.PDM — PATRICK Milano
Date: 4/22/98 8:20am
Subject: Salem amendment package

Pat
This is a follow-up to your discussions with Melinda yesterday. First, we need a copy of the Biological Opinion to know what they are required to do. Second, we're not happy with the words they've proposed in the TS (we checked with OGC and they would not be comfortable with them either). It sounds like they want to deal directly with NMFS to get relief. That's not how the endangered species act works. The licensee needs to request relief through the NRC, we then request it of NMFS, NMFS replies to us, and then we have the licensee implement it. The NRC is the implementing agency under ESA, while NMFS is the expert in developing the opinion and requirements, etc. I don't think we have a problem with Salem taking the details out of the EPP, but we have to remain in the loop, per ESA. Also, was there an EA done for this or was it a categorical exclusion? Also, how will Salem know what the requirements are that they are working under if it is not in the TS and they may have letters granting relief from certain ITS requirements and maybe not others. It seems like it could get confusing. We also didn't understand the third paragraph on the cover letter. The package is on my desk if you want it back to see our comments. Thanks.

CC: MXM, JHW1

B/22

May 20, 1999

MEMORANDUM TO: Richard R. Rough, Director
Division of Planning, Budget, and Analysis
Office of the Chief Financial Officer

FROM: David B. Matthews, Director Scott Newberry for/
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

SUBJECT EXPENDITURES FOR THE CONSERVATION OF ENDANGERED AND THREATENED SPECIES

In FY 1998, NRR staff spent a total of 135.5 hours ($17,750) on actions directed toward the conservation of endangered species for Shortnose Sturgeons and Green, Kemp's Ridley, Loggerhead, Hawksbill, and Leatherback Sea Turtles at St. Lucie Units 1 and 2, Salem Units 1 and 2, Maine Yankee, Crystal River 3, and Hope Creek.

If you have any questions, please contact T. Kenyon at 415-1120 or e-mail TJK2.

Attachment:
FY 1998 Survey of Expenditures

cc: T. Heavey
J. Johnson
J. Silber

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

May 20, 1999

MEMORANDUM TO: Richard R. Rough, Director
Division of Planning, Budget, and Analysis
Office of the Chief Financial Officer

FROM: David B. Matthews, Director
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

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1998 Endangered Species Expenditures Template

Welcome to the working template for reporting 1998 expenditures for endangered and threatened species. Column D gives scientific names, column A is FWS lead Regional Office; column B is a Group Code that sequences the groups (mammals, birds, . . . plants) as in the List. A running total of expenditures for each column is kept under each heading

NOTE: AMOUNTS IN THOUSANDS OF $$$

If you have any questions, contact Susan Jacobsen at 703/358-2105

Reg.								
3	A	Bat, gray	E					
1	A	Bat, Hawaiian hoary	E					
3	A	Bat, Indiana	E					
2	A	Bat, lesser long-nosed	E					
1	A	Bat, little Mariana fruit	E					
1	A	Bat, Mariana fruit	E					
2	A	Bat, Mexican long-nosed	E					
2	A	Bat, Ozark big-eared	E					
5	A	Bat, Virginia big-eared	E					
6	A	Bear, grizzly	T					
4	A	Bear, Louisiana black	T					
1	A	Caribou, woodland	E					
5	A	Cougar, eastern	E					
1	A	Deer, Columbian white-tailed	E					
4	A	Deer, key	E					
6	A	Ferret, black-footed	E					
1	A	Fox, San Joaquin kit	E					
2	A	Jaguar	E					
2	A	Jaguarundi	E					
2	A	Jaguarundi	E					
1	A	Kangaroo rat, Fresno	E					
1	A	Kangaroo rat, giant	E					
1	A	Kangaroo rat, Morro Bay	E					
1	A	Kangaroo rat, San Bernardino Merriam's	E					
1	A	Kangaroo rat, Stephens'	E					
1	A	Kangaroo rat, Tipton	E					
4	A	Manatee, West Indian (=Florida)	E					
1	A	Mountain beaver, Point Arena	E					
4	A	Mouse, Alabama beach	E					
4	A	Mouse, Anastasia Island beach	E					
4	A	Mouse, Choctawahatchee beach	E					
4	A	Mouse, Key Largo cotton	E					
1	A	Mouse, Pacific pocket	E					
4	A	Mouse, Perdido Key beach	E					
6	A	Mouse, Preble's meadow jumping	T					
1	A	Mouse, salt marsh harvest	E					
4	A	Mouse, southeastern beach	T					
2	A	Ocelot	E					
1	A	Otter, southern sea	T					
4	A	Panther, Florida	E					
ô	A	Prairie dog, Utah	T					
2	A	Pronghorn, Sonoran	E					
4	A	Rabbit, Lower Keys	E					
4	A	Rice rat (=silver rice rat)	E					
N	A	Sea-lion, Steller	E, T					
N	A	Seal, Caribbean monk	E					

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
N	A	Seal, guadalupe fur	T			
N	A	Seal, Hawaiian monk	E			
1	A	Sheep, bighorn (Peninsular Ranges pop. in CA)	E			
5	A	Shrew, Dismal Swamp southeastern	T			
4	A	Squirrel, Carolina northern flying	E			
5	A	Squirrel, Delmarva Peninsula fox	E			
2	A	Squirrel, Mount Graham red	E			
5	A	Squirrel, Virginia northern flying	E			
1	A	Vole, Amargosa	E			
4	A	Vole, Florida salt marsh	E			
2	A	Vole, Hualapai Mexican	E			
N	A	Whale, blue	E			
N	A	Whale, bowhead	E			
N	A	Whale, finback	E			
N	A	Whale, gray	E			
N	A	Whale, humpback	E			
N	A	Whale, right	E			
N	A	Whale, Sei	E			
N	A	Whale, sperm	E			
3	A	Wolf, gray	E, T			
4	A	Wolf, red	E			
4	A	Woodrat, Key Largo	E			
1	B	'Akepa, Hawai (honeycreeper)	E			
1	B	'Akepa, Maui (honeycreeper)	E			
1	B	'Akialoa, Kauai (honeycreeper)	E			
1	B	'Akiapola'au (honeycreeper)	E			
4	B	Blackbird, yellow-shouldered	E			
2	B	Bobwhite, masked (quail)	E			
1	B	Broadbill, Guam	E			
4	B	Caracara, Audubon's crested	T			
1	B	Condor, California	E			
1	B	Coot, Hawaiian (='alae-ke'oke'o)	E			
4	B	Crane, Mississippi sandhill	E			
2	B	Crane, whooping	E			
1	B	Creeper, Hawaii	E			
1	B	Creeper, Molokai (=kakawahie)	E			
1	B	Creeper, Oahu (=alauwahio)	E			
1	B	Crow, Hawaiian (='alala)	E			
1	B	Crow, Mariana	E			
4	B	Crow, white-necked	E			
7	B	Curlew, Eskimo	E			
1	B	Duck, Hawaiian (=koloa)	E			
1	B	Duck, Laysan	E			
3	B	Eagle, bald	T			
7	B	Eider, spectacled	T			

AMOUNTS IN THOUSANDS OF $$$

Reg.								
7	B	Eider, Steller's	T					
1	B	Falcon, American peregrine	E					
2	B	Falcon, northern aplomado	E					
1	B	Finch, Laysan (honeycreeper)	E					
1	B	Finch, Nihoa (honeycreeper)	E					
2	B	Flycatcher, southwestern willow	E					
1	B	Gnatcatcher, coastal California	T					
7	B	Goose, Aleutian Canada	T					
1	B	Goose, Hawaiian (=nene)	E					
1	B	Hawk, Hawaiian (=io)	E					
4	B	Hawk, Puerto Rican broad-winged	E					
4	B	Hawk, Puerto Rican sharp-shinned	E					
1	B	Honeycreeper, crested (=`akohekohe)	E					
4	B	Jay, Florida scrub	T					
1	B	Kingfisher, Guam Micronesian	E					
4	B	Kite, Everglade snail	E					
1	B	Mallard, Mariana	E					
1	B	Megapode, Micronesian (=La Perouse's)	E					
1	B	Millerbird, Nihoa (old world warbler)	E					
1	B	Monarch, Tinian (old world flycatcher)	T					
1	B	Moorhen, Hawaiian common	E					
1	B	Moorhen, Mariana common	E					
1	B	Murrelet, marbled	T					
4	B	Nightjar, Puerto Rican	E					
1	B	Nukupu`u (honeycreeper)	E					
1	B	`O`o, Kauai (=`o`o `a`a) (honeyeater)	E					
1	B	`O`u (honeycreeper)	E					
2	B	Owl, Mexican spotted	T					
1	B	Owl, northern spotted	T					
1	B	Palila (honeycreeper)	E					
4	B	Parrot, Puerto Rican	E					
1	B	Parrotbill, Maui (honeycreeper)	E					
1	B	Pelican, brown	E					
1	B	Petrel, Hawaiian dark-rumped	E					
4	B	Pigeon, Puerto Rican plain	E					
3	B	Plover, piping	E, T					
1	B	Plover, western snowy	T					
1	B	Po`ouli (honeycreeper)	E					
2	B	Prairie-chicken, Attwater's greater	E					
2	B	Pygmy-owl, cactus ferruginous	E					
1	B	Rail, California clapper	E					
1	B	Rail, Guam	E					
1	B	Rail, light-footed clapper	E					
2	B	Rail, Yuma clapper	E					
1	B	Shearwater, Newell's Townsend's (formerly Man	T					

Reg.			Status	General	Lands	Grand Total
1	B	Shrike, San Clemente loggerhead	E			
4	B	Sparrow, Cape Sable seaside	E			
4	B	Sparrow, Florida grasshopper	E			
1	B	Sparrow, San Clemente sage	T			
1	B	Stilt, Hawaiian (=ae'o)	E			
4	B	Stork, wood	E			
1	B	Swiftlet, Mariana gray (=vanikoro)	E			
1	B	Tern, California least	E			
3	B	Tern, least	E			
5	B	Tern, roseate	E, T			
1	B	Thrush, large Kauai	E			
1	B	Thrush, Molokai (=olomao)	E			
1	B	Thrush, small Kauai (=puaiohi)	E			
2	B	Towhee, Inyo California (=brown)	T			
2	B	Vireo, black-capped	E			
1	B	Vireo, least Bell's	E			
4	B	Warbler, Bachman's	E			
2	B	Warbler, golden-cheeked	E			
3	B	Warbler, Kirtland's	E			
1	B	Warbler, nightingale reed	E			
1	B	White-eye, bridled	E			
4	B	Woodpecker, ivory-billed	E			
4	B	Woodpecker, red-cockaded	E			
4	C	Anole, Culebra Island giant	E			
4	C	Boa, Mona	T			
4	C	Boa, Puerto Rican	E			
4	C	Boa, Virgin Islands tree	E			
4	C	Crocodile, American	E			
4	C	Gecko, Monito	E			
4	C	Iguana, Mona ground	T			
1	C	Lizard, blunt-nosed leopard	E			
1	C	Lizard, Coachella Valley fringe-toed	T			
1	C	Lizard, island night	T			
4	C	Lizard, St. Croix ground	E			
2	C	Rattlesnake, New Mexican ridge-nosed	T			
4	C	Skink, bluetail mole	T			
4	C	Skink, sand	T			
4	C	Snake, Atlantic salt marsh	T			
2	C	Snake, Concho water	T			
3	C	Snake, copperbelly water (northern pop.)	T			
4	C	Snake, eastern indigo	T			
1	C	Snake, giant garter	T			
1	C	Snake, San Francisco garter	E			
1	C	Tortoise, desert	T			
4	C	Tortoise, gopher	T			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	C	Turtle, Alabama redbelly (=red-bellied)	E			
5	C	Turtle, bog (=Muhlenberg)	T			
4	C	Turtle, flattened musk	T			
2	C	Turtle, green sea	E, T	$ 2-37 K		
2	C	Turtle, hawksbill sea (=carey)	E	$ 2-37 K		
2	C	Turtle, Kemp's ridley sea	E	$ 2-37 K		
2	C	Turtle, leatherback sea	E	$ 2-37 K		
2	C	Turtle, loggerhead sea	T	$ 2-37 K		
2	C	Turtle, olive ridley sea	E, T			
5	C	Turtle, Plymouth redbelly (=red-bellied)	E			
4	C	Turtle, ringed map (=sawback)	T			
4	C	Turtle, yellow-blotched map (=sawback)	T			
1	C	Whipsnake, (=striped racer) Alameda	T			
4	D	Coqui, golden	T			
1	D	Frog, California red-legged	T			
4	D	Guajon	T			
2	D	Salamander, Barton Springs	E			
5	D	Salamander, Cheat Mountain	T			
1	D	Salamander, desert slender	E			
4	D	Salamander, Red Hills	T			
2	D	Salamander, San Marcos	T			
1	D	Salamander, Santa Cruz long-toed	E			
5	D	Salamander, Shenandoah	E			
2	D	Salamander, Sonoran tiger	E			
2	D	Salamander, Texas blind	E			
1	D	Toad, Arroyo southwestern	E			
2	D	Toad, Houston	E			
4	D	Toad, Puerto Rican crested	T			
6	D	Toad, Wyoming	E			
2	E	Catfish, Yaqui	T			
4	E	Cavefish, Alabama	E			
4	E	Cavefish, Ozark	T			
6	E	Chub, bonytail	E			
1	E	Chub, Borax Lake	E			
2	E	Chub, Chihuahua	T			
6	E	Chub, humpback	E			
1	E	Chub, Hutton tui	T			
1	E	Chub, Mohave tui	E			
1	E	Chub, Oregon	E			
1	E	Chub, Owens tui	E			
1	E	Chub, Pahranagat roundtail (=bonytail)	E			
4	E	Chub, slender	T			
2	E	Chub, Sonora	T			
4	E	Chub, spotfin (=turquoise shiner)	T			
6	E	Chub, Virgin River	E			

AMOUNTS IN THOUSANDS OF $$$

Lead Reg	Group	Inverted Common Name	Status	General	Lands	Grand Total
2	E	Chub, Yaqui	E			
1	E	Cui-ui	E			
1	E	Dace, Ash Meadows speckled	E			
4	E	Dace, blackside	T			
1	E	Dace, Clover Valley speckled	E			
1	E	Dace, desert	T			
1	E	Dace, Foskett speckled	T			
1	E	Dace, Independence Valley speckled	E			
6	E	Dace, Kendall Warm Springs	E			
1	E	Dace, Moapa	E			
4	E	Darter, amber	E			
4	E	Darter, bayou	T			
4	E	Darter, bluemask (=jewel)	E			
4	E	Darter, boulder (=Elk River)	E			
4	E	Darter, Cherokee	T			
4	E	Darter, duskytail	E			
4	E	Darter, Etowah	E			
2	E	Darter, fountain	E			
4	E	Darter, goldline	T			
2	E	Darter, leopard	T			
5	E	Darter, Maryland	E			
3	E	Darter, Niangua	T			
4	E	Darter, Okaloosa	E			
4	E	Darter, relict	E			
4	E	Darter, slackwater	T			
4	E	Darter, snail	T			
4	E	Darter, watercress	E			
2	E	Gambusia, Big Bend	E			
2	E	Gambusia, Clear Creek	E			
2	E	Gambusia, Pecos	E			
2	E	Gambusia, San Marcos	E			
1	E	Goby, tidewater	E			
4	E	Logperch, Conasauga	E			
5	E	Logperch, Roanoke	E			
6	E	Madtom, Neosho	T			
4	E	Madtom, pygmy	E			
3	E	Madtom, Scioto	E			
4	E	Madtom, Smoky	E			
4	E	Madtom, yellowfin	T			
2	E	Minnow, loach	T			
2	E	Minnow, Rio Grande silvery	E			
1	E	Poolfish, Pahrump	E			
1	E	Pupfish, Ash Meadows Amargosa	E			
2	E	Pupfish, Comanche Springs	E			
2	E	Pupfish, desert	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	E	Pupfish, Devils Hole	E			
2	E	Pupfish, Leon Springs	E			
1	E	Pupfish, Owens	E			
1	E	Pupfish, Warm Springs	E			
N	E	Salmon, chinook, Sacramento R. winter run	T			
N	E	Salmon, chinook, Snake R. fall run	T			
N	E	Salmon, chinook, Snake R. spring/summer run	T			
N	E	Salmon, coho	T			
N	E	Salmon, sockeye (=red, =blueback), Snake R.	E			
4	E	Sculpin, pygmy	T			
2	E	Shiner, beautiful	T			
4	E	Shiner, blue	T			
4	E	Shiner, Cahaba	E			
4	E	Shiner, Cape Fear	E			
4	E	Shiner, Palezone	E			
2	E	Shiner, Pecos bluntnose	T			
4	E	Silverside, Waccamaw	T			
1	E	Smelt, delta	T			
2	E	Spikedace	T			
1	E	Spinedace, Big Spring	T			
2	E	Spinedace, Little Colorado	T			
1	E	Spinedace, White River	E			
1	E	Springfish, Hiko White River	E			
1	E	Springfish, Railroad Valley	T			
1	E	Springfish, White River	E			
6	E	Squawfish, Colorado	E			
N	E	Steelhead (central CA coast)	T			
N	E	Steelhead (Central Valley CA)	T			
N	E	Steelhead (lower Columbia R.)	T			
N	E	Steelhead (Snake R. Basin)	T			
N	E	Steelhead (south central CA coast)	T			
N	E	Steelhead (southern CA coast)	E			
N	E	Steelhead (upper Columbia R. Basin)	E			
1	E	Stickleback, unarmored threespine	E			
4	E	Sturgeon, Gulf	T			
6	E	Sturgeon, pallid	E			
N	E	Sturgeon, shortnose	E	$5.90K		
1	E	Sturgeon, white (Kootenai River pop.)	E			
6	E	Sucker, June	E			
1	E	Sucker, Lost River	E			
1	E	Sucker, Modoc	E			
6	E	Sucker, razorback	E			
1	E	Sucker, shortnose	E			
1	E	Sucker, Warner	T			
2	E	Topminnow, Gila (incl. Yaqui)	E			

Lead Reg.	Group	Inverted Common Name	Status	General	Lands	Grand Total
2	E	Trout, Apache (=Arizona)	T			
1	E	Trout, bull (Columbia R pop.)	T			
1	E	Trout, bull (Jarbridge R pop.)	E			
1	E	Trout, bull (Klamath R pop.)	T			
2	E	Trout, Gila	E			
6	E	Trout, greenback cutthroat	T			
1	E	Trout, Lahontan cutthroat	T			
1	E	Trout, Little Kern golden	T			
1	E	Trout, Paiute cutthroat	T			
N	E	Trout, Umpqua River cutthroat	E			
6	E	Woundfin	E			
4	F	Acornshell, southern	E			
4	F	Bankclimber (mussel), purple	T			
4	F	Bean, purple (=Fine-rayed purple pearly mussel)	E			
5	F	Clubshell	E			
4	F	Clubshell, black (=Curtus' mussel)	E			
4	F	Clubshell, ovate	E			
4	F	Clubshell, southern	E			
4	F	Combshell, Cumberlandian	E			
4	F	Combshell, southern (=penitent mussel)	E			
4	F	Combshell, upland	E			
4	F	Elktoe, Appalachian	E			
4	F	Elktoe, Cumberland	E			
4	F	Fanshell	E			
4	F	Fatmucket, Arkansas	T			
4	F	Heelsplitter, Carolina	E			
4	F	Heelsplitter, inflated	T			
4	F	Kidneyshell, triangular	E			
4	F	Lampmussel, Alabama (=Pearly mussel, Alabam	E			
4	F	Moccasinshell, Alabama	T			
4	F	Moccasinshell, Coosa	E			
4	F	Moccasinshell, Gulf	E			
4	F	Moccasinshell, Ochlockonee	E			
4	F	Mucket, orange-nacre	T			
5	F	Mussel, dwarf wedge	E			
4	F	Mussel, oyster	E			
4	F	Mussel, ring pink (=golf stick pearly)	E			
3	F	Mussel, winged mapleleaf	E			
4	F	Pearlshell, Louisiana	T			
4	F	Pearlymussel, Appalachian monkeyface	E			
4	F	Pearlymussel, birdwing	E			
4	F	Pearlymussel, cracking	E			
4	F	Pearlymussel, Cumberland bean	E			
4	F	Pearlymussel, Cumberland monkeyface	E			
3	F	Pearlymussel, Curtis'	E			

Reg.			Status	General	Lands	Grand Total
4	F	Pearlymussel, dromedary	E			
4	F	Pearlymussel, green-blossom	E			
3	F	Pearlymussel, Higgins' eye	E			
4	F	Pearlymussel, little-wing	E			
4	F	Pearlymussel, orange-foot pimpleback	E			
4	F	Pearlymussel, pale lilliput	E			
4	F	Pearlymussel, pink mucket	E			
4	F	Pearlymussel, purple cat's paw	E			
4	F	Pearlymussel, tubercled-blossom	E			
4	F	Pearlymussel, turgid-blossom	E			
3	F	Pearlymussel, white cat's paw	E			
4	F	Pearlymussel, white wartyback	E			
4	F	Pearlymussel, yellow-blossom	E			
4	F	Pigtoe (mussel), oval	E			
4	F	Pigtoe, Cumberland (=Cumberland pigtoe mussel	E			
4	F	Pigtoe, dark	E			
4	F	Pigtoe, fine-rayed	E			
4	F	Pigtoe, flat (=Marshall's mussel)	E			
4	F	Pigtoe, heavy (=Judge Tait's mussel)	E			
4	F	Pigtoe, rough	E			
4	F	Pigtoe, shiny	E			
4	F	Pigtoe, southern	E			
4	F	Pocketbook (mussel), shinyrayed	E			
4	F	Pocketbook, fat	E			
4	F	Pocketbook, fine-lined	T			
4	F	Pocketbook, speckled	E			
4	F	Rabbitsfoot, rough	E			
5	F	Riffleshell, northern	E			
4	F	Riffleshell, tan	E			
2	F	Rock-pocketbook, Ouachita (=Wheeler's pearly	E			
4	F	Slabshell, Chipola	T			
5	F	Spinymussel, James River (=Virginia)	E			
4	F	Spinymussel, Tar River	E			
4	F	Stirrupshell	E			
4	F	Three-ridge (mussel), fat	E			
6	G	Ambersnail, Kanab	E			
1	G	Limpet, Banbury Springs	E			
4	G	Marstonia (snail), royal (=obese)	E			
4	G	Riversnail, Anthony's	E			
4	G	Shagreen, Magazine Mountain	T			
1	G	Snail, Bliss Rapids	T			
5	G	Snail, Chittenango ovate amber	T			
5	G	Snail, flat-spired three-toothed	T			
3	G	Snail, Iowa Pleistocene	E			
1	G	Snail, Morro shoulderband (=Banded dune)	E			

Reg.	Group	Invertebrate Common Name	Status	General	Lands	Grand Total
4	G	Snail, noonday	T			
4	G	Snail, painted snake coiled forest	T			
1	G	Snail, Snake River physa	E			
4	G	Snail, Stock Island tree	T			
4	G	Snail, tulotoma (=Alabama live-bearing)	E			
1	G	Snail, Utah valvata	E			
5	G	Snail, Virginia fringed mountain	E			
1	G	Snails, Oahu tree	E			
2	G	Springsnail, Alamosa	E			
1	G	Springsnail, Bruneau Hot	E			
1	G	Springsnail, Idaho	E			
2	G	Springsnail, Socorro	E			
2	I	Beetle, Comal Springs riffle	E			
2	I	Beetle, Comal Springs dryopid	E			
1	I	Butterfly, Behren's silverspot	E			
1	I	Butterfly, callippe silverspot	E			
5	I	Beetle, American burying (=giant carrion)	E			
2	I	Beetle, Coffin Cave mold	E			
1	I	Beetle, delta green ground	T			
3	I	Beetle, Hungerford's crawling water	E			
2	I	Beetle, Kretschmarr Cave mold	E			
1	I	Beetle, Mount Hermon June	E			
5	I	Beetle, northeastern beach tiger	T			
5	I	Beetle, Puritan tiger	T			
2	I	Beetle, Tooth Cave ground	E			
1	I	Beetle, valley elderberry longhorn	T			
1	I	Butterfly, bay checkerspot	T			
1	I	Butterfly, El Segundo blue	E			
3	I	Butterfly, Karner blue	E			
1	I	Butterfly, Lange's metalmark	E			
1	I	Butterfly, lotis blue	E			
1	I	Butterfly, mission blue	E			
3	I	Butterfly, Mitchell's satyr	E			
1	I	Butterfly, Myrtle's silverspot	E			
1	I	Butterfly, Oregon silverspot	T			
1	I	Butterfly, Palos Verdes blue	E			
1	I	Butterfly, Quino checkerspot	E			
4	I	Butterfly, Saint Francis' satyr	E			
1	I	Butterfly, San Bruno elfin	E			
4	I	Butterfly, Schaus swallowtail	E			
1	I	Butterfly, Smith's blue	E			
6	I	Butterfly, Uncompahgre fritillary	E			
3	I	Dragonfly, Hine's (=Ohio) emerald	E			
1	I	Fly, Delhi Sands flower-loving	E			
1	I	Grasshopper, Zayante band-winged	E			

AMOUNTS IN THOUSANDS OF $$$

Lead Region	Group	Invertebrate Common Name	Status	General	Lands	Grand Total
1	I	Moth, Kern primrose sphinx	T			
1	I	Naucorid, Ash Meadows	T			
1	I	Skipper, Laguna Mountains	E			
6	I	Skipper, Pawnee montane	T			
2	J	Harvestman, Bee Creek Cave	E			
2	J	Harvestman, Bone Cave	E			
2	J	Pseudoscorpion, Tooth Cave	E			
4	J	Spider, spruce-fir moss	E			
2	J	Spider, Tooth Cave	E			
5	K	Amphipod, Hay's Spring	E			
3	K	Amphipod, Illinois cave	E			
2	K	Amphipod, Peck's cave	E			
4	K	Crayfish, cave [no common name]	E			
4	K	Crayfish, cave [no common name]	E			
4	K	Crayfish, Nashville	E			
1	K	Crayfish, Shasta (=placid)	E			
1	K	Fairy shrimp, Conservancy	E			
1	K	Fairy shrimp, longhorn	E			
1	K	Fairy shrimp, riverside	E			
1	K	Fairy shrimp, San Diego	E			
1	K	Fairy shrimp, vernal pool	T			
5	K	Isopod, Lee County cave	E			
5	K	Isopod, Madison Cave	T			
2	K	Isopod, Socorro	E			
4	K	Shrimp, Alabama cave	E			
1	K	Shrimp, California freshwater	E			
4	K	Shrimp, Kentucky cave	E			
4	K	Shrimp, Squirrel Chimney Cave (=Florida cave)	T			
1	K	Tadpole shrimp, vernal pool	E			
1	Q	Abutilon eremitopetalum (=Sci name)	E			
1	Q	Abutilon sandwicense (=Sci name)	E			
1	Q	Achyranthes mutica (=Sci name)	E			
1	Q	A`e	E			
1	Q	A`e	E			
2	Q	Agave, Arizona	E			
1	Q	`Aiakeakua, popolo	E			
1	Q	`Aiea	E			
1	Q	`Aiea	E			
1	Q	`Akoko	E			
1	Q	`Akoko	E			
1	Q	`Akoko	E			
1	Q	`Akoko	E			
1	Q	`Akoko	E			
1	Q	`Akoko	E			
1	Q	`Akoko, Ewa Plains	E			

Reg.			Status	General	Lands	Grand Total
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Allocarya, Calistoga	E			
1	Q	Alopecurus, Sonoma	E			
1	Q	Alsinidendron obovatum (=Sci name)	E			
1	Q	Alsinidendron trinerve (=Sci name)	E			
1	Q	Alsinodendron viscosum (=Sci name)	E			
1	Q	Amaranthus brownii (=Sci name)	E			
4	Q	Amaranth, seabeach	T			
2	Q	Ambrosia, south Texas	E			
4	Q	Amphianthus, little	T			
1	Q	'Anaunau	E			
1	Q	'Anunu	E			
4	Q	Aristida chaseae (=Sci name)	E			
4	Q	Arrowhead, bunched	E			
3	Q	Aster, decurrent false	T			
4	Q	Aster, Florida golden	E			
4	Q	Aster, Ruth's golden	E			
4	Q	Auerodendron pauciflorum (=Sci name)	E			
1	Q	Aupaka	E			
1	Q	Aupaka	E			
1	Q	Aupaka	T			
4	Q	Avens, spreading	E			
1	Q	'Awikiwiki	E			
1	Q	'Awiwi	E			
1	Q	'Awiwi	E			
2	Q	Ayenia, Texas	E			
1	Q	Baccharis, Encinitis	T			
1	Q	Barberry, island	E			
1	Q	Barberry, Truckee	E			
4	Q	Bariaco	E			
5	Q	Beaked-rush, Knieskern's	T			
6	Q	Beardtongue, Penland	E			
4	Q	Beargrass, Britton's	E			
6	Q	Bear-poppy, dwarf	E			

Reg.				AMOUNTS IN THOUSANDS OF $			
				General	Lands	Grand Total	
4	Q	Beauty, Harper's	E				
1	Q	Bedstraw, El Dorado	E				
1	Q	Bedstraw, island	E				
4	Q	Bellflower, Brooksville	E				
1	Q	Bidens, cuneate	E				
5	Q	Birch, Virginia round-leaf	T				
1	Q	Bird's beak, palmate-bracted	E				
1	Q	Bird's-beak, Pennell's	E				
1	Q	Bird's-beak, salt marsh	E				
1	Q	Bird's-beak, soft	E				
4	Q	Birds-in-a-nest, white	T				
4	Q	Bittercress, small-anthered	E				
6	Q	Bladderpod, Dudley Bluffs	T				
6	Q	Bladderpod, kodachrome	E				
4	Q	Bladderpod, lyrate	T				
3	Q	Bladderpod, Missouri	E				
1	Q	Bladderpod, San Bernardino Mountains	E				
4	Q	Bladderpod, Spring Creek	E				
2	Q	Bladderpod, white	E				
1	Q	Blazingstar, Ash Meadows	T				
4	Q	Blazingstar, Heller's	T				
4	Q	Blazingstar, scrub	E				
1	Q	Bluecurls, Hidden Lake	T				
1	Q	Bluegrass, Hawaiian	E				
1	Q	Bluegrass, Mann's	E				
1	Q	Bluegrass, Napa	E				
1	Q	Bluegrass, San Bernardino	E				
2	Q	Blue-star, Kearney's	E				
4	Q	Bluet, Roan Mountain	E				
1	Q	Bonamia menziesii (=Sci name)	E				
4	Q	Bonamia, Florida	T				
4	Q	Boxwood, Vahl's	E				
1	Q	Brodiaea, Chinese Camp	T				
1	Q	Broom, San Clemente Island	E				
1	Q	Buckwheat, cushenbury	E				
4	Q	Buckwheat, scrub	T				
1	Q	Buckwheat, steamboat	E				
5	Q	Bulrush, Northeastern (=barbed bristle)	E				
3	Q	Bush-clover, prairie	T				
1	Q	Bush-mallow, San Clemente Island	E				
1	Q	Bush-mallow, Santa Cruz Island	E				
6	Q	Buttercup, autumn	E				
1	Q	Butterweed, Layne's	T				
4	Q	Butterwort, Godfrey's	T				
1	Q	Button-celery, San Diego	E				

AMOUNTS IN THOUSANDS OF $$$

Lead	Group	Invented Common Name	Status					
4	Q	Button, Mohr's Barbara	T					
2	Q	Cactus, Arizona hedgehog	E					
1	Q	Cactus, Bakersfield	E					
2	Q	Cactus, black lace	E					
2	Q	Cactus, Brady pincushion	E					
2	Q	Cactus, bunched cory	T					
2	Q	Cactus, Chisos Mtn. hedgehog	T					
2	Q	Cactus, Cochise pincushion	T					
4	Q	Cactus, Key tree	E					
2	Q	Cactus, Knowlton	E					
2	Q	Cactus, Kuenzler hedgehog	E					
2	Q	Cactus, Lee pincushion	T					
2	Q	Cactus, Lloyd's hedgehog	E					
2	Q	Cactus, Lloyd's Mariposa	T					
2	Q	Cactus, Mesa Verde	T					
2	Q	Cactus, Nellie cory	E					
2	Q	Cactus, Nichol's Turk's head	E					
2	Q	Cactus, Peebles Navajo	E					
2	Q	Cactus, Pima pineapple	E					
6	Q	Cactus, San Rafael	E					
2	Q	Cactus, Siler pincushion	T					
2	Q	Cactus, Sneed pincushion	E					
2	Q	Cactus, star	E					
2	Q	Cactus, Tobusch fishhook	E					
6	Q	Cactus, Unita Basin hookless	T					
6	Q	Cactus, Winkler	T					
6	Q	Cactus, Wright fishhook	E					
4	Q	Calyptranthes thomasiana (=Sci name)	E					
4	Q	Campion, fringed	E					
4	Q	Cape rosa	E					
2	Q	Cat's-eye, Terlingua Creek	E					
1	Q	Ceanothus, coyote (=California-lilac, Coyote	E					
1	Q	Ceanothus, Pine Hill	E					
1	Q	Centaury, spring-loving	T					
1	Q	Chaff-flower, round-leaved	E					
4	Q	Chaffseed, American	E					
4	Q	Chamaecrista glandulosa var. mirabilis (=Sci	E					
1	Q	Chamaesyce halemanui (=Sci name)	E					
1	Q	Checker-mallow, Kenwood Marsh	E					
1	Q	Checker-mallow, Nelson's	T					
1	Q	Checker-mallow, pedate	E					
4	Q	Chumbo, higo	T					
4	Q	Chupacallos (=Chupagallo)	E					
5	Q	Cinquefoil, Robbins'	E					
1	Q	Clarkia, Pismo	E					

Reg.								
1	Q	Clarkia, Presidio	E					
1	Q	Clarkia, Springville	T					
1	Q	Clarkia, Vine Hill	E					
2	Q	Cliff-rose, Arizona	E					
1	Q	Clover, Monterey (=Del Monte)	E					
3	Q	Clover, running buffalo	E					
1	Q	Clover, showy Indian	E					
4	Q	Coneflower, smooth	E					
4	Q	Coneflower, Tennessee purple	E					
4	Q	Cordia bellonis	E					
4	Q	Cranichis ricartii (=Sci name)	E					
6	Q	Cress, toad-flax	E					
1	Q	Crownbeard, big-leaved	T					
1	Q	Cyanea macrostegia ssp. gibsonii (=Sci name)	E					
1	Q	Cyanea superba (=Sci name)	E					
1	Q	Cyanea undulata (=Sci name)	E					
2	Q	Cycladenia, Jones	T					
3	Q	Daisy, lakeside	T					
6	Q	Daisy, Maguire	E					
1	Q	Daisy, Parish's	T					
4	Q	Daphnopsis hellerana (=Sci name)	E					
2	Q	Dawn-flower, Texas prairie	E					
1	Q	Dekssea rhytidosperma (=Sci name)	E					
1	Q	Dekssea undulata (=Sci name)	E					
2	Q	Dogweed, ashy	E					
4	Q	Dropwort, Canby's	E					
1	Q	Dubautia latifolia (=Sci name)	E					
1	Q	Dubautia pauciflorula (=Sci name)	E					
1	Q	Dudleya, Conejo	T					
1	Q	Dudleya, Marcescent	T					
1	Q	Dudleya, Santa Clara Valley	E					
1	Q	Dudleya, Santa Cruz Island	T					
1	Q	Dudleya, Verity's	T					
1	Q	Dudleyea, Santa Monica Mountains	T					
1	Q	Dwarf-flax, Marin	T					
4	Q	Erubia	E					
4	Q	Eugenia woodburyana (=Sci name)	E					
1	Q	Evening-primrose, Antioch Dunes	E					
1	Q	Evening-primrose, Eureka Valley	E					
1	Q	Evening-primrose, San Benito	T					
1	Q	Fiddleneck, Large-flowered	E					
1	Q	Flannelbush, Pine Hill	E					
2	Q	Fleabane, Rhizome	T					
1	Q	Four-o'clock, MacFarlane's	E					
2	Q	Frankenia, Johnston's	E					

Lead Reg	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Fringepod (=tacapod), Santa Cruz Island	E			
1	Q	Gahnia lanaiensis (=Sci name)	E			
1	Q	Gardenia, Hawaiian (na'u)	E			
4	Q	Geocarpon minimum (=Sci name)	T			
1	Q	Geranium, Hawaiian red-flowered	E			
5	Q	Gerardia, sandplain	E			
4	Q	Gesneria pauciflora (=Sci name)	T			
1	Q	Gilia, Hoffmann's slender-flowered	E			
1	Q	Gilia, Monterey	E			
4	Q	Goetzea, beautiful (matabuey)	E			
4	Q	Goldenrod, Blue Ridge	T			
3	Q	Goldenrod, Houghton's	T			
4	Q	Goldenrod, Short's	E			
4	Q	Goldenrod, white-haired	T			
1	Q	Goldfields, Burke's	E			
1	Q	Goldfields, Contra Costa	E			
4	Q	Gooseberry, Miccosukee (Florida)	T			
1	Q	Gouania hillebrandii (=Sci name)	E			
1	Q	Gouania meyenii (=Sci name)	E			
1	Q	Gouania vitifolia (=Sci name)	E			
4	Q	Gourd, Okeechobee	E			
1	Q	Grass, California Orcutt	E			
1	Q	Grass, Colusa	T			
1	Q	Grass, Eureka Dune	E			
1	Q	Grass, Solano	E			
4	Q	Grass, Tennessee yellow-eyed	E			
4	Q	Ground-plum, Guthrie's	E			
2	Q	Groundsel, San Francisco Peaks	T			
1	Q	Gumplant, Ash Meadows	T			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	T			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			

Lead	Group	Inverted Common Name	Status	General	Lands	Grand Total
				AMOUNTS IN THOUSANDS OF $$$		
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	T			
1	Q	Ha`iwale	E			
1	Q	Hala pepe	E			
1	Q	Haplostachys haplostachya (=Sci name)	E			
4	Q	Harebells, Avon Park	E			
5	Q	Harperella	E			
1	Q	Hau kuahiwi	E			
1	Q	Hau kuahiwi	E			
1	Q	Hau kuahiwi, Hualalai	E			
4	Q	Heartleaf, dwarf-flowered	T			
4	Q	Heather, mountain golden	T			
1	Q	Heau	E			
1	Q	Hedyotis degeneri (=Sci name)	E			
1	Q	Hedyotis parvula (=Sci name)	E			
1	Q	Hedyotis, Na Pali beach	E			
1	Q	Hesperomannia arborescens (=Sci name)	E			
1	Q	Hesperomannia arbuscula (=Sci name)	E			
1	Q	Hesperomannia lydgatei (=Sci name)	E			
1	Q	Hibiscus, Clay's	E			
4	Q	Higuero de Sierra	E			
1	Q	Holei	E			
4	Q	Holly, Cook's	E			
6	Q	Howellia, water	T			
4	Q	Hypericum, highlands scrub	E			
4	Q	Ilex sintenisii (=Sci name)	E			
1	Q	Ilisu, dwarf	E			
1	Q	Indian paintbrush, San Clemente Island	E			
2	Q	Ipomopsis, Holy Ghost	E			
4	Q	Irisette, white	E			
3	Q	Iris, dwarf lake	T			
1	Q	Ischaemum, Hilo	E			
1	Q	Ivesia, Ash Meadows	T			

AMOUNTS IN THOUSANDS OF $$$

Lead	Group	Inverted Common Name	Status	General	Leads	Consultants
4	Q	Jacquemontia, beach	E			
1	Q	Jewelflower, California	E			
1	Q	Jewelflower, Metcalf Canyon	E			
1	Q	Jewelflower, Tiburon	E			
5	Q	Joint-vetch, sensitive	T			
1	Q	Kamakahala	E			
1	Q	Kamakahala	E			
1	Q	Kamakahala	E			
1	Q	Kauai hau kuahiwi	E			
1	Q	Kauila	E			
1	Q	Kaulu	E			
1	Q	Kio'ele	E			
1	Q	Kponapona	E			
1	Q	Koki'o (=hau-hele'ula or Hawaii tree cotton)	E			
1	Q	Koki'oke'oke'o	E			
1	Q	Koki'oke'oke'o	E			
1	Q	Koki'o, Cooke's	E			
1	Q	Koki'o, Kaua'i	E			
1	Q	Kolea	E			
1	Q	Kolea	T			
1	Q	Ko'oko'olau	E			
1	Q	Ko'oko'olau	E			
1	Q	Ko'oloa'ula	E			
1	Q	Kuahiwi, laukahi	E			
1	Q	Kuahiwi, laukahi	E			
1	Q	Kuawawaenohu	E			
1	Q	Kula, wahine noho	E			
1	Q	Kulu'i	E			
2	Q	Ladies'-tresses, Canelo Hills (=Madrean)	E			
2	Q	Ladies'-tresses, Navasota	E			
6	Q	Ladies'-tresses, Ute	T			
1	Q	Lagu, Hyan	E			
1	Q	Larkspur, San Clemente Island	E			
1	Q	Lau 'ehu	E			
1	Q	Laulihilihi (=Ma'oli'oli)	E			
1	Q	Layia, beach	E			
4	Q	Lead-plant, Crenulate	E			
4	Q	Leather flower, Alabama	E			
4	Q	Leather flower, Morefield's	E			
4	Q	Lepanthes eltoroensis (=Sci name)	E			
4	Q	Leptocereus grantianus (=Sci name)	E			
1	Q	Lessingia, San Francisco	E			
1	Q	Liliwai	E			
3	Q	Lily, Minnesota trout	E			
1	Q	Lily, Pitkin Marsh	E			

Reg.								
1	Q	Lily, Western	E					
1	Q	Lipochaeta venosa (=Sci name)	E					
1	Q	Liveforever, Santa Barbara Island	E					
1	Q	Lobelia gaudichaudii ssp. kooiauensis , (=Sci n	E					
1	Q	Lobelia monostachya (=Sci. name)	E					
1	Q	Lobelia niihauensis (=Sci name)	E					
1	Q	Lobelia oahuensis (=Sci name)	E					
3	Q	Locoweed, Fassett's	T					
1	Q	Lomatium, Bradshaw's	E					
4	Q	Loosestrife, rough-leaved	E					
1	Q	Loulu	E					
1	Q	Loulu	E					
1	Q	Loulu	E					
1	Q	Loulu	E					
1	Q	Loulu	E					
1	Q	Loulu	E					
5	Q	Lousewort, Furbish	E					
1	Q	Love grass, Fosberg's	E					
1	Q	Lupine, clover	E					
4	Q	Lupine, scrub	E					
4	Q	Lyonia truncata var. proctorii (=Sci name)	E					
1	Q	Lysimachia filifolia (=Sci name)	E					
1	Q	Lysimachia lydgatei (=Sci name)	E					
1	Q	Lysimachia maxima (=lemnifolia) (=Sci name)	E					
1	Q	Ma`aloa, Big Island	E					
1	Q	Mahoe	E					
1	Q	Makou	T					
1	Q	Malacothrix, island	E					
1	Q	Mallow, Kern	E					
5	Q	Mallow, Peter's Mountain	E					
1	Q	Malocothrix, Santa Cruz Island	E					
4	Q	Manaca, palma de	T					
2	Q	Manioc, Walker's	E					
1	Q	Manzanita, Del Mar (=Costa Baja, =Eastwood's)	E					
1	Q	Manzanita, Morro	T					
1	Q	Manzanita, pallid	T					
1	Q	Manzanita, Presido (=Raven's)	E					
1	Q	Manzanita, Santa Rosa Island	E					
1	Q	Ma`ohau hele (=biscus, native yellow)	E					
1	Q	Ma`oli`oli	E					
1	Q	Ma`oli`oli	E					
1	Q	Mapele	E					
1	Q	Mariposa lily, Tiburon	T					
1	Q	Marsecus faunei (=Sci name)	E					
1	Q	Marsecus pennatiformis (=Sci name)	E					

AMOUNTS IN THOUSANDS OF $$$

Rec Plan	Group	Invertebrate/Common Name	Status					
1	Q	Meadowfoam, Butte County	E					
1	Q	Meadowfoam, Sebastopol	E					
4	Q	Meadowrue, Cooley's	E					
1	Q	Mehamehame	E					
1	Q	Mesa-mint, Otay	E					
1	Q	Mesa-mint, San Diego	E					
4	Q	Milkpea, Small's	E					
1	Q	Milk-vetch, Applegate's	E					
1	Q	Milk-vetch, Ash[illegible]adows	T					
1	Q	Milk-vetch, Br[illegible]ton's	E					
1	Q	Milk-vetch, C[illegible]a Hunt's	E					
1	Q	Milk-vetch coastal dunes	E					
1	Q	Milk-vetch, Cushenbury	E					
6	Q	Milk-vetch, heliotrope	T					
5	Q	Milk-vetch, Jesup's	E					
2	Q	Milk-vetch, Mancos	E					
6	Q	Milk-vetch, Osterhout	E					
2	Q	Milk-vetch, Sentry	E					
3	Q	Milkweed, Mead's	T					
6	Q	Milkweed, Welsh's	T					
4	Q	Mint, Garrett's (=scrub, in part)	E					
4	Q	Mint, Lakela's	E					
4	Q	Mint, longspurred	E					
4	Q	Mint, scrub	E					
4	Q	Mitracarpus maxwelkae (=Sci name)	E					
4	Q	Mitracarpus polycladus (=Sci name)	E					
3	Q	Monkey-flower, Michigan	E					
3	Q	Monkshood, northern wild	T					
1	Q	Morning-glory, Stebbins'	E					
1	Q	Mountain balm, Indian Knob	E					
1	Q	Mountain-mahogany, Catalina Island	E					
1	Q	Munrodendron racemosum (=Sci name)	E					
4	Q	Mustard, Carter's	E					
6	Q	Mustard, Penland alpine fen	T					
1	Q	Mustard, slender-petaled	E					
4	Q	Myrcia paganii (=Sci name)	E					
1	Q	Na'ena'e	E					
1	Q	Nani wai'ale'ale	E					
1	Q	Nanu	E					
1	Q	Iaupaka, dwarf	E					
1	Q	Nav[illegible]reta, few-flowered	E					
1	Q	Navarretia, many-flowered	E					
4	Q	Negra, cobana	T					
1	Q	Nehe	E					
1	Q	Nehe	E					

Reg.				AMOUNTS IN THOUSANDS OF $$$					
1	Q	Nehe	E						
1	Q	Nehe	E						
1	Q	Nehe	E						
1	Q	Nehe	E						
1	Q	Neraudia angulata (=Sci name)	E						
1	Q	Neraudia sericea (=Sci name)	E						
1	Q	Nioi	E						
1	Q	Niterwort, Amargosa	E						
1	Q	Nohoanu	E						
2	Q	Oak, Hinckley	T						
1	Q	'Oha	E						
1	Q	'Oha	E						
1	Q	'Oha wai	E						
1	Q	'Oha wai	E						
1	Q	'Oha wai	E						
1	Q	'Oha wai	E						
1	Q	'Oha wai	E						
1	Q	'Oha wai	E						
1	Q	'Ohai	E						
1	Q	'Ohe 'ohe	E						
1	Q	'Olulu	E						
1	Q	Opuhe	E						
3	Q	Orchid, eastern prairie fringed	T						
3	Q	Orchid, western prairie fringed	T						
1	Q	Orcutt grass, Greene's	E						
1	Q	Orcutt grass, hairy (=pilose)	E						
1	Q	Orcutt grass, Sacramento	E						
1	Q	Orcutt grass, San Joaquin	T						
1	Q	Orcutt grass, slender	T						
1	Q	Owl's-clover, fleshy	T						
1	Q	Oxytheca, cushenbury	E						
1	Q	Paintbrush, ash-grey	T						
1	Q	Paintbrush, golden	T						
1	Q	Paintbrush, soft-leaved	E						
1	Q	Paintbrush, Tiburon	E						
4	Q	Palo colorado	E						
4	Q	Palo de jazmin	E						
4	Q	Palo de Nigua	E						
4	Q	Palo de Ramon	E						
1	Q	Pamakani	E						
1	Q	Pamakani	E						
1	Q	Panicgrass, Carter's	E						
1	Q	Pau'ala	E						
4	Q	Pawpaw, beautiful	E						
4	Q	Pawpaw, four-petal	E						

Reg.								
4	Q	Pawpaw, Rugel's	E					
4	Q	Pelos del diablo	E					
2	Q	Pennyroyal, Todsen's	E					
6	Q	Penstemon, blowout	E					
1	Q	Pentachaeta, Lyon's	E					
1	Q	Pentachaeta, white-rayed	E					
4	Q	Peperomia, Wheeler's	E					
6	Q	Phacelia, clay	E					
1	Q	Phacelia, island	E					
6	Q	Phacelia, North Park	E					
2	Q	Phlox, Texas trailing	E					
1	Q	Phyllostegia glabra var. lanaiensis (=Sci nam	E					
1	Q	Phyllostegia hirsuta (=Sci. name)	E					
1	Q	Phyllostegia kaalaensis (=Sci. name)	E					
1	Q	Phyllostegia knudsenii , (=Sci. name)	E					
1	Q	Phyllostegia mannii (=Sci name)	E					
1	Q	Phyllostegia mollis (=Sci name)	E					
1	Q	Phyllostegia parviflora (=Sci. name)	E					
1	Q	Phyllostegia velutina (=Sci. name)	E					
1	Q	Phyllostegia waimeae (=Sci name)	E					
1	Q	Phyllostegia warshaueri (=Sci name)	E					
1	Q	Phyllostegia wawrana , (=Sci. name)	E					
1	Q	Pilo	E					
4	Q	Pinkroot, gentian	E					
5	Q	Pink, swamp	T					
1	Q	Piperia, Yadon's	E					
2	Q	Pitaya, Davis' green	E					
4	Q	Pitcher-plant, Alabama canebrake	E					
4	Q	Pitcher-plant, green	E					
4	Q	Pitcher-plant, mountain sweet	E					
1	Q	Platanthera holochila (=Sci. name)	E					
4	Q	Plum, scrub	E					
1	Q	Poa siphonoglossa (=Sci name)	E					
1	Q	Po`e	E					
5	Q	Pogonia, small whorled	T					
4	Q	Polygala, Lewton's	E					
4	Q	Polygala, tiny	E					
4	Q	Pondberry	E					
2	Q	Pondweed, Little Aguja Creek	E					
1	Q	Popolo, ku mai (=Popolo, thorny)	E					
2	Q	Poppy-mallow, Texas	E					
2	Q	Poppy, Sacramento prickly	E					
4	Q	Potato-bean, Price's	T					
1	Q	Potentilla, Hickman's	E					
4	Q	Prairie-clover, leafy	E					

Lead Reg.	Group	Species/Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Prickly-apple, fragrant	E			
4	Q	Prickly-ash, St. Thomas	E			
6	Q	Primrose, Maguire	T			
1	Q	Pritchardia remota (=Sci name)	E			
1	Q	Pussypaws, Mariposa	T			
1	Q	Pu`uka`a	E			
4	Q	Rattleweed, hairy	E			
6	Q	Reed-mustard, Barneby	E			
6	Q	Reed-mustard, clay	T			
1	Q	Remya kauaiensis (=Sci name)	E			
1	Q	Remya montgomeryi (=Sci name)	E			
1	Q	Remya, Maui	E			
4	Q	Rhododendron, Chapman	E			
6	Q	Ridge-cress (=pepper-cress), Barneby	E			
4	Q	Rock-cress	E			
1	Q	Rock-cress, Hoffmann's	E			
1	Q	Rock-cress, McDonald's	E			
1	Q	Rockcress, Santa Cruz Island	E			
5	Q	Rock-cress, shale barren	E			
1	Q	Rollandia crispa (=Sci name)	E			
4	Q	Rosa, palo de	E			
4	Q	Rosemary, Apalachicola	E			
4	Q	Rosemary, Cumberland	T			
4	O	Rosemary, Etonia	E			
4	Q	Rosemary, short-leaved	E			
3	Q	Roseroot, Leedy's	T			
2	Q	Rush-pea, slender	E			
1	Q	Rush-rose, island	T			
1	Q	Sandalwood, Lanai or `iliahi	E			
1	Q	Sandbur, agrimony or Kamanomano	E			
4	Q	Sandlace	E			
2	Q	Sand-verbena, large-fruited	E			
1	Q	Sandwort, Bear Valley	T			
4	Q	Sandwort, Cumberland	E			
1	Q	Sandwort, Marsh	E			
1	Q	Sanicula mariversa (=Sci name)	E			
1	Q	Sanicula purpurea (=Sci. name)	E			
1	Q	Schiedea haleakalensis (=Sci name)	E			
1	Q	Schiedea helleri , (=Sci. name)	E			
1	Q	Schiedea hookeri (=Sci. name)	E			
1	Q	Schiedea kaalae (=Sci name)	E			
1	Q	Schiedea kauaiensis (=Sci. name)	E			
1	Q	Schiedea lydgatei (=Sci name)	E			
1	Q	Schiedea membranacea , (=Sci. name)	E			
1	Q	Schiedea nuttallii (=Sci. name)	E			

Reg.								
1	Q	Schiedea sarmentosa (=Sci. name)	E					
1	Q	Schiedea spergulina var. leiopoda (=Sci name)	E					
1	Q	Schiedea spergulina var. spergulina (=Sci name)	T					
1	Q	Schiedea verticillata (=Sci name)	E					
1	Q	Schiedea, Diamond Head	E					
4	Q	Schoepfia arenaria (=Sci name)	T					
1	Q	Seablite, California	E					
2	Q	Sedge, Navajo	T					
1	Q	Sedge, white	E					
1	Q	Silene alexandri (=Sci name)	E					
1	Q	Silene hawaiiensis (=Sci name)	T					
1	Q	Silene lanceolata (=Sci name)	E					
1	Q	Silene perlmanii (=Sci name)	E					
1	Q	Silversword, 'Ahinahina Mauna Kea	E					
1	Q	Silversword, Haleakala ('ahinahina)	E					
1	Q	Silversword, Ka'u	E					
4	Q	Skullcap, Florida	T					
4	Q	Skullcap, large-flowered	E					
4	Q	Snakeroot	E					
2	Q	Snowbells, Texas	E					
1	Q	Spermolepis hawaiiensis (=Sci name)	E					
1	Q	Spineflower, Ben Lomond	E					
1	Q	Spineflower, Howell's	E					
1	Q	Spineflower, Monterey	T					
1	Q	Spineflower, Orcutt's	E					
1	Q	Spineflower, Robust (incl. Scotts Valley)	E					
1	Q	Spineflower, slender-horned	E					
1	Q	Spineflower, Sonoma	E					
5	Q	Spiraea, Virginia	T					
4	Q	Spurge, deltoid	E					
4	Q	Spurge, Garber's	T					
1	Q	Spurge, Hoover's	T					
4	Q	Spurge, telephus	T					
1	Q	Stenogyne angustifolia (=Sci name)	E					
1	Q	Stenogyne bifida (=Sci name)	E					
1	Q	Stenogyne campanulata (=Sci name)	E					
1	Q	Stenogyne kanehoana (=Sci name)	E					
1	Q	Stonecrop, Lake County	E					
4	Q	Sumac, Michaux's	E					
1	Q	Sunburst, Hartweg's golden	E					
1	Q	Sunburst, San Joaquin adobe	T					
4	Q	Sunflower, Eggert's	T					
1	Q	Sunflower, San Mateo woolly	E					
4	Q	Sunflower, Schweinitz's	E					
1	Q	Sunray, Ash Meadows	T					

Lead Region	Group	Inverted Common Name	Status	General	Land	Grand Total
		AMOUNTS IN THOUSANDS OF $$$				
1	Q	Sunshine, Sonoma (=Stickyseed, Baker's)	E			
1	Q	Taraxacum, California	E			
4	Q	Ternstroemia subsessilis (=Sci name)	E			
1	Q	Tetramolopium rockii (=Sci name)	T			
1	Q	Tetramolopium arenarium (=Sci name)	E			
1	Q	Tetramolopium filiforme (=Sci name)	E			
1	Q	Tetramolopium lepidotum ssp. lepidotum (=Sci	E			
1	Q	Tetramolopium remyi (=Sci name)	E			
1	Q	Thistle, Chorro Creek	E			
1	Q	Thistle, fountain	E			
1	Q	Thistle, Loch Lomond coyote	E			
3	Q	Thistle, Pitcher's	T			
2	Q	Thistle, Sacramento Mountains	T			
1	Q	Thistle, Suisun	E			
1	Q	Thornmint, San Mateo	E			
6	Q	Townsendia, Last Chance	T			
4	Q	Tree, pygmy fringe	E			
1	Q	Trematolobelia singularis (=Sci. name)	E			
4	Q	Trillium, persistent	E			
4	Q	Trillium, relict	E			
6	Q	Twinpod, Dudley Bluffs	T			
1	Q	Uhiuhi	E			
4	Q	Uvillo	E			
4	Q	Vernonia proctorii (=Sci name)	E			
1	Q	Vervain, Red Hills	T			
1	Q	Vetch, Hawaiian	E			
1	Q	Vigna o-wahuensis (=Sci name)	E			
1	Q	Viola helenae (=Sci name)	E			
1	Q	Viola lanaiensis (=Sci name)	E			
1	Q	Viola oahuensis (=Sci. Name)	E			
1	Q	Wahane (=Hawane or loulu)	E			
1	Q	Wallflower, Ben Lomond	E			
1	Q	Wallflower, Contra Costa	E			
1	Q	Wallflower, Menzies'	E			
4	Q	Walnut, West Indian or nogal	E			
4	Q	Warea, wide-leaf	E			
1	Q	Watercress, Gambel's	E			
4	Q	Water-plantain, Kral's	T			
2	Q	Water-umbel, Huachuca	E			
4	Q	Water-willow, Cooley's	E			
4	Q	Whitlow-wort, papery	T			
6	Q	Wild-buckwheat, clay-loving	E			
2	Q	Wild-buckwheat, gypsum	T			
1	Q	Wild-buckwheat, southern mountain	T			
2	Q	Wild-rice, Texas	E			

Lead Reg.	Group	Invertebrate Common Name	Status	General	Lands	Grand Total
4	Q	Wings, Pigeon	T			
1	Q	Wire-lettuce, Malheur	E			
4	Q	Wireweed	E			
1	Q	Woodland-star, San Clemente Island	E			
1	Q	Woolly-star, Hoover's	T			
1	Q	Woolly-star, Santa Ana River	E			
1	Q	Wooly-threads, San Joaquin	E			
1	Q	Xylosma crenatum (=Sci name)	E			
4	Q	Ziziphus, florida	E			
1	R	Cypress, Gowen	T			
1	R	Cypress, Santa Cruz	E			
4	R	Torreya, Florida	E			
4	S	Adiantum vivesii (=Sci name)	E			
1	S	Asplenium fragile var. insulare (=Sci name)	E			
1	S	Diellia falcata (=Sci name)	E			
1	S	Diellia pallida (=laciniata) (=Sci name)	E			
1	S	Diellia unisora (=Sci name)	E			
1	S	Diellia , asplenium-leaved	E			
1	S	Diplazium molokaiense (=Sci name)	E			
4	S	Elaphoglossum serpens (=Sci name)	E			
4	S	Fern, Alabama streak-sorus	T			
7	S	Fern, Aleutian shield	E			
4	S	Fern, American hart's-tongue	T			
4	S	Fern, Elfin tree	E			
:	S	Fern, pendant kihi	E			
1	S	Ihi`ihi	E			
1	S	Pauoa	E			
4	S	Polystichum calderonense (=Sci name)	E			
1	S	Pteris lidgatei (=Sci name)	E			
4	S	Quillwort, black spored	E			
4	S	Quillwort, Louisiana	E			
4	S	Quillwort, mat-forming	E			
4	S	Tectaria estremerana (=Sci name)	E			
4	S	Thelypteris inabonensis (=Sci name)	E			
4	S	Thelypteris verecunda (=Sci name)	E			
4	S	Thelypteris yaucoensis (=Sci name)	E			
1	S	Wawae`iole	E			
1	S	Wawa`iole	E			
4	U	Cladonia, Florida perforate	E			
4	U	Lichen, rock gnome	E			

Recd 5/14

FROM: ORIGINAL DUE DT: 05/21/99 TICKET NO: 019990131
DOC DT: 05/03/99
NRR RCVD DATE: 05/14/99

TO:

Jackie Silber

FOR **SIGNATURE OF :** ** YEL **

DESC:

Expenditures for the Conservation of Endangered **and Threatened** Species

ROUTING:

Collins/Zimmermn
Kane
Sheron
NRR Mailroom

ASSIGNED TO: CONTACT:

DRIP Matthews

SPECIAL INSTRUCTIONS OR REMARKS:

Due 5/21

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

In Reply Refer To:
FWS/TE

Honorable Shirley Jackson
Chairman, U.S. Nuclear
Regulatory Commission
Washington, D.C. 20555

31

Dear Ms. Jackson:

The Endangered Species Act Amendments of 1988 (Public Law 100-478) included a provision requiring the Fish and Wildlife Service to report annually to Congress "an accounting on a species-by-species basis of all reasonably identifiable Federal expenditures made primarily for the conservation of endangered or threatened species pursuant to the Act...." This provision applies to all Federal agencies.

The Service, once again, will be depending on the cooperation of other agencies to compile Fiscal Year 1998 expenditures subject to the reporting requirement. Enclosed with this letter is information that will explain the scope of the activities that need to be included in the report. In addition to those requirements for reporting money spent on individual species, you may also submit your agency's total expenditures that are directed toward endangered species and are not otherwise accounted for in your annual report. Like last year, land acquisition costs are to be reported separately from all other expenditures.

We would appreciate your input by May 28, 1999. A Lotus 1-2-3 spreadsheet template is available upon request (printed copy enclosed). If you do not use the Lotus 1-2-3 spreadsheet for reporting, we'd appreciate it if you could write your figures on the printed copy of the enclosed template. This would aid us considerably in compiling the data. We have also enclosed copies of the 1994 and 1995 Expenditures Reports for your information. For further clarification or technical assistance, contact the Chief, Division of Endangered Species, at 703/358-2171.

Sincerely,

DIRECTOR

Enclosures

Supplemental Guidance for Reporting Expenditures
for the Conservation of Endangered and Threatened Species

BACKGROUND:

- Section 18 of the Endangered Species Act of 1973 (16 U.S. 1531 et seq.) reads, in part, as follows "...Fish and Wildlife Service, shall submit to the Congress an annual report covering the preceding fiscal year which shall contain--

  (1) an accounting on a species by species basis of all reasonably identifiable Federal Expenditures made primarily for the conservation of endangered and threatened species pursuant to this Act; and

  (2) an accounting on a species by species basis for all reasonably identifiable expenditures made primarily for the conservation of endangered and threatened species pursuant to this Act by States receiving grants under section 6."

- The Conference report for the 1988 amendments made some of the following points concerning the new Section 18 of the Act:

  - Provision should not become unduly burdensome or result in diversion of funds from the operation of the program.

  - The Secretary of the Interior is to make a good faith effort to develop and obtain data but is not to undertake extensive or extraordinary measures.

  - Generalized dollar estimates will suffice.

  - Amendment seeks information primarily relating to development and implementation of recovery plans.

  - Amendment does not apply to monitoring and survey costs for delisted, proposed and candidate species.

  - Amendment is not to require new species-specific time sheets for the Service or other reporting agency.

  - Listing, consultation, and law enforcement are to be included, but these will often not be "reasonably identifiable." There will be cases of major single-species listings, consultations, or "stings" that should be reported.

  - Only salary costs that can be reasonably identified as applicable to particular species need be reported.

- For other agencies and States, a good faith effort to collect information is expected; they are expected to cooperate.

- Submission of data from the States or agencies is not to be a precondition to receiving any contracts or grants or establishing other arrangements with the Fish and Wildlife Service.

DATA FORMAT:

- Species should be identified by the same name as found in the most current list of species (refer to the template provided): common name and scientific name should be provided. Amounts above $2,000 need be only to nearest $500 or $1,000; smaller amounts may be to the nearest $100. You may request a copy of the template by emailing Susan Jacobsen at susan_jacobsen@mail.fws.gov or calling her at 703/358-2105. We would appreciate it if the data were either inserted into the LOTUS 1-2-3 template and submitted electronically via email to susan_jacobsen@mail.fws.gov or written directly on the printed copy of the template provided.

- States may use the list of species provided and simply write the total State amount beside the appropriate name.

EXPENDITURES TO BE REPORTED:

- Only species on the Federal list of Endangered and Threatened Wildlife and Plants (50 CFR Part 17) at the end of the Fiscal Year (October 1, 1997 to September 30, 1998) are to be reported. Expenditures made prior to the actual listing date of a species, but still within the same year the species was listed, may be reported (e.g., costs of public meetings, notices, surveys, initial recovery efforts). Monies for unlisted, separate populations of listed vertebrates cannot be allowed into the report (e.g., southeastern brown pelicans, Atlantic and Gulf coast least terns, Alaska bald eagles or gray wolves). Expenditures for State-listed species are not reportable unless they are also federally listed. Amounts for foreign species on the list are reportable (e.g., grants or contracts carried out in another country).

- In passing the amendment, Congress indicated that the requirement was aimed primarily at expenses associated with the development and implementation of recovery plans for listed species. Thus, the main focus of the report should be funding of projects that are primarily to support the conservation of endangered or threatened species.

- Only reasonably identifiable expenditures for listed species will be totalled in this report. Extraordinary accounting to track monies expended on individual listed species are not expected.

- All habitat acquisition costs are to be reported separately from all other identifiable expenditures. Such acquisitions must be primarily for the purpose of conserving specific

Federally listed species. As with other projects, those portions of habitat acquisition costs that are specifically for a listed species may be prorated out of the total acquisition costs when the other habitat is being acquired for other purposes (e.g., 25 acres of a 250-acre purchase will be set aside).

- Expenditures associated with consultations pursuant to Section 7 of the Act are covered only to the extent that they are readily identifiable to a particular species. Thus, a formal consultation dealing with a single species, or up to several species where the relative costs are easily divisible, would be subject to reporting.

- Monitoring and survey costs should be reported when: 1) The cost of the monitoring or survey was during the period the species was under a proposed listing and the species was actually listed in the same fiscal year that the monitoring and surveys were conducted; 2) The monitoring or survey covered both candidates and listed species and the costs can be prorated to include only the listed species; and 3) Monitoring or survey costs of listed species should be included when they are readily identifiable to a single species.

- Salary and benefits of an employee working full-time on a single species or whose time devoted to a particular species can be readily identified can be reported. Conversely, staff costs that are not assigned to work on particular species are not usually reportable. Travel costs can be reported when identifiable to a particular species.

- Any State or Federal project that incurs increased costs related directly to mitigation or other conservation efforts on behalf of federally listed species can report that added cost.

- All State agencies (e.g., parks, heritage program, forests, highways) may report their expenditures, although only a single report from each State (plants and animals must be reported together) is expected to be submitted to the International Association of Fish and Wildlife Agencies.

- Examples of reportable expenditures that are directed to individual species include status surveys, habitat management or acquisition, research, propagation (including surrogate species), recovery plan development or implementation, and mitigation. The project must be to primarily benefit the listed species and not other conservation goals.

- Expenditures in a single project devoted to a number of listed species should either be prorated by the agency or not reported. General surveys or projects that cover a large number of species, some of which may not be listed, are not reportable.

1998 Endangered Species Expenditures Template

Welcome to the working template for reporting 1998 expenditures for endangered and threatened species. Column D gives scientific names; column A is FWS lead Regional Office; column B is a Group Code that sequences the groups (mammals, birds, . . .plants) as in the List. A running total of expenditures for each column is kept under each heading.

NOTE: AMOUNTS IN THOUSANDS OF $$$

If you have any questions, contact Susan Jacobsen at 703/358-2105

AMOUNTS IN THOUSANDS OF $$$

Lead Reg.	Group	Inverted Common Name	Status	General	Lands	Grand Total
3	A	Bat, gray	E			
1	A	Bat, Hawaiian hoary	E			
3	A	Bat, Indiana	E			
2	A	Bat, lesser long-nosed	E			
1	A	Bat, little Mariana fruit	E			
1	A	Bat, Mariana fruit	E			
2	A	Bat, Mexican long-nosed	E			
2	A	Bat, Ozark big-eared	E			
5	A	Bat, Virginia big-eared	E			
6	A	Bear, grizzly	T			
4	A	Bear, Louisiana black	T			
1	A	Caribou, woodland	E			
5	A	Cougar, eastern	E			
1	A	Deer, Columbian white-tailed	E			
4	A	Deer, key	E			
6	A	Ferret, black-footed	E			
1	A	Fox, San Joaquin kit	E			
2	A	Jaguar	E			
2	A	Jaguarundi	E			
2	A	Jaguarundi	E			
1	A	Kangaroo rat, Fresno	E			
1	A	Kangaroo rat, giant	E			
1	A	Kangaroo rat, Morro Bay	E			
1	A	Kangaroo rat, San Bernardino Merriam's	E			
1	A	Kangaroo rat, Stephens'	E			
1	A	Kangaroo rat, Tipton	E			
4	A	Manatee, West Indian (=Florida)	E			
1	A	Mountain beaver, Point Arena	E			
4	A	Mouse, Alabama beach	E			
4	A	Mouse, Anastasia Island beach	E			
4	A	Mouse, Choctawahatchee beach	E			
4	A	Mouse, Key Largo cotton	E			
1	A	Mouse, Pacific pocket	E			
4	A	Mouse, Perdido Key beach	E			
6	A	Mouse, Preble's meadow jumping	T			
1	A	Mouse, salt marsh harvest	E			
4	A	Mouse, southeastern beach	T			
2	A	Ocelot	E			
1	A	Otter, southern sea	T			
4	A	Panther, Florida	E			
6	A	Prairie dog, Utah	T			
2	A	Pronghorn, Sonoran	E			
4	A	Rabbit, Lower Keys	E			
4	A	Rice rat (=silver rice rat)	E			
N	A	Sea-lion, Steller	E, T			
N	A	Seal, Caribbean monk	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
N	A	Seal, guadalupe fur	T			
N	A	Seal, Hawaiian monk	E			
1	A	Sheep, bighorn (Peninsular Ranges pop. in CA)	E			
5	A	Shrew, Dismal Swamp southeastern	T			
4	A	Squirrel, Carolina northern flying	E			
5	A	Squirrel, Delmarva Peninsula fox	E			
2	A	Squirrel, Mount Graham red	E			
5	A	Squirrel, Virginia northern flying	E			
1	A	Vole, Amargosa	E			
4	A	Vole, Florida salt marsh	E			
2	A	Vole, Hualapai Mexican	E			
N	A	Whale, blue	E			
N	A	Whale, bowhead	E			
N	A	Whale, finback	E			
N	A	Whale, gray	E			
N	A	Whale, humpback	E			
N	A	Whale, right	E			
N	A	Whale, Sei	E			
N	A	Whale, sperm	E, T			
3	A	Wolf, gray	E			
4	A	Wolf, red	E			
4	A	Woodrat, Key Largo	E			
1	B	ʻAkepa, Hawaii (honeycreeper)	E			
1	B	ʻAkepa, Maui (honeycreeper)	E			
1	B	ʻAkialoa, Kauai (honeycreeper)	E			
1	B	ʻAkiapolaʻau (honeycreeper)	E			
4	B	Blackbird, yellow-shouldered	E			
2	B	Bobwhite, masked (quail)	E			
1	B	Broadbill, Gus '	T			
4	B	Caracara, Audubon's crested	E			
1	B	Condor, California	E			
1	B	Coot, Hawaiian (=ʻalae-keʻokeʻo)	E			
4	B	Crane, Mississippi sandhill	E			
2	B	Crane, whooping	E			
1	B	Creeper, Hawaii	E			
1	B	Creeper, Molokai (=kakawahie)	E			
1	B	Creeper, Oahu (=alauwahio)	E			
1	B	Crow, Hawaiian (=ʻalala)	E			
1	B	Crow, Mariana	E			
4	B	Crow, white-necked	E			
7	B	Curlew, Eskimo	E			
1	B	Duck, Hawaiian (=koloa)	E			
1	B	Duck, Laysan	T			
3	B	Eagle, bald	T			
7	B	Eider, spectacled				

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
7	B	Eider, Steller's	T			
1	B	Falcon, American peregrine	E			
2	B	Falcon, northern aplomado	E			
1	B	Finch, Laysan (honeycreeper)	E			
1	B	Finch, Nihoa (honeycreeper)	E			
2	B	Flycatcher, southwestern willow	E			
1	B	Gnatcatcher, coastal California	T			
7	B	Goose, Aleutian Canada	T			
1	B	Goose, Hawaiian (=nene)	E			
1	B	Hawk, Hawaiian (=io)	E			
4	B	Hawk, Puerto Rican broad-winged	E			
4	B	Hawk, Puerto Rican sharp-shinned	E			
1	B	Honeycreeper, crested (='akohekohe)	E			
4	B	Jay, Florida scrub	T			
1	B	Kingfisher, Guam Micronesian	E			
4	B	Kite, Everglade snail	E			
1	B	Mallard, Mariana	E			
1	B	Megapode, Micronesian (=La Perouse's)	E			
1	B	Millerbird, Nihoa (old world warbler)	E			
1	B	Monarch, Tinian (old world flycatcher)	T			
1	B	Moorhen, Hawaiian common	E			
1	B	Moorhen, Mariana common	E			
1	B	Murrelet, marbled	T			
4	B	Nightjar, Puerto Rican	E			
1	B	Nukupu'u (honeycreeper)	E			
1	B	'O'o, Kauai (='o'o 'a'a) (honeyeater)	E			
1	B	'O'u (honeycreeper)	E			
2	B	Owl, Mexican spotted	T			
1	B	Owl, northern spotted	T			
1	B	Palila (honeycreeper)	E			
4	B	Parrot, Puerto Rican	E			
1	B	Parrotbill, Maui (honeycreeper)	E			
1	B	Pelican, brown	E			
1	B	Petrel, Hawaiian dark-rumped	E			
4	B	Pigeon, Puerto Rican plain	E			
3	B	Plover, piping	E, T			
1	B	Plover, western snowy	T			
1	B	Po'ouli (honeycreeper)	E			
2	B	Prairie-chicken, Attwater's greater	E			
2	B	Pygmy-owl, cactus ferruginous	E			
1	B	Rail, California clapper	E			
1	B	Rail, Guam	E			
1	B	Rail, light-footed clapper	E			
2	B	Rail, Yuma clapper	E			
1	B	Shearwater, Newell's Townsend's (formerly Man	T			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	B	Shrike, San Clemente loggerhead	E			
4	B	Sparrow, Cape Sable seaside	E			
4	B	Sparrow, Florida grasshopper	E			
1	B	Sparrow, San Clemente sage	T			
1	B	Stilt, Hawaiian (=ae`o)	E			
4	B	Stork, wood	E			
1	B	Swiftlet, Mariana gray (=vanikoro)	E			
1	B	Tern, California least	E			
3	B	Tern, least	E			
5	B	Tern, roseate	E, T			
1	B	Thrush, large Kauai	E			
1	B	Thrush, Molokai (=oloma`o)	E			
1	B	Thrush, small Kauai (=puaiohi)	E			
2	B	Towhee, Inyo California (=brown)	T			
2	B	Vireo, black-capped	E			
1	B	Vireo, least Bell's	E			
4	B	Warbler, Bachman's	E			
2	B	Warbler, golden-cheeked	E			
3	B	Warbler, Kirtland's	E			
1	B	Warbler, nightingale reed	E			
1	B	White-eye, bridled	E			
4	B	Woodpecker, ivory-billed	E			
4	B	Woodpecker, red-cockaded	E			
4	C	Anole, Culebra Island giant	E			
4	C	Boa, Mona	T			
4	C	Boa, Puerto Rican	E			
4	C	Boa, Virgin Islands tree	E			
4	C	Crocodile, American	E			
4	C	Gecko, Monito	E			
4	C	Iguana, Mona ground	T			
1	C	Lizard, blunt-nosed leopard	E			
1	C	Lizard, Coachella Valley fringe-toed	T			
1	C	Lizard, Island night	T			
4	C	Lizard, St. Croix ground	E			
2	C	Rattlesnake, New Mexican ridge-nosed	T			
4	C	Skunk, bluetail mole	T			
4	C	Skink, sand	T			
4	C	Snake, Atlantic salt marsh	T			
2	C	Snake, Concho water	T			
3	C	Snake, copperbelly water (northern pop.)	T			
4	C	Snake, eastern indigo	T			
1	C	Snake, giant garter	T			
1	C	Snake, San Francisco garter	E			
1	C	Tortoise, desert	T			
4	C	Tortoise, gopher	T			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	C	Turtle, Alabama redbelly (=red-bellied)	E			
5	C	Turtle, bog (=Muhlenberg)	T			
4	C	Turtle, flattened musk	T			
2	C	Turtle, green sea	E, T			
2	C	Turtle, hawksbill sea (=carey)	E			
2	C	Turtle, Kemp's ridley sea	E			
2	C	Turtle, leatherback sea	E			
2	C	Turtle, loggerhead sea	T			
2	C	Turtle, olive ridley sea	E, T			
5	C	Turtle, Plymouth redbelly (=red-bellied)	E			
4	C	Turtle, ringed map (=sawback)	T			
4	C	Turtle, yellow-blotched map (=sawback)	T			
1	C	Whipsnake, (=striped racer) Alameda	T			
4	D	Coqui, golden	T			
1	D	Frog, California red-legged	T			
4	D	Guajon	T			
2	D	Salamander, Barton Springs	E			
5	D	Salamander, Cheat Mountain	T			
1	D	Salamander, desert slender	E			
4	D	Salamander, Red Hills	T			
2	D	Salamander, San Marcos	T			
1	D	Salamander, Santa Cruz long-toed	E			
5	D	Salamander, Shenandoah	E			
2	D	Salamander, Sonoran tiger	E			
2	D	Salamander, Texas blind	E			
1	D	Toad, Arroyo southwestern	E			
2	D	Toad, Houston	E			
4	D	Toad, Puerto Rican crested	T			
6	D	Toad, Wyoming	E			
2	E	Catfish, Yaqui	T			
4	E	Cavefish, Alabama	E			
4	E	Cavefish, Ozark	T			
6	E	Chub, bonytail	E			
1	E	Chub, Borax Lake	E			
2	E	Chub, Chihuahua	T			
6	E	Chub, humpback	E			
1	E	Chub, Hutton tui	T			
1	E	Chub, Mohave tui	E			
1	E	Chub, Oregon	E			
1	E	Chub, Owens tui	E			
1	E	Chub, Pahranagat roundtail (=bonytail)	E			
4	E	Chub, slender	T			
2	E	Chub, Sonora	T			
4	E	Chub, spotfin (=turquoise shiner)	T			
6	E	Chub, Virgin River	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
2	E	Chub, Yaqui	E			
1	E	Cui-ui	E			
1	E	Dace, Ash Meadows speckled	E			
4	E	Dace, blackside	T			
1	E	Dace, Clover Valley speckled	E			
1	E	Dace, desert	T			
1	E	Dace, Foskett speckled	T			
1	E	Dace, Independence Valley speckled	E			
6	E	Dace, Kendall Warm Springs	E			
1	E	Dace, Moapa	E			
4	E	Darter, amber	E			
4	E	Darter, bayou	T			
4	E	Darter, bluemask (=jewel)	E			
4	E	Darter, boulder (=Elk River)	E			
4	E	Darter, Cherokee	T			
4	E	Darter, duskytail	E			
4	E	Darter, Etowah	E			
2	E	Darter, fountain	E			
4	E	Darter, goldline	T			
2	E	Darter, leopard	T			
5	E	Darter, Maryland	E			
3	E	Darter, Niangua	T			
4	E	Darter, Okaloosa	E			
4	E	Darter, relict	E			
4	E	Darter, slackwater	T			
4	E	Darter, snail	T			
4	E	Darter, watercress	E			
2	E	Gambusia, Big Bend	E			
2	E	Gambusia, Clear Creek	E			
2	E	Gambusia, Pecos	E			
2	E	Gambusia, San Marcos	E			
1	E	Goby, tidewater	E			
4	E	Logperch, Conasauga	E			
5	E	Logperch, Roanoke	E			
6	E	Madtom, Neosho	T			
4	E	Madtom, pygmy	E			
3	E	Madtom, Scioto	E			
4	E	Madtom, Smoky	E			
4	E	Madtom, yellowfin	T			
2	E	Minnow, loach	T			
2	E	Minnow, Rio Grande silvery	E			
1	E	Poolfish, Pahrump	E			
1	E	Pupfish, Ash Meadows Amargosa	E			
2	E	Pupfish, Comanche Springs	E			
2	E	Pupfish, desert	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	E	Pupfish, Devils Hole	E			
2	E	Pupfish, Leon Springs	E			
1	E	Pupfish, Owens	E			
1	E	Pupfish, Warm Springs	E			
N	E	Salmon, chinook, Sacramento R. winter run	T			
N	E	Salmon, chinook, Snake R. fall run	T			
N	E	Salmon, chinook, Snake R. spring/summer run	T			
N	E	Salmon, coho	T			
N	E	Salmon, sockeye (=red, =blueback), Snake R.	E			
4	E	Sculpin, pygmy	T			
2	E	Shiner, beautiful	T			
4	E	Shiner, blue	T			
4	E	Shiner, Cahaba	E			
4	E	Shiner, Cape Fear	E			
4	E	Shiner, Palezone	E			
2	E	Shiner, Pecos bluntnose	T			
4	E	Silverside, Waccamaw	T			
1	E	Smelt, delta	T			
2	E	Spikedace	T			
1	E	Spinedace, Big Spring	T			
2	E	Spinedace, Little Colorado	T			
1	E	Spinedace, White River	E			
1	E	Springfish, Hiko White River	E			
1	E	Springfish, Railroad Valley	T			
1	E	Springfish, White River	E			
6	E	Squawfish, Colorado	E			
N	E	Steelhead (central CA coast)	T			
N	E	Steelhead (Central Valley CA)	T			
N	E	Steelhead (lower Columbia R.)	T			
N	E	Steelhead (Snake R. Basin)	T			
N	E	Steelhead (south central CA coast)	T			
N	E	Steelhead (southern CA coast)	E			
N	E	Steelhead (upper Columbia R. Basin)	E			
1	E	Stickleback, unarmored threespine	E			
4	E	Sturgeon, Gulf	T			
6	E	Sturgeon, pallid	E			
N	E	Sturgeon, shortnose	E			
1	E	Sturgeon, white (Kootenai River pop.)	E			
6	E	Sucker, June	E			
1	E	Sucker, Lost River	E			
1	E	Sucker, Modoc	E			
6	E	Sucker, razorback	E			
1	E	Sucker, shortnose	E			
1	E	Sucker, Warner	T			
2	E	Topminnow, Gila (incl. Yaqui)	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
2	E	Trout, Apache (=Arizona)	T			
1	E	Trout, bull (Columbia R. pop.)	T			
1	E	Trout, bull (Jarbridge R. pop.)	E			
1	E	Trout, bull (Klamath R. pop.)	T			
2	E	Trout, Gila	E			
6	E	Trout, greenback cutthroat	T			
1	E	Trout, Lahontan cutthroat	T			
1	E	Trout, Little Kern golden	T			
1	E	Trout, Paiute cutthroat	T			
N	E	Trout, Umpqua River cutthroat	E			
6	E	Woundfin	E			
4	F	Acornshell, southern	E			
4	F	Bankclimber (mussel), purple	T			
4	F	Bean, purple (=Fine-rayed purple pearly mussel)	E			
5	F	Clubshell	E			
4	F	Clubshell, black (=Curtus' mussel)	E			
4	F	Clubshell, ovate	E			
4	F	Clubshell, southern	E			
4	F	Combshell, Cumberlandian	E			
4	F	Combshell, southern (=penitent mussel)	E			
4	F	Combshell, upland	E			
4	F	Elktoe, Appalachian	E			
4	F	Elktoe, Cumberland	E			
4	F	Fanshell	E			
4	F	Fatmucket, Arkansas	T			
4	F	Heelsplitter, Carolina	E			
4	F	Heelsplitter, inflated	T			
4	F	Kidneyshell, triangular	E			
4	F	Lampmussel, Alabama (=Pearly mussel, Alabam	E			
4	F	Moccasinshell, Alabama	T			
4	F	Moccasinshell, Coosa	E			
4	F	Moccasinshell, Gulf	E			
4	F	Moccasinshell, Ochlockonee	E			
4	F	Mucket, orange-nacre	T			
5	F	Mussel, dwarf wedge	E			
4	F	Mussel, oyster	E			
4	F	Mussel, ring pink (=golf stick pearly)	E			
3	F	Mussel, winged mapleleaf	E			
4	F	Pearlshell, Louisiana	T			
4	F	Pearlymussel, Appalachian monkeyface	E			
4	F	Pearlymussel, birdwing	E			
4	F	Pearlymussel, cracking	E			
4	F	Pearlymussel, Cumberland bean	E			
4	F	Pearlymussel, Cumberland monkeyface	E			
3	F	Pearlymussel, Curtis'	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	F	Pearlymussel, dromedary	E			
4	F	Pearlymussel, green-blossom	E			
3	F	Pearlymussel, Higgins' eye	E			
4	F	Pearlymussel, little-wing	E			
4	F	Pearlymussel, orange-foot pimpleback	E			
4	F	Pearlymussel, pale lilliput	E			
4	F	Pearlymussel, pink mucket	E			
4	F	Pearlymussel, purple cat's paw	E			
4	F	Pearlymussel, tubercled-blossom	E			
4	F	Pearlymussel, turgid-blossom	E			
3	F	Pearlymussel, white cat's paw	E			
4	F	Pearlymussel, white wartyback	E			
4	F	Pearlymussel, yellow-blossom	E			
4	F	Pigtoe (mussel), oval	E			
4	F	Pigtoe, Cumberland (=Cumberland pigtoe mussel	E			
4	F	Pigtoe, dark	E			
4	F	Pigtoe, fine-rayed	E			
4	F	Pigtoe, flat (=Marshall's mussel)	E			
4	F	Pigtoe, heavy (=Judge Tait's mussel)	E			
4	F	Pigtoe, rough	E			
4	F	Pigtoe, shiny	E			
4	F	Pigtoe, southern	E			
4	F	Pocketbook (mussel), shinyrayed	E			
4	F	Pocketbook, fat	E			
4	F	Pocketbook, fine-lined	T			
4	F	Pocketbook, speckled	E			
4	F	Rabbitsfoot, rough	E			
5	F	Riffleshell, northern	E			
4	F	Riffleshell, tan	E			
2	F	Rock-pocketbook, Ouachita (=Wheeler's pearly	E			
4	F	Slabshell, Chipola	T			
5	F	Spinymussel, James River (=Virginia)	E			
4	F	Spinymussel, Tar River	E			
4	F	Stirrupshell	E			
4	F	Three-ridge (mussel), fat	E			
6	G	Ambersnail, Kanab	E			
1	G	Limpet, Banbury Springs	E			
4	G	Marstonia (snail), royal (=obese)	E			
4	G	Riversnail, Anthony's	E			
4	G	Shagreen, Magazine Mountain	T			
1	G	Snail, Bliss Rapids	T			
5	G	Snail, Chittenango ovate amber	T			
5	G	Snail, flat-spired three-toothed	T			
3	G	Snail, Iowa Pleistocene	E			
1	G	Snail, Morro shoulderband (=Banded dune)	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	G	Snail, noonday	T			
4	G	Snail, painted snake coiled forest	T			
1	G	Snail, Snake River physa	E			
4	G	Snail, Stock Island tree	T			
4	G	Snail, tulotoma (=Alabama live-bearing)	E			
1	G	Snail, Utah valvata	E			
5	G	Snail, Virginia fringed mountain	E			
1	G	Snails, Oahu tree	E			
2	G	Springsnail, Alamosa	E			
1	G	Springsnail, Bruneau Hot	E			
1	G	Springsnail, Idaho	E			
2	G	Springsnail, Socorro	E			
2	I	Beetle, Comal Springs riffle	E			
2	I	Beetle, Comal Springs dryopid	E			
1	I	Butterfly, Behren's silverspot	E			
1	I	Butterfly, callippe silverspot	E			
5	I	Beetle, American burying (=giant carrion)	E			
2	I	Beetle, Coffin Cave mold	E			
1	I	Beetle, delta green ground	T			
3	I	Beetle, Hungerford's crawling water	E			
2	I	Beetle, Kretschmarr Cave mold	E			
1	I	Beetle, Mount Hermon June	E			
5	I	Beetle, northeastern beach tiger	T			
5	I	Beetle, Puritan tiger	T			
2	I	Beetle, Tooth Cave ground	E			
1	I	Beetle, valley elderberry longhorn	T			
1	I	Butterfly, bay checkerspot	T			
1	I	Butterfly, El Segundo blue	E			
3	I	Butterfly, Karner blue	E			
1	I	Butterfly, Lange's metalmark	E			
1	I	Butterfly, lotis blue	E			
1	I	Butterfly, mission blue	E			
3	I	Butterfly, Mitchell's satyr	E			
1	I	Butterfly, Myrtle's silverspot	E			
1	I	Butterfly, Oregon silverspot	T			
1	I	Butterfly, Palos Verdes blue	E			
1	I	Butterfly, Quino checkerspot	E			
4	I	Butterfly, Saint Francis' satyr	E			
1	I	Butterfly, San Bruno elfin	E			
4	I	Butterfly, Schaus swallow'ail	E			
1	I	Butterfly, Smith's blue	E			
6	I	Butterfly, Uncompahgre fritillary	E			
3	I	Dragonfly, Hine's (=Ohio) emerald	E			
1	I	Fly, Delhi Sands flower-loving	E			
1	I	Grasshopper, Zayante band-winged	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	I	Moth, Kern primrose sphinx	T			
1	I	Naucorid, Ash Meadows	T			
1	I	Skipper, Laguna Mountains	E			
6	I	Skipper, Pawnee montane	T			
2	J	Harvestman, Bee Creek Cave	E			
2	J	Harvestman, Bone Cave	E			
2	J	Pseudoscorpion, Tooth Cave	E			
4	J	Spider, spruce-fir moss	E			
2	J	Spider, Tooth Cave	E			
5	K	Amphipod, Hay's Spring	E			
3	K	Amphipod, Illinois cave	E			
2	K	Amphipod, Peck's cave	E			
4	K	Crayfish, cave [no common name]	E			
4	K	Crayfish, cave [no common name]	E			
4	K	Crayfish, Nashville	E			
1	K	Crayfish, Shasta (=placid)	E			
1	K	Fairy shrimp, Conservancy	E			
1	K	Fairy shrimp, longhorn	E			
1	K	Fairy shrimp, riverside	E			
1	K	Fairy shrimp, San Diego	E			
1	K	Fairy shrimp, vernal pool	T			
5	K	Isopod, Lee County cave	E			
5	K	Isopod, Madison Cave	T			
2	K	Isopod, Socorro	E			
4	K	Shrimp, Alabama cave	E			
1	K	Shrimp, California freshwater	E			
4	K	Shrimp, Kentucky cave	E			
4	K	Shrimp, Squirrel Chimney Cave (=Florida cave)	T			
1	K	Tadpole shrimp, vernal pool	E			
1	O	Abutilon eremitopetalum (=Sci name)	E			
1	O	Abutilon sandwicense (=Sci name)	E			
1	O	Achyranthes mutica (=Sci. name)	E			
1	O	A'e	E			
1	O	A'e	E			
2	O	Agave, Arizona	E			
1	O	'Ausakeakua, popolo	E			
1	O	'Awa	E			
1	O	'Awa	E			
1	O	'Akoko	E			
1	O	'Akoko	E			
1	O	'Akoko	E			
1	O	'Akoko	E			
1	O	'Akoko	E			
1	O	'Akoko	E			
1	O	'Akoko, Ewa Plains	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Alani	E			
1	Q	Allocarya, Calistoga	E			
1	Q	Alopecurus, Sonoma	E			
1	Q	Alsinidendron obovatum (=Sci name)	E			
1	Q	Alsinidendron trinerve (=Sci name)	E			
1	Q	Alsinodendron viscosum (=Sci. name)	E			
1	Q	Amaranthus brownii (=Sci. name)	E			
4	Q	Amaranth, seabeach	T			
2	Q	Ambrosia, south Texas	E			
4	Q	Amphianthus, little	T			
1	Q	'Anaunau	E			
1	Q	'Anunu	E			
4	Q	Aristida chaseae (=Sci name)	E			
4	Q	Arrowhead, bunched	E			
3	Q	Aster, decurrent false	T			
4	Q	Aster, Florida golden	E			
4	Q	Aster, Ruth's golden	E			
4	Q	Auerodendron pauciflorum (=Sci name)	E			
1	Q	Aupaka	E			
1	Q	Aupaka	E			
1	Q	Aupaka	T			
4	Q	Avens, spreading	E			
1	Q	'Awikiwiki	E			
1	Q	'Awiwi	E			
1	Q	'Awiwi	E			
2	Q	Ayenia, Texas	E			
1	Q	Baccharis, Encinitas	T			
1	Q	Barberry, island	E			
1	Q	Barberry, Truckee	E			
4	Q	Barneoo	E			
5	Q	Beaked-rush, Knieskern's	T			
6	Q	Beardtongue, Penland	E			
4	Q	Beargrass, Britton's	E			
6	Q	Bear-poppy, dwarf	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Beauty, Harper's	E			
1	Q	Bedstraw, El Dorado	E			
1	Q	Bedstraw, Island	E			
4	Q	Bellflower, Brooksville	E			
1	Q	Bidens, cuneate	E			
5	Q	Birch, Virginia round-leaf	T			
1	Q	Bird's beak, palmate-bracted	E			
1	Q	Bird's-beak, Pennell's	E			
1	Q	Bird's-beak, salt marsh	E			
1	Q	Bird's-beak, soft	E			
4	Q	Birds-in-a-nest, white	T			
4	Q	Bittercress, small-anthered	E			
6	Q	Bladderpod, Dudley Bluffs	T			
6	Q	Bladderpod, kodachrome	E			
4	Q	Bladderpod, lyrate	T			
3	Q	Bladderpod, Missouri	E			
1	Q	Bladderpod, San Bernardino Mountains	E			
4	Q	Bladderpod, Spring Creek	E			
2	Q	Bladderpod, white	E			
1	Q	Blazingstar, Ash Meadows	T			
4	Q	Blazingstar, Heller's	T			
4	Q	Blazingstar, scrub	E			
1	Q	Bluecurls, Hidden Lake	T			
1	Q	Bluegrass, Hawaiian	E			
1	Q	Bluegrass, Mann's	E			
1	Q	Bluegrass, Napa	E			
1	Q	Bluegrass, San Bernardino	E			
2	Q	Blue-star, Kearney's	E			
4	Q	Bluet, Roan Mountain	E			
1	Q	Bonamia menziesii (=Sci name)	E			
4	Q	Bonamia, Florida	T			
4	Q	Boxwood, Vahl's	E			
1	Q	Brodiaea, Chinese Camp	T			
1	Q	Broom, San Clemente Island	E			
1	Q	Buckwheat, cushenbury	E			
4	Q	Buckwheat, scrub	T			
1	Q	Buckwheat, steamboat	E			
5	Q	Bulrush, Northeastern (=barbed bristle)	E			
3	Q	Bush-clover, prairie	T			
1	Q	Bush-mallow, San Clemente Island	E			
1	Q	Bush-mallow, Santa Cruz Island	E			
6	Q	Buttercup, autumn	E			
1	Q	Butterweed, Layne's	T			
4	Q	Butterwort, Godfrey's	T			
1	Q	Button-celery, San Diego	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Button, Mohr's Barbara	T			
2	Q	Cactus, Arizona hedgehog	E			
1	Q	Cactus, Bakersfield	E			
2	Q	Cactus, black lace	E			
2	Q	Cactus, Brady pincushion	E			
2	Q	Cactus, bunched cory	T			
2	Q	Cactus, Chisos Mtn. hedgehog	T			
2	Q	Cactus, Cochise pincushion	T			
4	Q	Cactus, Key tree	E			
2	Q	Cactus, Knowlton	E			
2	Q	Cactus, Kuenzler hedgehog	E			
2	Q	Cactus, Lee pincushion	T			
2	Q	Cactus, Lloyd's hedgehog	E			
2	Q	Cactus, Lloyd's Mariposa	T			
2	Q	Cactus, Mesa Verde	T			
2	Q	Cactus, Nellie cory	E			
2	Q	Cactus, Nichol's Turk's head	E			
2	Q	Cactus, Peebles Navajo	E			
2	Q	Cactus, Pima pineapple	E			
6	Q	Cactus, San Rafael	E			
2	Q	Cactus, Siler pincushion	T			
2	Q	Cactus, Sneed pincushion	E			
2	Q	Cactus, star	E			
2	Q	Cactus, Tobusch fishhook	E			
6	Q	Cactus, Unita Basin hookless	T			
6	Q	Cactus, Winkler	T			
6	Q	Cactus, Wright fishhook	E			
4	Q	Calyptranthes thomasiana (=Sci name)	E			
4	Q	Campion, fringed	E			
4	Q	Cape rosa	E			
2	Q	Cat's-eye, Terlingua Creek	E			
1	Q	Ceanothus, coyote (=California-lilac, Coyote	E			
1	Q	Ceanothus, Pine Hill	E			
1	Q	Centaury, spring-loving	T			
1	Q	Chaff-flower, round-leaved	E			
4	Q	Chaffseed, American	E			
4	Q	Chamaecrista glandulosa var. mirabilis (=Sci	E			
1	Q	Chamaesyce halemanui (=Sci name)	E			
1	Q	Checker-mallow, Kenwood Marsh	E			
1	Q	Checker-mallow, Nelson's	T			
1	Q	Checker-mallow, pedate	E			
4	Q	Chumbo, higo	T			
4	Q	Chupacallos (=Chupagallo)	E			
5	Q	Cinquefoil, Robbins'	E			
1	Q	Clarkia, Pismo	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Clarkia, Presidio	E			
1	Q	Clarkia, Springville	T			
1	Q	Clarkia, Vine Hill	E			
2	Q	Cliff-rose, Arizona	E			
1	Q	Clover, Monterey (=Del Monte)	E			
3	Q	Clover, running buffalo	E			
1	Q	Clover, showy Indian	E			
4	Q	Coneflower, smooth	E			
4	Q	Coneflower, Tennessee purple	E			
4	Q	Cordia bellonis	E			
4	Q	Cranichis ricartii (=Sci name)	E			
6	Q	Cress, toad-flax	E			
1	Q	Crownbeard, big-leaved	T			
1	Q	Cyanea macrostegia ssp. gibsonii (=Sci name)	E			
1	Q	Cyanea superba (=Sci name)	E			
1	Q	Cyanea undulata (=Sci name)	E			
2	Q	Cycladenia, Jones	T			
3	Q	Daisy, lakeside	T			
6	Q	Daisy, Maguire	E			
1	Q	Daisy, Parish's	T			
4	Q	Daphnopsis hellerana (=Sci name)	E			
2	Q	Dawn-flower, Texas prairie	E			
1	Q	Delissea rhytidosperma (=Sci name)	E			
1	Q	Delissea undulata (=Sci name)	E			
2	Q	Dogweed, ashy	E			
4	Q	Dropwort, Canby's	E			
1	Q	Dubautia latifolia (=Sci name)	E			
1	Q	Dubautia pauciflorula (=Sci name)	E			
1	Q	Dudleya, Conejo	T			
1	Q	Dudleya, Marcescent	T			
1	Q	Dudleya, Santa Clara Valley	E			
1	Q	Dudleya, Santa Cruz Island	T			
1	Q	Dudleya, Verity's	T			
1	Q	Dudleyea, Santa Monica Mountains	T			
1	Q	Dwarf-flax, Marin	T			
4	Q	Erubia	E			
4	Q	Eugenia woodburyana (=Sci name)	E			
1	Q	Evening-primrose, Antioch Dunes	E			
1	Q	Evening-primrose, Eureka Valley	E			
1	Q	Evening-primrose, San Benito	T			
1	Q	Fiddleneck, Large-flowered	E			
1	Q	Flannelbush, Pine Hill	E			
2	Q	Fleabane, Rhizome	T			
1	Q	Four-o'clock, MacFarlane's	E			
2	Q	Frankenia, Johnston's	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Fringepod (=lacepod), Santa Cruz Island	E			
1	Q	Gahnia lanaiensis (=Sci name)	E			
1	Q	Gardenia, Hawaiian (na'u)	E			
4	Q	Geocarpon minimum (=Sci name)	T			
1	Q	Geranium, Hawaiian red-flowered	E			
5	Q	Gerardia, sandplain	E			
4	Q	Gesneria pauciflora (=Sci name)	T			
1	Q	Gilia, Hoffmann's slender-flowered	E			
1	Q	Gilia, Monterey	E			
4	Q	Goetzea, beautiful (matabuey)	E			
4	Q	Goldenrod, Blue Ridge	T			
3	Q	Goldenrod, Houghton's	T			
4	Q	Goldenrod, Short's	E			
4	Q	Goldenrod, white-haired	T			
1	Q	Goldfields, Burke's	E			
1	Q	Goldfields, Contra Costa	E			
4	Q	Gooseberry, Miccosukee (Florida)	T			
1	Q	Gouania hillebrandii (=Sci name)	E			
1	Q	Gouania meyenii (=Sci name)	E			
1	Q	Gouania vitifolia (=Sci name)	E			
4	Q	Gourd, Okeechobee	E			
1	Q	Grass, California Orcutt	E			
1	Q	Grass, Colusa	T			
1	Q	Grass, Eureka Dune	E			
1	Q	Grass, Solano	E			
4	Q	Grass, Tennessee yellow-eyed	E			
4	Q	Ground-plum, Guthrie's	E			
2	Q	Groundsel, San Francisco Peaks	T			
1	Q	Gumplant, Ash Meadows	T			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	T			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Haha	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	E			
1	Q	Ha`iwale	T			
1	Q	Ha`iwale	E			
1	Q	Hala pepe	E			
1	Q	Haplostachys haplostachya (=Sci name)	E			
4	Q	Harebells, Avon Park	E			
5	Q	Harperella	E			
1	Q	Hau kuahiwi	E			
1	Q	Hau kuahiwi	E			
1	Q	Hau kuahiwi, Hualalai	E			
4	Q	Heartleaf, dwarf-flowered	T			
4	Q	Heather, mountain golden	T			
1	Q	Heau	E			
1	Q	Hedyotis degeneri (=Sci name)	E			
1	Q	Hedyotis parvula (=Sci name)	E			
1	Q	Hedyotis, Na Pali beach	E			
1	Q	Hesperomannia arborescens (=Sci name)	E			
1	Q	Hesperomannia arbuscula (=Sci name)	E			
1	Q	Hesperomannia lydgatei (=Sci name)	E			
1	Q	Hibiscus, Clay's	E			
4	Q	Higuero de Sierra	E			
1	Q	Holei	E			
4	Q	Holly, Cook's	E			
6	Q	Howellia, water	T			
4	Q	Hypericum, highlands scrub	E			
4	Q	Ilex sintenisii (=Sci name)	E			
1	Q	Iliau, dwarf	E			
1	Q	Indian paintbrush, San Clemente Island	E			
2	Q	Ipomopsis, Holy Ghost	E			
4	Q	Irisette, white	E			
3	Q	Iris, dwarf lake	T			
1	Q	Ischaemum, Hilo	E			
1	Q	Ivesia, Ash Meadows	T			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Jacquemontia, beach	E			
1	Q	Jewelflower, California	E			
1	Q	Jewelflower, Metcalf Canyon	E			
1	Q	Jewelflower, Tiburon	E			
5	Q	Joint-vetch, sensitive	T			
1	Q	Kamakahala	E			
1	Q	Kamakahala	E			
1	Q	Kamakahala	E			
1	Q	Kauai hau kuahiwi	E			
1	Q	Kauila	E			
1	Q	Kaulu	E			
1	Q	Kio`ele	E			
1	Q	Kiponapona	E			
1	Q	Koki`o (=hau-hele`ula or Hawaii tree cotton)	E			
1	Q	Koki`oke`oke`o	E			
1	Q	Koki`oke`oke`o	E			
1	Q	Koki`o, Cooke's	E			
1	Q	Koki`o, Kaua`i	E			
1	Q	Kolea	E			
1	Q	Kolea	T			
1	Q	Ko`oko`olau	E			
1	Q	Ko`oko`olau	E			
1	Q	Ko`oloa`ula	E			
1	Q	Kuahiwi, laukahi	E			
1	Q	Kuahiwi, laukahi	E			
1	Q	Kuawawaenohu	E			
1	Q	Kula, wahine noho	E			
1	Q	Kulu`i	E			
2	Q	Ladies'-tresses, Canelo Hills (=Madrean)	E			
2	Q	Ladies'-tresses, Navasota	E			
6	Q	Ladies'-tresses, Ute	T			
1	Q	Lagu, Hyan	E			
1	Q	Lan[illegible]ur, San Clemente Island	E			
1	Q	Lau`ehu	E			
1	Q	Laulihilihi (=Ma`oli`oli)	E			
1	Q	Layia, beach	E			
4	Q	Lead-plant, Crenulate	E			
4	Q	Leather flower, Alabama	E			
4	Q	Leather flower, Morefield's	E			
4	Q	Lepanthes eltoroensis (=Sci name)	E			
4	Q	Leptocereus grantianus (=Sci name)	E			
1	Q	Lessingia, San Francisco	E			
1	Q	Liliwai	E			
3	Q	Lily, Minnesota trout	E			
1	Q	Lily, Pitkin Marsh	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total	
1	Q	Lily, Western	E				
1	Q	Lipochaeta venosa (=Sci name)	E				
1	Q	Liveforever, Santa Barbara Island	E				
1	Q	Lobelia gaudichaudii ssp. koolauensis , (=Sci. n	E				
1	Q	Lobelia monostachya (=Sci. name)	E				
1	Q	Lobelia niihauensis (=Sci name)	E				
1	Q	Lobelia oahuensis (=Sci name)	E				
3	C	Locoweed, Fassett's	T				
1	Q	Lomatium, Bradshaw's	E				
4	Q	Loosestrife, rough-leaved	E				
1	Q	Loulu	E				
1	Q	Loulu	E				
1	Q	Loulu	E				
1	Q	Loulu	E				
1	Q	Loulu	E				
1	Q	Loulu	E				
5	Q	Lousewort, Furbish	E				
1	Q	Love grass, Fosberg's	E				
1	Q	Lupine, clover	E				
4	Q	Lupine, scrub	E				
4	Q	Lyonia truncata var. proctorii (=Sci name)	E				
1	Q	Lysimachia filifolia (=Sci name)	E				
1	Q	Lysimachia lydgatei (=Sci name)	E				
1	Q	Lysimachia maxima (=terniifolia) (=Sci. name)	E				
1	Q	Ma`aloa, Big Island	E				
1	Q	Mahoe	E				
1	Q	Makou	T				
1	Q	Malacothrix, island	E				
1	Q	Mallow, Kern	E				
5	Q	Mallow, Peter's Mountain	E				
1	Q	Malocothrix, Santa Cruz Island	E				
4	Q	Manaca, palma de	T				
2	Q	Manioc, Walker's	E				
1	Q	Manzanita, Del Mar (=Costa Baja, =Eastwood's)	E				
1	Q	Manzanita, Morro	T				
1	Q	Manzanita, pallid	T				
1	Q	Manzanita, Presido (=Raven's)	E				
1	Q	Manzanita, Santa Rosa Island	E				
1	Q	Ma`ohau hele (=biscus, native yellow)	E				
1	Q	Ma`oli`oli	E				
1	Q	Ma`oli`oli	E				
1	Q	Mapele	E				
1	Q	Mariposa lily, Tiburon	T				
1	Q	Marsicus faunei (=Sci name)	E				
1	Q	Marsicus pennatiformis (=Sci name)	E				

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Meadowfoam, Butte County	E			
1	Q	Meadowfoam, Sebastopol	E			
4	Q	Meadowrue, Cooley's	E			
1	Q	Mehamehame	E			
1	Q	Mesa-mint, Otay	E			
1	Q	Mesa-mint, San Diego	E			
4	Q	Milkpea, Small's	E			
1	Q	Milk-vetch, Applegate's	E			
1	Q	Milk-vetch, Ash meadows	T			
1	Q	Milk-vetch, Braunton's	E			
1	Q	Milk-vetch, Clara Hunt's	E			
1	Q	Milk-vetch, coastal dunes	E			
1	Q	Milk-vetch, Cushenbury	E			
6	Q	Milk-vetch, heliotrope	T			
5	Q	Milk-vetch, Jesup's	E			
2	Q	Milk-vetch, Mancos	E			
6	Q	Milk-vetch, Osterhout	E			
2	Q	Milk-vetch, Sentry	E			
3	Q	Milkweed, Mead's	T			
6	Q	Milkweed, Welsh's	T			
4	Q	Mint, Garrett's (=scrub, in part)	E			
4	Q	Mint, Lakela's	E			
4	Q	Mint, longspurred	E			
4	Q	Mint, scrub	E			
4	Q	Mitracarpus maxwelliae (=Sci name)	E			
4	Q	Mitracarpus polycladus (=Sci name)	E			
3	Q	Monkey-flower, Michigan	E			
3	Q	Monkshood, northern wild	T			
1	Q	Morning-glory, Stebbins'	E			
1	Q	Mountain balm, Indian Knob	E			
1	Q	Mountain-mahogany, Catalina Island	E			
1	Q	Munroidendron racemosum (=Sci name)	E			
4	Q	Mustard, Carter's	E			
6	Q	Mustard, Penland alpine fen	T			
1	Q	Mustard, slender-petaled	E			
4	Q	Myrcia paganii (=Sci name)	E			
1	Q	Na'e a'e	E			
1	Q	Nani wai'ale'ale	E			
1	Q	Nanu	E			
1	Q	Naupaka, dwarf	E			
1	Q	Navarretia, few-flowered	E			
1	Q	Navarretia, many-flowered	E			
4	Q	Negra, cobana	T			
1	Q	Nehe	E			
1	Q	Nehe	E			

AMOUNTS IN THOUSANDS OF $$$

Lead Reg.	Group	Inverted Common Name	Status	General	Lands	Grand Total
1	Q	Nehe	E			
1	Q	Nehe	E			
1	Q	Nehe	E			
1	Q	Nehe	E			
1	Q	Neraudia angulata (=Sci name)	E			
1	Q	Neraudia sericea (=Sci name)	E			
1	Q	Nioi	E			
1	Q	Nitterwort, Amargosa	E			
1	Q	Nohoanu	E			
2	Q	Oak, Hinckley	T			
1	Q	'Oha	E			
1	Q	'Oha	E			
1	Q	'Oha wai	E			
1	Q	'Oha wai	E			
1	Q	'Oha wai	E			
1	Q	'Oha wai	E			
1	Q	'Oha wai	E			
1	Q	'Oha wai	E			
1	Q	'Ohai	E			
1	Q	'Ohe 'ohe	E			
1	Q	'Olulu	E			
1	Q	Opuhe	E			
3	Q	Orchid, eastern prairie fringed	T			
3	Q	Orchid, western prairie fringed	T			
1	Q	Orcutt grass, Greene's	E			
1	Q	Orcutt grass, hairy (=pilose)	E			
1	Q	Orcutt grass, Sacramento	E			
1	Q	Orcutt grass, San Joaquin	T			
1	Q	Orcutt grass, slender	T			
1	Q	Owl's-clover, fleshy	T			
1	Q	Oxytheca, cushenbury	E			
1	Q	Paintbrush, ash-grey	T			
1	Q	Paintbrush, golden	T			
1	Q	Paintbrush, soft-leaved	E			
1	Q	Paintbrush, Tiburon	E			
4	Q	Palo colorado	E			
4	Q	Palo de jazmin	E			
4	Q	Palo de Nigua	E			
4	Q	Palo de Ramon	E			
1	Q	Pamakani	E			
1	Q	Pamakani	E			
1	Q	Panicgrass, Carter's	E			
1	Q	Pau'ala	E			
4	Q	Pawpaw, beautiful	E			
4	Q	Pawpaw, four-petal	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Pawpaw, Rugel's	E			
4	Q	Peios del diablo	E			
2	Q	Pennyroyal, Todsen's	E			
6	Q	Penstemon, blowout	E			
1	Q	Pentachaeta, Lyon's	E			
1	Q	Pentachaeta, white-rayed	E			
4	Q	Peperomia, Wheeler's	E			
6	Q	Phacelia, clay	E			
1	Q	Phacelia, island	E			
6	Q	Phacelia, North Park	E			
2	Q	Phlox, Texas trailing	E			
1	Q	Phyllostegia glabra var. lanaiensis (=Sci nam	E			
1	Q	Phyllostegia hirsuta (=Sci. name)	E			
1	Q	Phyllostegia kaalaensis (=Sci. name)	E			
1	Q	Phyllostegia knudsenii , (=Sci. name)	E			
1	Q	Phyllostegia mannii (=Sci name)	E			
1	Q	Phyllostegia mollis (=Sci name)	E			
1	Q	Phyllostegia parviflora (=Sci. name)	E			
1	Q	Phyllostegia velutina (=Sci. name)	E			
1	Q	Phyllostegia waimeae (=Sci name)	E			
1	Q	Phyllostegia warshaueri (=Sci. name)	E			
1	Q	Phyllostegia wawrana , (=Sci. name)	E			
1	Q	Pilo	E			
4	Q	Pinkroot, gentian	E			
5	Q	Pink, swamp	T			
1	Q	Piperia, Yadon's	E			
2	Q	Pitaya, Davis' green	E			
4	Q	Pitcher-plant, Alabama canebrake	E			
4	Q	Pitcher-plant, green	E			
4	Q	Pitcher-plant, mountain sweet	E			
1	Q	Platanthera holochila (=Sci. name)	E			
4	Q	Plum, scrub	E			
1	Q	Poa siphonoglossa (=Sci name)	E			
1	Q	Po'e	E			
5	Q	Pogonia, small whorled	T			
4	Q	Polygala, Lewton's	E			
4	Q	Polygala, tiny	E			
4	Q	Pondberry	E			
2	Q	Pondweed, Little Aguja Creek	E			
1	Q	Popolo, ku mai (=Popolo, thorny)	E			
2	Q	Poppy-mallow, Texas	E			
2	Q	Poppy, Sacramento prickly	E			
4	Q	Potato-bean, Price's	T			
1	Q	Potentilla, Hickman's	E			
4	Q	Prairie-clover, leafy	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Prickly-apple, fragrant	E			
4	Q	Prickly-ash, St. Thomas	E			
6	Q	Primrose, Maguire	T			
1	Q	Pritchardia remota (=Sci name)	E			
1	Q	Pussypaws, Mariposa	T			
1	Q	Pu'uka'a	E			
4	Q	Rattleweed, hairy	E			
6	Q	Reed-mustard, Barneby	E			
6	Q	Reed-mustard, clay	T			
1	Q	Remya kauaiensis (=Sci name)	E			
1	Q	Remya montgomeryi (=Sci name)	E			
1	Q	Remya, Maui	E			
4	Q	Rhododendron, Chapman	E			
6	Q	Ridge-cress (=pepper-cress), Barneby	E			
4	Q	Rock-cress	E			
1	Q	Rock-cress, Hoffmann's	E			
1	Q	Rock-cress, McDonald's	E			
1	Q	Rockcress, Santa Cruz Island	E			
5	Q	Rock-cress, shale barren	E			
1	Q	Rollandia crispa (=Sci name)	E			
4	Q	Rosa, palo de	E			
4	Q	Rosemary, Apalachicola	E			
4	Q	Rosemary, Cumberland	T			
4	Q	Rosemary, Etonia	E			
4	Q	Rosemary, short-leaved	E			
3	Q	Roseroot, Leedy's	T			
2	Q	Rush-pea, slender	E			
1	Q	Rush-rose, island	T			
1	Q	Sandalwood, Lanai or 'iliahi	E			
1	Q	Sandbur, agrimony or Kamanomano	E			
4	Q	Sandlace	E			
2	Q	Sand-verbena, large-fruited	E			
1	Q	Sandwort, Bear Valley	T			
4	Q	Sandwort, Cumberland	E			
1	Q	Sandwort, Marsh	E			
1	Q	Sanicula mariversa (=Sci name)	E			
1	Q	Sanicula purpurea (=Sci. name)	E			
1	Q	Schiedea haleakalensis (=Sci name)	E			
1	Q	Schiedea helleri , (=Sci. name)	E			
1	Q	Schiedea hookeri (=Sci. name)	E			
1	Q	Schiedea kaalae (=Sci name)	E			
1	Q	Schiedea kauaiensis (=Sci. name)	E			
1	Q	Schiedea lydgatei (=Sci name)	E			
1	Q	Schiedea membranacea , (=Sci. name)	E			
1	Q	Schiedea nuttallii (=Sci. name)	E			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	Q	Schiedea sarmentosa (=Sci. name)	E			
1	Q	Schiedea spergulina var. leiopoda (=Sci name)	E			
1	Q	Schiedea spergulina var. spergulina (=Sci name)	T			
1	Q	Schiedea verticillata (=Sci name)	E			
1	Q	Schiedea, Diamond Head	E			
4	Q	Schoepfia arenaria (=Sci name)	T			
1	Q	Seablite, California	E			
2	Q	Sedge, Navajo	T			
1	Q	Sedge, white	E			
1	Q	Silene alexandri (=Sci name)	E			
1	Q	Silene hawaiiensis (=Sci name)	T			
1	Q	Silene lanceolata (=Sci name)	E			
1	Q	Silene perlmanii (=Sci name)	E			
1	Q	Silversword, `Ahinahina Mauna Kea	E			
1	Q	Silversword, Haleakala (`ahinahina)	E			
1	Q	Silversword, Ka`u	E			
4	Q	Skullcap, Florida	T			
4	Q	Skullcap, large-flowered	E			
4	Q	Snakeroot	E			
2	Q	Snowbells, Texas	E			
1	Q	Spermolepis hawaiiensis (=Sci name)	E			
1	Q	Spineflower, Ben Lomond	E			
1	Q	Spineflower, Howell's	E			
1	Q	Spineflower, Monterey	T			
1	Q	Spineflower, Orcutt's	E			
1	Q	Spineflower, Robust (incl. Scotts Valley)	E			
1	Q	Spineflower, slender-horned	E			
1	Q	Spineflower, Sonoma	E			
5	Q	Spiraea, Virginia	T			
4	Q	Spurge, deltoid	E			
4	Q	Spurge, Garber's	T			
1	Q	Spurge, Hoover's	T			
4	Q	Spurge, telephus	T			
1	Q	Stenogyne angustifolia (=Sci name)	E			
1	Q	Stenogyne bifida (=Sci name)	E			
1	Q	Stenogyne campanulata (=Sci name)	E			
1	Q	Stenogyne kanehoana (=Sci name)	E			
1	Q	Stonecrop, Lake County	E			
4	Q	Sumac, Michaux's	E			
1	Q	Sunburst, Hartweg's golden	E			
1	Q	Sunburst, San Joaquin adobe	T			
4	Q	Sunflower, Eggert's	T			
1	Q	Sunflower, San Mateo woolly	E			
4	Q	Sunflower, Schweinitz's	E			
1	Q	Sunray, Ash Meadows	T			

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total	
1	Q	Sunshine, Sonoma (=Stickyseed, Baker's)	E				
1	Q	Taraxacum, California	E				
4	Q	Ternstroemia subsessilis (=Sci name)	E				
1	Q	Tetramolopium rockii (=Sci name)	T				
1	Q	Tetramolopium arenarium (=Sci name)	E				
1	Q	Tetramolopium filiforme (=Sci name)	E				
1	Q	Tetramolopium lepidotum ssp. lepidotum (=Sci	E				
1	Q	Tetramolopium remyi (=Sci name)	E				
1	Q	Thistle, Chorro Creek	E				
1	Q	Thistle, fountain	E				
1	Q	Thistle, Loch Lomond coyote	E				
3	Q	Thistle, Pitcher's	T				
2	Q	Thistle, Sacramento Mountains	T				
1	Q	Thistle, Suisun	E				
1	Q	Thornmint, San Mateo	E				
6	Q	Townsendia, Last Chance	T				
4	Q	Tree, pygmy fringe	E				
1	Q	Trematolobelia singularis (=Sci. name)	E				
4	Q	Trillium, persistent	E				
4	Q	Trillium, relict	E				
6	Q	Twinpod, Dudley Bluffs	T				
1	Q	Uhiuhi	E				
4	Q	Uvillo	E				
4	Q	Vernonia proctorii (=Sci name)	E				
1	Q	Vervain, Red Hills	T				
1	Q	Vetch, Hawaiian	E				
1	Q	Vigna o-wahuensis (=Sci name)	E				
1	Q	Viola helenae (=Sci name)	E				
1	Q	Viola lanaiensis (=Sci name)	E				
1	Q	Viola oahuensis (=Sci. Name)	E				
1	Q	Wahane (=Hawane or loulu)	E				
1	Q	Wallflower, Ben Lomond	E				
1	Q	Wallflower, Contra Costa	E				
1	Q	Wa"flower, Menzies'	E				
4	Q	Walnut, West Indian or nogal	E				
4	Q	Warea, wide-leaf	E				
1	Q	Watercress, Gambel's	E				
4	Q	Water-plantain, Kral's	T				
2	Q	Water-umbel, Huachuca	E				
4	Q	Water-willow, Cooley's	E				
4	Q	Whitlow-wort, papery	T				
6	Q	Wild-buckwheat, clay-loving	E				
2	Q	Wild-buckwheat, gypsum	T				
1	Q	Wild-buckwheat, southern mountain	T				
2	Q	Wild-rice, Texas	E				

Lead Reg.	Group	Inverted Common Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
4	Q	Wings, Pigeon	T			
1	Q	Wire-lettuce, Malheur	E			
4	Q	Wireweed	E			
1	Q	Woodland-star, San Clemente Island	E			
1	Q	Woolly-star, Hoover's	T			
1	Q	Woolly-star, Santa Ana River	E			
1	Q	Wooly-threads, San Joaquin	E			
1	Q	Xylosma crenatum (=Sci name)	E			
4	Q	Ziziphus, florida	E			
1	R	Cypress, Gowen	T			
1	R	Cypress, Santa Cruz	E			
4	R	Torreya, Florida	E			
4	S	Adiantum vivesii (=Sci name)	E			
1	S	Asplenium fragile var. insulare (=Sci name)	E			
1	S	Diellia falcata (=Sci name)	E			
1	S	Diellia pallida (=laciniata) (=Sci name)	E			
1	S	Diellia unisora (=Sci name)	E			
1	S	Diellia , asplenium-leaved	E			
1	S	Diplazium molokaiense (=Sci name)	E			
4	S	Elaphoglossum serpens (=Sci name)	E			
4	S	Fern, Alabama streak-sorus	T			
7	S	Fern, Aleutian shield	E			
4	S	Fern, American hart's-tongue	T			
4	S	Fern, Elfin tree	E			
1	S	Fern, pendant kihi	E			
1	S	Ihi`ihi	E			
1	S	Pauoa	E			
4	S	Polystichum calderonense (=Sci name)	E			
1	S	Pteris lidgatei (=Sci name)	E			
4	S	Quillwort, black spored	E			
4	S	Quillwort, Louisiana	E			
4	S	Quillwort, mat-forming	E			
4	S	Tectaria estremerana (=Sci name)	E			
4	S	Thelypteris inabonensis (=Sci name)	E			
4	S	Thelypteris verecunda (=Sci name)	E			
4	S	Thelypteris yaucoensis (=Sci name)	E			
1	S	Wawae`iole	E			
1	S	Wawa`iole	E			
4	U	Cladonia, Florida perforate	E			
4	U	Lichen, rock gnome	E			

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

August 20, 1998

MEMORANDUM TO: Carl F. Dolinka, Acting Chief
Program Analysis Branch
Division of Budget and Analysis
Office of the Chief Financial Officer

FROM: Frank P. Gillespie, Director
Division of Inspection and Support Programs
Office of Nuclear Reactor Regulation

SUBJECT: EXPENDITURES FOR THE CONSERVATION OF ENDANGERED AND THREATENED SPECIES

In FY 1997, NRR staff spent a total of 95.5 hours ($12,510K) on actions directed toward the conservation of endangered species for Shortnose Sturgeons and Green, Kemp's Ridley, Loggerhead, Hawksbill and Leatherback Sea Turtles at St. Lucie 1&2, Salem 1&2, Brunswick 1, and Hope Creek.

In addition, 38 staff hours were spent ($4,978K) on the Endangered Species Action Plan and Coastal Zone Management Activities and $42K on contract activities with PNNL to determine and document NRC compliance with the Endangered Species Act.

If you have any questions, please contact Ron Villafranco on 415-1206 or E-mail RVV.

Attachments: FY 1997 Survey of Expenditures

cc: T. Heavey, OCFO

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
1	B	Thrush, large Kauai	Myadestes myadestinus	E			
1	B	Thrush, Molokai (=olomao)	Myadestes lanaiensis rutha	E			
1	B	Thrush, small Kauai (=puaiohi)	Myadestes palmeri	E			
2	B	Towhee, Inyo California (=brown)	Pipilo crissalis eremophilus	T			
2	B	Vireo, black-capped	Vireo atricapillus	E			
1	B	Vireo, least Bell's	Vireo bellii pusillus	E			
4	B	Warbler, Bachman's	Vermivora bachmanii	E			
2	B	Warbler, golden-cheeked	Dendroica chrysoparia	E			
3	B	Warbler, Kirtland's	Dendroica kirtlandii	E			
1	B	Warbler, nightingale reed	Acrocephalus luscinia	E			
1	B	White-eye, bridled	Zosterops conspicillatus conspicillatus	E			
4	B	Woodpecker, ivory-billed	Campephilus principalis	E			
4	B	Woodpecker, red-cockaded	Picoides borealis	E			
1	B	'Akepa, Hawaii (honeycreeper)	Loxops coccineus coccineus	E			
1	B	'Akepa, Maui (honeycreeper)	Loxops coccineus ochraceus	E			
1	B	'Akialoa, Kauai (honeycreeper)	Hemignathus procerus	E			
1	B	'Akiapola'au (honeycreeper)	Hemignathus munroi	E			
1	B	'O'o, Kauai (='o'o 'a'a) (honeyeater)	Moho braccatus	E			
1	B	'O'u (honeycreeper)	Psittirostra psittacea	E			
4	C	Anole, Culebra Island giant	Anolis roosevelti	E			
4	C	Boa, Mona	Epicrates monensis monensis	T			
4	C	Boa, Puerto Rican	Epicrates inornatus	E			
4	C	Boa, Virgin Islands tree	Epicrates monensis granti	E			
4	C	Crocodile, American	Crocodylus acutus	E			
4	C	Gecko, Monito	Sphaerodactylus micropithecus	E			
4	C	Iguana, Mona ground	Cyclura stejnegeri	T			
1	C	Lizard, blunt-nosed leopard	Gambelia silus	E			
1	C	Lizard, Coachella Valley fringe-toed	Uma inornata	T			
1	C	Lizard, island night	Xantusia riversiana	T			
4	C	Lizard, St. Croix ground	Ameiva polops	E			
2	C	Rattlesnake, New Mexican ridge-nosed	Crotalus willardi obscurus	T			
4	C	Skink, bluetail mole	Eumeces egregius lividus	T			
4	C	Skink, sand	Neoseps reynoldsi	T			
4	C	Snake, Atlantic salt marsh	Nerodia clarkii taeniata	T			
2	C	Snake, Concho water	Nerodia paucimaculata	T			
3	C	Snake, copperbelly water (northern pop.)	Nerodia erythrogaster neglecta	T			
4	C	Snake, eastern indigo	Drymarchon corais couperi	T			
1	C	Snake, giant garter	Thamnophis gigas	T			
1	C	Snake, San Francisco garter	Thamnophis sirtalis tetrataenia	E			
1	C	Tortoise, desert	Gopherus agassizii	T			
4	C	Tortoise, gopher	Gopherus polyphemus	T			
4	C	Turtle, Alabama redbelly (=red-bellied)	Pseudemys alabamensis	E			
4	C	Turtle, flattened musk	Sternotherus depressus	T	2740		
2	C	Turtle, green sea	Chelonia mydas	E, T	1768		
2	C	Turtle, hawksbill sea (=carey)	Eretmochelys imbricata	E			

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
2	C	Turtle, Kemp's ridley sea	Lepidochelys kempii	E	2724		
2	C	Turtle, leatherback sea	Dermochelys coriacea	E	1768		
2	C	Turtle, loggerhead sea	Caretta caretta	T	2724		
2	C	Turtle, olive ridley sea	Lepidochelys olivacea	E, T			
5	C	Turtle, Plymouth redbelly (=red-bellied)	Pseudemys rubriventris bangsi	E			
4	C	Turtle, ringed map (=sawback)	Graptemys oculifera	T			
4	C	Turtle, yellow-blotched map (=sawback)	Graptemys flavimaculata	T			
4	O	Coqui, golden	Eleutherodactylus jasperi	T			
1	O	Frog, California red-legged	Rana aurora draytonii	T			
4	O	Guajon	Eleutherodactylus cooki	T			
2	O	Salamander, Barton Springs	Eurycea sosorum	E			
5	O	Salamander, Cheat Mountain	Plethodon nettingi	T			
1	O	Salamander, desert slender	Batrachoseps aridus	E			
4	O	Salamander, Red Hills	Phaeognathus hubrichti	T			
2	O	Salamander, San Marcos	Eurycea nana	T			
1	O	Salamander, Santa Cruz long-toed	Ambystoma macrodactylum croceum	E			
5	O	Salamander, Shenandoah	Plethodon shenandoah	E			
2	O	Salamander, Sonoran tiger	Ambystoma tigrinum stebbinsi	E			
2	O	Salamander, Texas blind	Typhlomolge rathbuni	E			
1	O	Toad, Arroyo southwestern	Bufo microscaphus californicus	E			
2	O	Toad, Houston	Bufo houstonensis	E			
4	O	Toad, Puerto Rican crested	Peltophryne lemur	T			
6	O	Toad, Wyoming	Bufo hemiophrys baxteri	E			
2	E	Catfish, Yaqui	Ictalurus pricei	T			
4	E	Cavefish, Alabama	Speoplatyrhinus poulsoni	E			
4	E	Cavefish, Ozark	Amblyopsis rosae	T			
6	E	Chub, bonytail	Gila elegans	E			
1	E	Chub, Borax Lake	Gila boraxobius	E			
2	E	Chub, Chihuahua	Gila nigrescens	T			
8	E	Chub, humpback	Gila cypha	E			
1	E	Chub, Hutton tui	Gila bicolor ssp.	T			
1	E	Chub, Mohave tui	Gila bicolor mohavensis	E			
1	E	Chub, Oregon	Oregonichthys crameri	E			
1	E	Chub, Owens tui	Gila bicolor snyderi	E			
1	E	Chub, Pahranagat roundtail (=bonytail)	Gila robusta jordani	E			
4	E	Chub, slender	Erimystax cahni	T			
2	E	Chub, Sonora	Gila ditaenia	T			
4	E	Chub, spotfin (=turquoise shiner)	Cyprinella monacha	T			
6	E	Chub, Virgin River	Gila robusta seminuda	E			
2	E	Chub, Yaqui	Gila purpurea	E			
1	E	Cui-ui	Chasmistes cujus	E			
1	E	Dace, Ash Meadows speckled	Rhinichthys osculus nevadensis	E			
4	E	Dace, blackside	Phoxinus cumberlandensis	T			
1	E	Dace, Clover Valley speckled	Rhinichthys osculus oligoporus	E			
1	E	Dace, desert	Eremichthys acros	T			

Lead Reg.	Group	Inverted Common Name	Scientific Name	Status	AMOUNTS IN THOUSANDS OF $$$ General	Lands	Grand Total
N	E	Salmon, chinook, Snake R. spring/summer run	Oncorhynchus tshawytscha	T			
N	E	Salmon, coho	Oncorhynchus (=Salmo) kisutch	T			
N	E	Salmon, sockeye (=red, =blueback), Snake R.	Oncorhynchus nerka	E			
4	E	Sculpin, pygmy	Cottus pygmaeus	T			
2	E	Shiner, beautiful	Cyprinella formosa	T			
4	E	Shiner, blue	Cyprinella caerulea	T			
4	E	Shiner, Cahaba	Notropis cahabae	E			
4	E	Shiner, Cape Fear	Notropis mekistocholas	E			
4	E	Shiner, Palezone	Notropis sp.	E			
2	E	Shiner, Pecos bluntnose	Notropis simus pecosensis	T			
4	E	Silverside, Waccamaw	Menidia extensa	T			
1	E	Smelt, delta	Hypomesus transpacificus	T			
2	E	Spikedace	Meda fulgida	T			
1	E	Spinedace, Big Spring	Lepidomeda mollispinis pratensis	T			
2	E	Spinedace, Little Colorado	Lepidomeda vittata	T			
1	E	Spinedace, White River	Lepidomeda albivallis	E			
1	E	Springfish, Hiko White River	Crenichthys baileyi grandis	E			
1	E	Springfish, Railroad Valley	Crenichthys nevadae	T			
1	E	Springfish, White River	Crenichthys baileyi baileyi	E			
6	E	Squawfish, Colorado	Ptychocheilus lucius	E			
1	E	Stickleback, unarmored threespine	Gasterosteus aculeatus williamsoni	E			
4	E	Sturgeon, Gulf	Acipenser oxyrhynchus desotoi	T			
6	E	Sturgeon, pallid	Scaphirhynchus albus	E			
N	E	Sturgeon, shortnose	Acipenser brevirostrum	E			
1	E	Sturgeon, white (Kootenai River pop.)	Acipenser transmontanus	E			
6	E	Sucker, June	Chasmistes liorus	E	786		
1	E	Sucker, Lost River	Deltistes luxatus	E			
1	E	Sucker, Modoc	Catostomus microps	E			
6	E	Sucker, razorback	Xyrauchen texanus	E			
1	E	Sucker, shortnose	Chasmistes brevirostris	E			
1	E	Sucker, Warner	Catostomus warnerensis	T			
2	E	Topminnow, Gila (incl. Yaqui)	Poeciliopsis occidentalis	E			
2	E	Trout, Apache (=Arizona)	Oncorhynchus apache	T			
2	E	Trout, Gila	Oncorhynchus gilae	E			
6	E	Trout, greenback cutthroat	Oncorhynchus clarki stomias	T			
1	E	Trout, Lahontan cutthroat	Oncorhynchus clarki henshawi	T			
1	E	Trout, Little Kern golden	Oncorhynchus aguabonita whitei	T			
1	E	Trout, Paiute cutthroat	Oncorhynchus clarki seleniris	T			
N	E	Trout, Umpqua River cutthroat	Oncorhynchus clarki clarki	E			
6	E	Woundfin	Plagopterus argentissimus	E			
4	F	Acornshell, southern	Epioblasma othcaloogensis	E			
4	F	Bean, purple (=Fine-rayed purple pearly mussel)	Villosa perpurpurea	E			
5	F	Clubshell	Pleurobema clava	E			
4	F	Clubshell, black (=Curtus' mussel)	Pleurobema curtum	E			
4	F	Clubshell, ovate	Pleurobema perovatum	E			

#5

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

August 6, 1998

Mr. Harold W. Keiser
Executive Vice President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: PSE&G PROPOSAL TO DELETE REQUIREMENT TO DEVELOP MORE DEFINITIVE HABITAT UTILIZATION DATA FROM NMFS INCIDENTAL TAKE STATEMENT, SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 (TAC NOS. M99361 AND M99362)

Dear Mr. Keiser:

The U.S. Nuclear Regulatory Commission (NRC), as the action agency regulating operation of nuclear facilities, has the responsibility for interactions with the National Marine Fisheries Service (NMFS) involving Salem that result from compliance with the Endangered Species Act (ESA). Thus, this letter is to inform you that the NRC has transmitted the Public Service Electric and Gas Company (PSE&G) report entitled "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques," dated June 1997, to the NMFS. In addition, the NRC has transmitted to the NMFS the proposal in your letter of July 30, 1997, to eliminate the requirement to obtain more definitive habitat utilization data from the incidental take statement (Requirement 7) in the Biological Opinion for the Salem and Hope Creek Nuclear Generating Stations, issued by the NMFS pursuant to the ESA.

If you have any questions, please contact J. H. Wilson in the Generic Issues and Environmental Projects Branch at (301) 415-1108.

Sincerely,

Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

cc: See next page

ITEM # 2

B/24

#5

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

March 17, 1999

Mr. Harold W. Keiser
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: REVISED INCIDENTAL TAKE STATEMENT, SALEM NUCLEAR GENERATING STATION, UNITS 1 AND 2, AND HOPE CREEK GENERATING STATION (TAC NOS. MA2004, MA2005, AND MA2016)

Dear Mr. Keiser:

In a letter dated July 30, 1997, the Public Service Electric and Gas Company (PSE&G) submitted its report dated June 1997, entitled, "Evaluation of Macrohabitat Utilization by Loggerhead Sea Turtles in Delaware Estuary Using Sonic and Satellite Tracking Techniques." Based on the completion of its telemetry studies as discussed in this report, PSE&G requested that the requirement to obtain more definitive habitat utilization data under the Incidental Take Statement in the Biological Opinion for the Salem and Hope Creek Nuclear Generating Stations be deleted. In a letter dated June 15, 1998, the U.S. Nuclear Regulatory Commission (NRC) forwarded this request to the National Marine Fisheries Service (NMFS) and thereby reinitiated consultation with NMFS under Section 7 of the Endangered Species Act.

In a letter dated January 21, 1999 (enclosed), NMFS responded to the NRC's June 15, 1998, letter advising the NRC that the Incidental Take Statement was revised to omit the sea turtle study requirement. In addition to this change, the NMFS also revised the Incidental Take Statement to include several other modifications. A copy of the amended Incidental Take Statement was enclosed with the NMFS January 21, 1999, letter.

On December 18, 1998, the NRC issued Amendments 216 and 196 to the Salem Unit Nos. 1 and 2 operating licenses, respectively, to revise the Appendix B Environmental Protection Plans (EPPs) by removing the specific language contained in the NMFS Incidental Take Statement from Section 4.2.1 of the EPPs. These amendments make it possible for the NMFS

ITEM # 3

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to change the incidental take permit without the need for PSE&G to request amendment of the Appendix B EPPs for Salem Unit Nos. 1 and 2. Section 4.2.1 of the EPP still requires that PSE&G adhere to the specific requirements within the Incidental Take Statement and any changes must be proceeded by consultation between the NRC, as authorizing agency, and NMFS.

If you have questions regarding this letter, contact me by phone at (301) 415-1457.

Sincerely,

Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272, 50-311, and 50-354

Enclosure: Letter dated January 21, 1999, from NMFS, to T. Essig, NRC

cc w/encl: See next page

Mr. Harold W. Keiser
Public Service Electric & Gas Company

Salem Nuclear Generating Station,
Units 1 and 2, and
Hope Creek Generating Station

cc:

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Baltimore, MD 21202-6806

General Manager - Hope Creek Operations
Hope Creek Generating Station
P.O. Box 236
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, Maryland 20910

JAN 21 1999

Thomas H. Essig, Acting Chief

Thomas H. Essig, Acting Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Essig:

This responds to the Nuclear Regulatory Commission's (NRC) June 15, 1998, request to reinitiate consultation with the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act(ESA), to remove a study requirement from the Incidental Take Statement (ITS) for the Salem and Hope Creek Nuclear Generating Station (SNGS) in Lower Alloways Creek Township, Salem County, New Jersey. Reasonable and prudent measure number seven (7) of the ITS, issued on May 14, 1993, required the Public Service Electric and Gas Company (PSEG), the operator of the SNGS, to track the movements of loggerhead sea turtles incidentally captured at the SNGS and released into Delaware Bay. NMFS required the study for the duration of the ITS or until reevaluation indicated that further investigation was no longer necessary. Based on our review of a June 1997 study report[1] and assessment of the causes of loggerhead sea turtle take at the SNGS (see review below), NMFS revised the ITS to omit the sea turtle study requirement. A new ITS is enclosed and should be attached to the biological opinion concerning operation of the SNGS.

The revised ITS also includes several other modifications, one new reasonable and prudent measure, and one new term and condition. These additional changes are listed below. NMFS and the U.S. Fish and Wildlife Service recently completed an endangered species consultation handbook (*Procedures for Conducting Consultation and Conferences Activities Under Section 7 of the Endangered Species Act*, March 1998, copy enclosed). Hence, we have modified the content and format of the enclosed ITS to comply with these new guidelines.

[1] "Evaluation of macrohabitat utilization by loggerhead sea turtles in Delaware Estuary using sonic and satellite tracking techniques." Final Report prepared by the Public Service Electric and Gas Company, Nuclear Business Unit, June 1997.

ENCLOSURE

Changes to the Incidental Take Statement

1. NMFS decreased the annual allowable take of shortnose sturgeon from ten (10) to five (5) fish. This change reflects a review of annual and average take levels of shortnose sturgeon at the station (i.e., to generate an anticipated level of take). This take level is consistent with shortnose sturgeon take levels assigned for other federal projects in the Delaware River Estuary.

2. NMFS specified a period when ice barriers must be kept out of the circulating water intake (CWS) trash bar area (Reasonable and Prudent Measure Number 1). The reason for this requirement is detailed in the section below.

3. Any shortnose sturgeon recovered from the CWS intake trash bars must be scanned for Passive Integrated Transponder (PIT) tags using an appropriate scanner (Term and Condition Number 4).

4. A new Northeast Region contact for discussing this consultation and submitting reports is identified (Term and Condition Number 5).

5. The annual meeting requirement has been changed to an "as needed" basis (Term and Condition Number 6).

Background: Sea Turtle Study Requirement

In 1991, 23 loggerhead sea turtles were recovered from the SNGS CWS intake trash bar area. All but one of these turtles were recovered alive and released. Prior to 1991, eight loggerhead turtles taken in 1988 represented the largest number of turtles taken in one year. The increased take level in 1991, and another relatively high level of take in 1992 (n= 10), prompted concern that elevated ambient water temperatures, associated with SNGS operation, might attract sea turtles to the intake trash bar area. Therefore, when consultation was reinitiated with NRC in 1993, NMFS added a requirement to the revised ITS to track (via sonic and satellite transmitters) the movements of loggerhead sea turtles incidentally collected at the SNGS.

Between 1992 and 1996, the PSEG tracked the movements of seven loggerhead sea turtles (six in 1992 and one in 1994) in Delaware Bay. Following release, the tagged turtles were mostly relocated

in shallow habitats along the Delaware River shoreline in New Jersey and Delaware or mid-river near the shipping channel. None of the tagged turtles returned to the SNGS region though two of the loggerhead turtles swam ino two tidal tributaries of the bay, the Appoquinomink and Mahom rivers. The tagged loggerhead sea turtles' broad use of the Delaware River and shoreline during the tracking period suggests that suitable habitat exists for loggerhead sea turtles in the Delaware Bay region and that the SNGS region is not preferred habitat for the turtles.

The number of loggerhead sea turtles found on the intake trash bars between 1993 and 1996 (n= 2; one in 1993 and one 1995) was considerably lower than the total number collected in 1991 (n= 23) and closer to the overall average of loggerhead sea turtles taken at SNGS between 1979 and 1996 (mean = 3 turtles/ year). This information indicates that 1991 was an anomalous year for sea turtle takes at SNGS. In 1992, PSEG staff realized that ice barriers, which barricade the intake trash bar region from harmful ice conditions, had been left in place during the off season (Summer and Fall) of 1991 and 1992. The ice barriers probably hindered the sea turtles' ability to easily exit the trash bar region and increased their susceptibility to impingement on the trash racks. Since instituting ice barrier removal during the off season in 1993, the number of sea turtle takes has declined lending additional support for the conclusion that the ice barriers were largely responsible for increased takes in 1991 and 1992. The available tracking data does not provide any evidence that operation of the SNGS attracts sea turtles to the intake trash bar region. Although additional tracking data would improve our understanding of sea turtle distribution and habitat use in Delaware Bay, such a study is no longer a non-discretionary requirement of the NRC's Section 7 consultation concerning operation of the Salem and Hope Creek Nuclear Generating Station. However, since PSEG was unable to track Kemp's ridley and green sea turtles, changes in the capture composition (i.e., a shift towards green on Kemp's ridley) may require reevaluation.

Reinitiation Notice

As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over SNGS operation has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the operation of the SNGS that may affect listed species or critical habitat in a manner or to an extent not considered in the biological opinion; (3) operation of the SNGS is subsequently

modified in a manner that causes an effect to the listed species or critical habitat not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by SNGS operation. In instances where the amount or extent of incidental take is exceeded, the NRC must immediately reinitiate consultation to ensure compliance with Section 7 and Section 9 of the ESA.

NMFS appreciates your efforts to improve the understanding of sea turtle and sturgeon biology in Delaware Bay and further the intent of ESA by implementing conservation programs for listed species. I lock forward to continued cooperation through the Section 7 consultation process.

Sincerely,

Hilda Diaz-Soltero
Director
Office of Protected Resources

Enclosures

INCIDENTAL TAKE STATEMENT

(Amended January 21, 1999)

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, hunt, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Incidental take is any take of a listed species that is incidental to, and not the purpose of, the carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the NRC so that they become binding conditions of any grant or permit issued by the NRC, as appropriate, in order for the exemption in section 7(o)(2) to apply. The NRC has a continuing duty to regulate the activity covered by this incidental take statement. If the NRC (1) fails to assume and implement the terms and conditions, or (2) fails to require any contracted group to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to a permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the NRC, or any contracted group, must report the progress of the action and its impact on shortnose sturgeon to the NMFS as specified in t..e Incidental Take Statement.

AMOUNT OR EXTENT OF TAKE

The NMFS anticipates that, annually, five (5) Kemp's ridley, five (5) green turtles, thirty (30) loggerhead sea turtles, and five (5) shortnose sturgeon could be taken during operation of the Salem Nuclear Generating Station. The incidental take is expected to be in the form of injuries and mortalities. Lethal take limits for each species are one (1) Kemp's ridley, two (2) green turtles, and five (5) loggerhead sea turtles, and five (5) shortnose sturgeon. Sea turtles and shortnose sturgeon may be injured or killed by impingement in the circulating water intakes of the Salem Nuclear Generating Station.

The NMFS has determined anticipated take levels for the SNGS based on multiple factors, including: 1) history and type of take at the SNGS; 2) shortnose sturgeon and sea turtle occurrence in the Action area; and 3) duration of the project. The following includes a summary of the analysis on which anticipated take levels are based for project considered in this BO.

Sea turtle and sturgeon takes have been recorded at this station since 1979. Annual ranges, average take levels (over the sampling period), and total mortalities for each species are: green sea turtle: 0 to 1 (mean = 0.1 per year), with one mortality; Kemp's ridley sea turtle: 0 to 6 (mean = one per year) with 11 total mortalities; loggerhead sea turtles: 0 - 23 (mean = 3 per year), with 20 mortalities; and shortnose sturgeon: 0 to 3 (mean = 0.6 per year), with at least five mortalities. Sea turtle takes have occurred during the summer and fall months (5 June through 2 October) when water temperatures are suitable for foraging turtles. Shortnose sturgeon have been collected on the CWS intake trash bars in January (1), May (4), June (1), October (2), and November (3). Past research on shortnose sturgeon indicates that sturgeon mainly occur in the upper Delaware River. Long distance movements to the lower river and upper Bay occur in spring and summer, possibly for increased foraging opportunities. Some portion of the adult population may overwinter in brackish portions of the Delaware estuary, thus increasing their susceptibility to takes in late fall.

EFFECT OF THE TAKE

In the accompanying biological opinion, the NMFS determined that this level of anticipated take is not likely to result in jeopardy to Kemp's ridley, green, or loggerhead sea turtles, or shortnose sturgeon.

REASONABLE AND PRUDENT MEASURES

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of Kemp's ridley, green, and loggerhead sea turtles, and shortnose sturgeon:

1. Ice barriers must be removed from the intake trash bar area by May 1 and replaced after October 24.

2. The Salem Nuclear Generating Station's CWS intake trash bars must be cleaned at least three times per week between May 1 and November 15, and must be cleaned daily from June 1 to October 15.

3. The SNGS CWS intake trash bars must be inspected every two hours from June 1 through October 15.

4. If a lethal incidental take of a listed species occurs between June 1 and October 15, that is directly attributable to the plant intake structure, monitoring of the SNGS CWS intake structure must be conducted hourly (rather than every 2 hours).

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the NRC must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Comatose sea turtles must be resuscitated according to the procedures described in Appendix 1. These procedures must be posted in appropriate areas such as the fish pool buildings and the circulating water system operator's office.

2. Live sea turtles must be inspected for signs of illness or injury. Any ill or injured sea turtle must be given appropriate medical attention, and must not be released until its condition has improved.

3. Dead sea turtles must be necropsied by qualified personnel. Identification of sex must be determined and stomach contents must be identified to determine whether waste products from the SNGS CWS trash racks are attracting sea turtles. Necropsy reports must be submitted to NMFS when completed.

4. Dead shortnose sturgeon must be inspected for external tags and passive integrated transponder (PIT) tags using an appropriate scanner. Tissue samples must be removed from dead fish and samples and carcasses shipped as instructed in Appendix III.

5. Unless otherwise notified by the NMFS' Northeast Regional Office, documentation of any incidental take must be sent, within 30 days of a take, to Nancy Haley, NMFS, Protected Resources Division, 212 Rogers Avenue, Milford, CT 06460 (fax number: 203. 579.7072). For shortnose sturgeon mortalities, use the mortality report shown in Appendix II.

6. As appropriate, the NMFS, NRC, and PSEG staff will review incident reports to identify trends in sea turtle and shortnose sturgeon takes and conservation recommendations that may improve understanding of listed species' biology in the region.

The NMFS believes that, annually, no more than five (5) Kemp's ridley, five (5) green, and thirty (30) loggerhead sea turtles, and five (5) shortnose sturgeon will be incidentally taken as a result of SNGS operation. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impacts of incidental take that might otherwise result from the plant's operation. If, during the course of this action, this level of incidental take is exceeded, such incidental take represents new information requiring review of the reasonable and prudent measures provided. The NRC must immediately provide an explanation of the causes of the taking and review with the NMFS the need for possible modification of the reasonable and prudent measures.

APPENDIX II

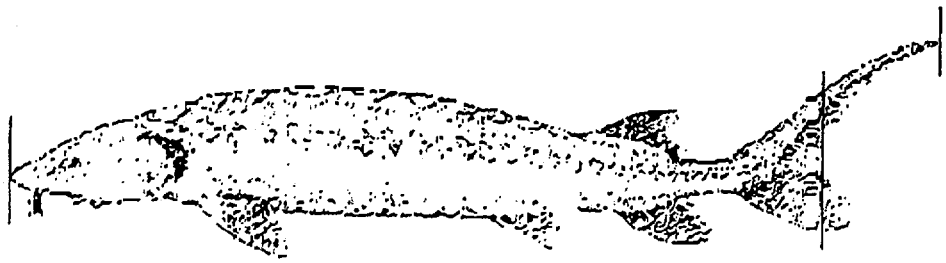
Mortality Record for Shortnose Sturgeon

Date: _____ Time of Day (fish discovered): _____

_____ Photos taken: Y / N

Tags detected: Y / N External: _____

_____ PIT #: _____



_____

Fork Length (FL, to nearest mm)

_____

Total Length (TL, to nearest mm)

Measurements: Fork Length: _____ in. / mm

Total Length: _____ in. / mm

Comments (condition of fish, how discovered, etc.):

Disposition of carcass and any tissues:

APPENDIX III

Instructions for Tissue Removal from Shortnose Sturgeon and Disposition of Carcasses

a.) Instructions for Tissue Removal from Shortnose Sturgeon:
Using a sharp knife, cut away a one centimeter square piece from the soft tissue on any of the fins. Place the sample in a sealed container containing 95% ethanol. Include a copy of the shortnose sturgeon mortality report with the shipment. Unless otherwise instructed by the NMFS, ship the sample to:

Dr. Ike Wirgin
Institute of Environmental Medicine
New York University Medical Center
Long Meadow Road
Tuxedo, New York 10987
(914) 351-2415

b.) Disposition of Fish Carcasses:
Unless otherwise instructed by the NMFS, transfer shortnose sturgeon mortalities to the institution listed below. Include a copy of the shortnose sturgeon mortality report with the specimen.

Academy of Natural Sciences
Department of Ichthyology
1900 Benjamin Franklin Parkway
Philadelphia, Pennsylvania 19103-1195

Contact: Bill Saul, Collection Manager
(215) 299- 1026

TRANSCRIPT OF A PORTION OF THE REGULAR MEETING OF THE BOARD OF CHOSEN FREEHOLDERS OF THE COUNTY OF CAPE MAY HELD ON TUESDAY, APRIL 14, 1998 AT 8:00 P.M.

***

PRESENT: Messrs. Sheets, Thornton and Videtto

ABSENT: Messrs. Beyel and Matthews

QUESTION:

Note: Speaker did not give his name and address. I spoke before the Board before and I mentioned a 20 million dollar gift that was given to the DEP by PSE&G. In the papers later after I made that comment it was characterized as a performance bond and was characterized as that again tonight by this gentleman. The performance bond has a term. If the performance of what is to be performed the bond is returned. My question to him is Sir, at what date do you plan on returning the money to the State of New Jersey, the 20 million dollars that I still maintain as a gift? What is the specific date that you plan to return that money to the State Treasury of New Jersey? And why was it necessary for the Commissioner or the Director of Fish, Game and Wildlife, Mr. McDowl to sign for that money?

ANSWER:

The letter of credit in reference is a requirement of the permit. What it consists of is a bank issued letter of credit and an irrevocable trust, I believe. I don't know off hand the term and I can find that out. But the issue is that letter of

ITEM # 4

B/24

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credit is there to assure that we perform what the permit requires us to perform. And as I said, It is not any different that what would be required by a local planning board or county planning board for the conduct of work. There is no money that has changed hands. It is a letter of credit issued by a bank that can be drawn upon by the DEP if we do not perform, but there needs to be cause. So far there has been no comments or statements from the DEP that they have any concerns about our ability to perform and there have been no references made as to whether the DEP was looking to draw upon that letter of credit.

QUESTION:

Tony Totah of Wildwood, NJ:

First question is PSE&G in compliance with the Clean Water Act with regards to Section 316B on Nuclear Power Plant I and II? If so, how are you in compliance with the law? What percentage of the power plants were built after the implementation of the Clean Water Act have cooling towers? Salem III has a cooling tower. Why did you build the cooling tower? Does this represent best technology that is available? If you would put cooling towers in at Salem I and II would it reduce the water flow by 95 percent, thus an environmental savings by 95 percent? Sound deterrence are an experiment. How many nuclear power plants use sound deterrence? Does this have any impact and do sound deterrence have any impact on entrainment and are you just adding noise pollution to the environment. Marsh mitigation - What is the net gain of wetlands since this is a wetlands conversion I want to know what the net gains of

wetlands are? What has been the impact on horseshoe crabs, especially at the Thompson's Beach area. The effect of salt water intrusion also on the upland areas in the area and how much the upland areas have been destroyed or the tree kills because of the salt water intrusion.

ANSWER:

The first question dealt with Clean Water Act compliance and is Salem in compliance with the Clean Water Act. The answer is yes. The State of New Jersey issued a permit in 1994. The State has that right and has been delegated that right by the EPA. The EPA which oversees New Jersey's delegated right has the ability to veto a permit that is issued by a state. In this instance, they did not do so. Therefore, the permit that has been issued is a legal permit. The second question asked was regarding the number of nuclear power plants with cooling towers that were built after the Clean Water Act was put in place. I don't know the answer to that question. I can find that one out. The next question was why does Hope Creek, it is not Salem III, have a cooling tower and Salem does not. Hope Creek was designed after the Salem Units were designed. Originally, it was designed for an area of the river further up south of Trenton where the flows are significantly less because of the thermal load, the heat load that would come from the plant and go into the river with the significantly reduced flow the cooling tower was added into the design. When the decision was made and I honestly don't know why that decision was made but it was made in the early 70's, 73 - 74 time frame. To move the not yet built but partially designed Hope Creek Plant to the

location next to Salem. The design was retained intact because it was already partially permitted and they picked it up and moved it to put it in a new location without losing from what I understand, about two years of permitting time. The next question was would cooling towers at Salem reduce the flow by 95 percent. The answer to that question is yes it would. The cooling towers however, are not a long term benefit to the estuary. They will only serve to protect the aquatic fishery while the plant is in operation. The wetlands are in place in perpetuity and very simply put, wetlands are one of the most productive ecosystems on earth. They are a good nursery, spawning and young habitat for fish. They are warm, fish are a cold blooded animals, they grow quickly in a warm environment, there is ample food and there is refuge from predators. I can't go into the nuts and bolts of how the calculations were done to yield the number of acres. What I do know is that there were factors of safety built in by both us and by the DEP to have us restore which is now a permanent requirement, to have us restore considerably more acres than the minimum that was required by the calculations. Next, comment or question is sound deterrent an experiment? That is why sound deterrent is set up in the permit as a feasibility study. One element of the feasibility study is an evaluation of whether those sound waves in the river will cause any migration problems or any other unanticipated impacts. And that study will take place in 1998. We've done preliminary cage testing on a variety of different sound deterrent frequencies and so far there looks to be some positive results for some species, but we are doing the feasibility

testing in 1998 at the intake with both Salem Units in operation to assure that all the normal noises and rumbles of the power plant don't mask or change the results of the cage test. I think the next question was and I kind of scribbled here, how many power plants use sound deterrents? I know there are some on the Great Lakes, I do not know how many though. Does it have any impact on entrainment? No sound deterrents would keep only fish that are 50-60 millimeters in size and larger that can swim away from the intake out of the zone of influence of the intake. The intake flows are about one foot per second, fish larger than that generally can swim away with the exception of during the winter when it is colder and they are somewhat more lethargic. But that is usually white perch and not in very high numbers at all. But sound deterrent does not have an effect on entrainment. I think I touched the next one which the study for the sound deterrent whether there is any negative effects of sound. That is part of the study for 1998. I believe you moved to restoration and the question was Is that a net gain of wetlands? Three salt hay farms in particular which total up between 4,500 and 5,000 acres. Currently, prior to (word inaudible) dikes and the completion of restoration at those sites or the initial stages of restoration. Those sites were cut off from the estuary by the dikes with the exception of a very limited number of (word inaudible) that the farmers used. They propped them open once or twice in the spring to let the site fill up, bring the (word inaudible) in with the water and any seed that was in the water then over a period of a week or two let the tide gate work and let the site drain again. That

was the extent of the exchange with the estuary. So it was a very limited exchange. What we've done on those sites and I did not get into a lot of detail on this but I easily can, is dredges in a channel system that mimics the larger order of channels, the fourth and third order of channels. That channel system is now developing and at Dennis you can see this if you go down Stipson's Island Road and I should have mentioned this earlier if anyone is interested we can work with you to find time where we can go down and talk about this with some of our biologists. The lower order of channels, the smaller channels are developing, they are developing well. That is what is expected and all those that edge, that channel edge is a very strong habitat for a lot of fish. Rutgers is doing the fish utilization studies and I don't have the results from the studies just yet because it all took place during '97. We are in the middle of reviewing the results now. They will be reviewed with out Monitoring Advisory Committee at the end of May and submitted to the State by the end or June. But the preliminary indication is that there is an awful lot of fish out at Dennis and as I said the (word inaudible) which is a desirable marsh grass, the finer grass that is growing out there is covering about 50 percent of the site right now which we do with aerial photos and then ground transacts to determine. But Rutgers is doing the monitory work. Next question was horseshoe crabs. We recognize the value of horseshoe crabs in the estuary and the value of horseshoe crabs as an aquatic species. At our Maurice River site in 1992 prior to our purchase of the land we purchased the land in 1995, the perimeter dikes bridged. It

started over the winter of 92-93. What that resulted in was a very high velocity flow through the breeches and the dikes without any sort of channel system like I just described that we dredged into the other sites, there is no channel system there so the horseshoe crabs either floated or swam by were swept into the site and swept up onto the marsh plain without having a channel system there there was no place for them to go. Many got stranded on the marsh plain. We've met with Dr. Shuster and Loveland who are two of the horseshoe crab, fairly well-renowned horseshoe crab scientists recently and we reviewed this at out last Management Plan Advisory Committee Meeting in early January as well. The basic conclusion they drew is the best thing that can happen for the horseshoe crabs is for the restoration to continue and progress. The channel systems give you sense of the scope of them at Maurice River approximately a half a million cubic yards of material were dredged out of the channels. I don't remember the exact number of miles, it is not feet it is miles of channel that have been completed in there which provide the habitat for the horseshoe crabs. The other piece of the restoration that is important to horseshoe crabs is the marsh vegetation. Normally, a horseshoe crab will go up a slope, it will hit the vegetation, stop on that slope, lay its eggs and hopefully sandy soil, Without the vegetation, the horseshoe crabs tend to get up on the marsh plain, wander around and get lost. The fact that the sites are fully drained and flow by the tide each a couple times a day helps to keep their gill plates wet and that is a benefit them in terms of keeping them alive if they do get up on the marsh plain. Finally, we

are working with (word inaudible) Labs to assist in the census studies and the tagging studies that will take place next month as well as we are looking to work with Dr. Loveland to do a fate study of the horseshoe crabs that end up on the marsh plain. And finally, Maurice River Township has asked that we close the gate to the old Thompson's Beach Road and to keep any vehicle access off there so that any pickers would have to come in on foot which limits the take and it is more or less consistent with the new regulations as well. And finally, I believe the next question was salt water intrusion on the uplands and specifically tree kills. I don't know if you are referring the Maurice River or not there. As I said the dikes at Maurice River bridged in 1992. What ended up happening was because the hydrology of that system was inefficient the water would flood in on a storm tide or a higher high tide and not get out as efficiently. Flood tides coming in are much more efficient than the ebb tides and we have a whole variety of hydrology graphs to show that. What ended up happening is that the sites stayed artificially high for a period of time. Now that the channel system are in and all of the breeches are complete. Maurice River was completed within the last month we completed that last breech there on the west side right around 1:30 in the afternoon on February 28th. The salt water intrusion into those upland areas will reach a natural level. In other words, it will see a normal tide. But one thing that is important is that this is a habitat conversion for some of the upland areas or some of the areas that are artificially upland or artificially high marsh because the dikes

were there previously. So there will be habitat changes in the case of Maurice River. There is a series of trees that will convert to high marsh habitat over a period of time. Did I get them all?

QUESTION:

Tony Totah, Wildwood, NJ:

There is a couple. The first one about being in compliance with the Clean Water Act, the Clean Water states best technology available to minimize adverse impact to the environment. A permit is not the best technology. What is the best technology?

ANSWER:

States permit and response to comments as well as a fact sheet statement of basis go into excruciating detail as to the basis for that permit and why the measures at the plant, the extreme modifications and all do constitute best technology available for the application at Salem.

QUESTION:

Tony Totah, Wildwood, NJ:

They have a 95 percent reduction in entrainment?

ANSWER:

No. They go into detail as to why the State felt and why the EPA did not appeal the permit or reject the permit.

QUESTION:

Tony Totah, Wildwood, NJ:

That is not what the question was. The best technology, the Clean Water Act states you must use best technology available. You may have a permit from the DEP but that still is not

compliance with best technology. A permit is not best technology.

ANSWER:

The State cannot issue a permit that is not in compliance with the Clean Water Act. That permit is in compliance with the Clean Water Act.

QUESTION:

Tony Totah, Wildwood, NJ:

Okay, cooling towers will reduce entrainment by 95 percent. Does anything that you have reduce entrainment by 95 percent?

ANSWER:

No Sir.

QUESTION:

If cooling towers will reduce entrainment by 95 percent doesn't that represent best technology?

ANSWER:

I don't believe so, but the key to it is in the fact sheet statement and an awful lot of information in that permit. I'll tell you very candidly. I am not a lawyer. I could not go into the nuts and bolts of it. I don't understand it completely. But, the State can't issue a permit that is not in compliance with the Clean Water Act. If it wasn't the EPA would have rejected it.

QUESTION:

Judy Widerstrom of Cape May, NJ:

What I'd like to say is first of all I am just going to make some statements and I don't even want these people to get up and answer me, especially Jeff because besides being trained in what

you're being trained in you're also being trained in being a liar. What I'd like to say is I have commercial fished the Delaware Bay for about eight years. I've been in a commercial fishing family for three generations. Now I do a newspaper called the Mid-Atlantic Fisheries Gazette and I just want to make a few statements here and one of them is the Thompson's Beach issue commercial fisherman they were the ones that were basically put out of business of horseshoe crabbing and we have documentation that at Thompson's Beach you people killed over 200,000 horseshoe crabs that got trapped. And if you went to Thompson's Beach you would see the horseshoe crabs were hanging in the trees, they were being pumped from your dredge, they were just dying. But yet we were the ones who were targeted. Also, all the funding, basically that came through the horseshoe crab issue was funded by PSE&G. Turtle excluders, Dr. Woods who works for the Wetlands Institute his funding was paid for by PSE&G. Commercial fisherman know what PSE&G basically wants is no commercial fishing in the Delaware Bay. So we know what you are up to but we also know that you people are heavily funded, you have all the money. We can't fight you people. But we are going to get the truth out about you if I have to do it through my newspaper, that's how I am going to do it. Weakfish in the 80's a good year for recreation catch was around seven million pounds. Your plant killed 13 million pounds according to the (word inaudible) report. Another fact, nonlegal endangered species which is a part of the DEP, one of your people from PSE&G sits on that board James (word inaudible). He also sits on the Audubon Board we feel that is a real problem. You have

nonlegal endangered species making regulation to fisherman with people that sit on your board. One of the main things was the horseshoe crabs and I think it is disgusting what you people did at Thompson's Beach. Jeff, I hope you sleep at night because the people you pushed off Thompson's Beach (word inaudible) I know they are not sleeping at nights.

QUESTION:

Drew Daly of Richard Stockton College and a member of SAVE, and an advocate for nuclear power:

I just have one question for the Board and that is why is your plant such a hole? I mean its like, your power plant why are you powering up reactor number one when you can't keep reactor number two on line reliably and safely?

ANSWER:

As I indicated earlier, we are committed to safe, reliable and cost effective operations. The Salem Unit II traditionally has a capacity factor or approximately 52 percent. We are well above that since turned the unit to service. I have had out of service four times since we put it on line back in August. It is at 100 percent power today, I'm quite confident of that to answer your earlier question.

QUESTION:

Someone from the audience:

Where do you live?

ANSWER:

I live twelve miles from the plant in Woodstown.

QUESTION:

Paul Williams, 37 N. Baltic Avenue, Atlantic City, NJ:

Speaking on behalf of the Green Party of New Jersey and I am also the Freeholder Candidate At Large for Atlantic County for the Green Party New Jersey ticket. The concern of PSE&G and connective rate payers is being stranded with seven billion plus for the bailout of Salem Nuclear Reactors I and II and Hope Creek and not your shareholders is a blatant example of corporate welfare. As Freeholder At Large candidate for Atlantic County on the Green Party New Jersey ticket, I would like to know why shouldn't PSE&G and Connective shareholders be totally responsible for Salem rather than the rate payers. How come we are being stranded with seven billion plus costs? This sinkhole was the shareholders responsibility. They started it, they did all of this with a whole wave of nuclear power that is supposed to be the boom for the world. Well, if this is such a boom how come it is a seven billion plus sinkhole for the ratepayers. Let the shareholders pay the total cost.

ANSWER:

Power plants in general and not just Nuclear Power Plants were built under regulations by the State Utility Commission. They were built to meet a public need, they were built under regulations that guaranteed essentially the shareholders and accompany a rate of return for the rate of investments. As the utility industry moves into a competitive market place the issue of stranded costs has become very important both to the consumer and to the investor. Right now, our company has a filing with the State for an Energy Master Plan and we are in the process of negotiating with the State and ultimately it will be an outcome of legislative action, not a negotiation on what ratio of the

stranded asset issue is absorbed by both the consumer as well as the shareholder. So in the end, I expect both parties to pay for some portion of all the generating assets, not just Salem.

QUESTION:

Mike Hamilton of Roosevelt, NJ:

Co-Director of CHORD (Communities Helping to Oppose Radioactive Dumping)

I know these gentlemen here probably know of my efforts throughout the State of the last three years to try to prevent the State of New Jersey from citing a low-level nuclear waste facility in a small town in New Jersey. I know the Freeholders are probably aware that this issue was discussed in Lower Township as well. I am here to tell you that ionizing radiation the kind that these folks helped produce, the kind that nuclear power plants emit causes cancer. Ionizing radiation is the most studied known carcinogen known to man. We receive it everyday. We are doses by it naturally through the sun. Some of us live in houses that are exposed to radon. Some of us take plane flights. You get ionizing radiation from all those sources. I don't think we need more. Recent studies have indicated that past exposure to ionizing, the kind in medical x-rays and radioactive waste is responsible for about 75 percent of all the breast cancers in the United States. Knowing that the major cause of a disease is preventable is naturally very important because exposure can therefore be controlled. Instead of wringing our hands over the breast cancer problem it is time to use our knowledge to reduce the incidence of the disease. There is no safe dose or threshold dose below which exposure to

radiation is nonharmful. Do we need to worry about the small leaks of radiation from nuclear power plants? Would a little bit of radiation in our diets really matter? What counts biologically is the sum of the injuries over time from all the combined sources and events which release toxins, poisons, radioactive or other in the biosphere. If some matters biologically then each contribution to the sum matters. Whoever consents to the small release no matter how small is consenting to their own individual world-wide sum whatever that turns out to be and that is eventually what can cause cancer. Every gentleman here has a risk for prostate cancer, every woman in the room has a risk for breast cancer. Some of the causes of these diseases can be prevented, not just early recognition of it once it is in your body. What does that say about society? That we are looking more at finding it once it is in our body than preventing it before it gets in there. What does that say about us as a society? Today the natural risk by cancer is 22 percent or 22 deaths per hundred. Some can argue that one out of every 4.5 Americans is dying of cancer anyway. But why do you think the cancer rate is so high to begin with? We still have the first cupful of nuclear waste that we produced when we were developing the atomic bomb almost 60 years ago. If we were producing energy via nuclear power plants when Christopher Columbus sailed some of it would just now be coming to safe levels. I am going to let you in on one of the nuclear power plants biggest secrets. Something probably these gentlemen won't tell. I haven't heard it mentioned in any of the speeches I gave. They produce a very lot of dangerous waste. Nuclear

power plants are by far the largest single producer of nuclear waste, a known carcinogen. Power plants produce over 93 percent, as measured by radioactivity, of all the radioactive waste produced in this country. How much long-lived carcinogenic nuclear waste does New York, New Jersey's power plants produce? I have an answer to that three million pounds per year. These gentlemen are responsible for not only producing energy, but for producing three million pounds per year of nuclear waste that has to be stored for hundreds and possibly thousands of years. Is this something that you gentlemen, a product that you gentlemen would like to purchase or you ladies in the room is this something that you would like to purchase?

QUESTION:

Judy Kulp of 503 Rosehill Drive, North Cape May, NJ:

I have a couple of questions for the Board. Why was PSE&G closed a couple of weeks ago and doesn't it cost a lot to close it and also isn't it a big problem when you close it down. I mean what is the cost when you close it down and why would you close it down totally and not tell the press. And also for you Mr. Sheets, I've been sitting here and devoting a lot of time to this and you know I have. I went with you to Salem when PSE&G refused to speak with us and I used a day of work, vacation time because I thought it was important. But we've been sitting here, we've been respecting everyone for months now. When are you, Mr. Sheets, going to give us the respect and stop treating us like were dogs. And I don't think it is funny one bit. It's not funny. You asked us to be polite and respectful and we are.

ANSWER:

I believe there two questions in there. First, and I was asked this earlier by someone else in the audience. The NRC had a public meeting for the re-start of Unit I after the Assessment Team Inspection. It was not a public service meeting, it was an NRC meeting. We do not normally speak at NRC meetings. We were available to the press and lobbied afterward. In fact, we spent quite bit of time out in the lobby talking to the members of the press. So we weren't there to speak to the people. We were there as the guests. The second question you asked is I believe you are referring to the shut down of Salem Unit II. We took the unit off line last week. On the morning of the eighth we experienced a problem with a couple of our service water pumps. We have a set or rules we run the plant by called Technical Specifications. I have six total service water pumps for each unit, required to have three for safe operation of the unit. There is a threshold set of four that if I drop below that I have to restore it back to service within 72 hours and I am required to take the unit off line. As I indicated earlier, we are committed to safely operating the unit. We entered that Tech Spec which gave me 72 hours. About two hours into that the team made a decision to take the plant off line well ahead of the requirement and not only return the minimum number of pumps to service of four, but all six prior to putting the unit back on line which was done on Saturday. So the plant has been running (word inaudible) between Saturday and Sunday. It has running at 100 percent since then.

Why did the pumps fail? I had two problems. First off, in one of the pumps I had a stick about the size of a pen that got in a jammed up the service water strainer and caused it to stop rotating, tripped out on thermal. It has a long term electrical protection on the motor and the motor protects it from damaging itself. It shuts it off. The second issue on the other pump. The pump started and about 15 minutes later we had a problem with the strainer. I believe it was related to tar entrainment that came in and got between the strainer and the wear-ring. We were able to fix it in a matter of about 12 hours. What is the cost? I can answer the cost. We incur costs whether we run or not. We have fixed costs (word inaudible). We have people there around the clock. So truly a question of a lost generation capability and that is the issue and it depends on the market price of electricity.

QUESTION:

Frank McLaughlin, Avalon, NJ:

I would like to address some of the safety problems with the plant with three letters from three people that I think we should all listen to and respect. One is David Lochbaum who is a nuclear safety engineer with the Union of Concerned Scientists. There are two members on that Board of the Union of Concerned Scientists that are Nobel prize winners. Also, a letter from Congressman Edward Markee, and also a letter from Senator Joseph Biden. You have told us that you feel these plants are safe and Mr. Bakken has specifically mentioned this with slide number five. And I not going to waste my precious three hundred seconds to go into that. But Mr. Bakken you

mentioned that these plants are safe. Number one, obviously what are you going to say. I've never heard anyone praise these plants. It's not on the payroll of the PSE&G (word inaudible) or the Nuclear Regulatory Commission. The federal government has come out with the GAO report saying the Nuclear Regulatory Commission cannot be trusted. It is not doing a good job. They are not up to snuff. They should be reviewed themselves. Now the federal government, as you all know of course, has codes for everything and they are very stringent codes for nuclear power plants. You have told us, and you have heard this many times throughout tonight, quite a few lies. I am going to pinpoint one of them here, all you can answer later on your own time but I'd rather you don't take my time. First of all, also on slide number seven which is the journey to excellence. You mentioned that the Nuclear Regulatory guidelines have been met. I'll get right to it. I not a very verbose person most of the time. Congressman Ed Markee says - and I quote, 'The notion of using flammable materials as fire barriers in nuclear power plants is as laughable as it is dangerous. It makes as much sense as using chicken wire to hold back a flood. It only works as long as it isn't needed' said representative Markee. And he goes on to say, 'The NRC's negligence in allowing this to happen poses an inexcusable risk to public health and safety. That's why were here tonight. The plants use RTV silicon foam that is made by Dow Corning and it has been proven to be combustible. The silicon foam, Mr. Markee goes on say, 'Was supposed to prevent fires from spreading in nuclear reactors and it is in fact highly combustible'. He goes on to say, 'The material is prone

to widespread installation problems and defects which reportedly render it useless'. Now I am not going to waste my precious three hundred seconds to tell you this, but you all know because you are nuclear experts, that the average nuclear power plant in the United States has three fires in its operating life time. If ever cables have to go through a plant, if ever there a fire, every section should be contained. Your plant is not up to code. And I will read you the code that the NRC has written that you no longer can follow. The NRC reported silicon foam to be a combustible material in its technical assessment of fire barrier penetration seals in nuclear power plants. SECY-96146 dated July 1, 1996 and also (word inaudible) fire barrier penetration seals in nuclear power plants dated July 31, 1996. Now, Dave Lochbaum from the Union of Concerned Scientists stated that these power plants should not be turned on until the issue of fire penetration seals. This guy has nothing to gain from this. He is not on anyone's payroll. He works for the USC which is a renowned group whenever there is a problem they looked into it and they research it. They have said these plants should not be turned on. Now, obviously you people, we don't have anything against you specifically, but you people have a stake in this. The UCS does not. And I will go on if that is not enough to quote something that Senator Joseph Biden has said. He has said that Section 3M of Appendix R to Part 50 of Title 10 of the Code of Federal Regulations explicitly regulates that fire barrier cable penetrations seals use only non-combustible materials. He says, 'I understand that RTV silicon foam has been used in Salem I and II and is

combustible.' Is it not required of Salem Units I and II to comply with these regulations? Now, I went to the hearing when you people didn't answer any questions from the public. I went to another hearing and I asked the people, your bosses who run the plant who are for the east coast and they couldn't tell me how many of these burnable fire seals -- please I don't want you to answer any of these questions because there is a lot of other people, it is documented, it is facts. You can have any of these and you can reproduce it yourself if you'd like. They couldn't tell us how many fire seals in those plants that were RTV silicon foam in either Salem Units I or Salem Units II. I'd like to finish by saying one thing too that this plant produces radioactive waste that lasts ten thousand years. Also, according to a study from New Jersey PERC seven hundred and sixty-five million fish are killed every year as estimated by New Jersey PERC by Salem Units I, II, and III.

ANSWER:

A couple of things in there that you probably want a response to. The first has to do with the fire seals and the foam material. It gets down to what is the definition of combustible. Almost any material if you apply enough heat will burn. I don't remember the exact temperature which the material is combustible, but it is in the thousands of degrees. The installation issues that you brought up, our plant was inspected thoroughly by both ourselves and by the NRC and the installations were said to be adequate. The issue that you raised the objections, I believe it was the UCS if I am not mistaken were in fact reviewed by the NRC. They were one of the

issues, the technical issues for start up of the plant. They were received by our Division of the NRC and Bethesda and if we weren't in compliance we wouldn't have been allowed to start up. The last issue that you brought up has to do with credibility of the NRC and the report that was done by the GAO. What I'd like to point out there and there's other questions that have come up in the past about the level of rigor with which the NRC expects us. One of the comments has been "we're in bed with them." That is far from the case. There are actually times there are over 35 separate NRC inspectors on sight full time investigating a variety of issues. Everyone of their issues and concerns was addressed prior to the start up of the plant or they wouldn't have been able to lift our confirmatory action letter. So both the NRC and ourselves are committed to the safe operation of the plant.

QUESTION:

Ron Way, Ocean View, NJ:

I just have four questions. The first one is easy, it is a yes or no question. Has any radiation ever escaped into the environment from any of these three nuclear power plants? Question two - What is your nuclear fuel and what is its half-life? Number three - How many tons of spent nuclear fuel and waste have these three plants produced and what have you done with this? What is its half-life? What is the life of your waste containment system? In other words, where do you put this stuff? Fourth question - Everyone said that the Titanic wouldn't sink, we know it went down. We know Cherynoble happened. If there is a Cherynoble type incident and the wind

is blowing in this direction, will Cape May County still be habitable?

ANSWER:

Okay. Let's see if I can answer all of these. I don't remember the question if you can help me.

Ron Way, Ocean View, NJ: Has any radiation ever escaped into the environment?

Answer: The plant has a program under which you -- it has been intentionally released, yes. It is part of the operation of the plant within the Federal limits that are established under the Tenth Code of Federal Regulations, Part 20.

Ron Way, Ocean View, NJ: What is the half-life?

Answer: The half life of the isotopes varies anywhere from a matter of hours to an extended period of time, as you've quoted several people ten thousand years in some cases. The fuel is a mixture of uranium - 235, 238, plutonium 239. We have facilities on site to store it in a spent fuel pool. Ultimately, the fuel is the property of the Department of Energy which is the issue I raised earlier where we've paid for the long term disposal and it is their responsibility. In the interim we are the caretaker for and we maintain responsibility for the safe storage of the fuel.

Ron Way, Ocean View, NJ: How long are those storage facilities?

Answer: I don't know the lifetime for the storage facilities. They are expected to last the life of the plant. Forty years.

Ron Way, Ocean View, NJ: So you are storing something for 40 years that will last for ten thousand years.

Answer: Ultimately the ultimate storage of the fuel belongs to the Department of Energy.

Ron Way, Ocean View, NJ: So how many tons of this stuff have you produced?

Answer: I don't know.

Ron Way, Ocean View, NJ: Guess.

Answer: I don't know. I really don't know. There is two thousand pound per assembly and off the top of my head I don't know how many are in the pool. I don't know.

Ron Way, Ocean View, NJ: Fourth question, Will Cape May County - will we be able to live here if there is a Cherynoble?

Answer: There is a significant difference in the design between our plants in the United States and the Cherynoble Plant. If you look at pictures of most nuclear power plants you see a bubble type building. That is what we call a containment structure. The Cherynoble Plant did not have a containment structure. It wasn't designed that way. That structure is there in the event that there is a catastrophic failure of the plant to maintain the radiation inside that structure. It is made of about a half-inch plate steel, basically a tank inside of inside. There is rewire about the size of your arm lacing it and then there is anywhere from two to six feet of concrete around the building to retain anything that might be released. So my answer to your question is no. It would not impact you.

Answer: I just want to supplement. First to your question regarding the amount, we will get that answer for you if you can just leave your name with us and your address.

The other question regarding the long-term storage of nuclear waste. In 1983, the Congress of the United States passed the Nuclear Waste Policy Act and basically that provided as Chris mentioned that all of the nuclear waste produced by the Commercial Utilities in the United States and others, hospitals, schools, laboratories and universities that all that waste that would be produced would be taken by the US Department of Energy January 31, 1998. To date, fourteen billion dollars has been collected by utilities throughout the United States by our customers who have paid for that, we have transmitted that money to the United States Department of Energy. They have not taken the title to that waste or possession of the waste and this is 1998 and we are beyond January. PSE&G along with a number of utilities has instituted suit against the United States Department of Energy basically for nonperformance of the contract. That is currently in litigation, but as Chris mentioned the DOE has indicated by contract in writing that the nuclear waste that has been accumulated in the United States will be taken by them and stored in a essential facility somewhere in the United States. They have not done that and that is one of the reasons we have instituted suit for specific performance of that contract.

QUESTION:

Jennifer Benson, Del Haven, NJ:

I was going to ask the question, Did they know what the firm of Dames and Moore said in the original survey of artificial island concerning soil structures? But I know that the answer is going to be an official lie. So I am going to just ask one question

that I probably won't get an answer to either. I would just like to know how you can come here and tell us all of these official lies and go home and look at yourself in the mirror.

ANSWER: The answer is very simple. I believe what I am telling you. I have a family that lives within twelve miles of the plant. I go to sleep every night without a problem. And I do not fear for my children's safety.

QUESTION:

Jane Nogucki, I represent the New Jersey Environmental Federal which is part of the Unplug Salem Coalition. We are the largest environmental group in New Jersey. We have 90,000 members. I personally live in Marlton, New Jersey which is just at the edge of the 50 mile radius of the impact zone from this plant. We are calling for the shutdown of this plant and we hope that you the Freeholders will pass the resolution saying that you won't spend your money on nuclear energy. We think that it is a failed technology. It is not sustainable. The waste alone has such a long half-life that it burdens our children and our grandchildren with the waste that we cannot dispose of safely. Nor should we be in the position of sending it to some mythical place out there in the middle of America. Believe me, no one is going to take it and we shouldn't be producing one drop more of it. There is another hidden victim in this scenario and that is that the workers who work at this plant should not be unwitting victims of a shutdown and therefore we are calling for what is called a just transition. That when this plant shuts down there should be provision made for the people that were employed there so that they don't also economically suffer from work that they

did in good faith, but in the guise of a bad technology. So my question to PSE&G is on April 8th the Salem II reactor was shut down because of marsh grass clogging the cooling system. The second shutdown in 24 days. You had over two years while Salem II was shutdown to fix this problem. How can something as frequent happening as marsh grass or a stick impede the operation of a plant like this and if you can't control this sort of thing why should we trust that you can keep this plant running safely? Why should people in Cape May County or South Jersey take that risk especially when safer forms of energy are available?

ANSWER:

The initial problem with the grass was on April 7, 1994. The problem laid principally with our circulating wire system, not our service water system. We made extensive modifications to the circulating water system. Over the course of the last several weeks (word inaudible) of grass levels that we've experienced in the river had been a factor of two higher than what we had of April 7, 1994. We had no problems with the circulating water system after the efforts that we put into that. In the service water system we made a number of performance improvements in the system to try to improve the reliability of the service water strainers. One of the issues that came up is there locking collar on the filter media for this strainer that we installed per the (word inaudible) recommendation and in fact found through follow-up that out of 15,000 five of the retainer collars had cracked and the media had fallen out. So we are in the process of taking them out of

service to replace each of these collars. The failure of the other two service water pumps, I don't believe now was directly attributed to the grass. So at this point you are asking why are we safe to operate? We did shut down. I made the choice to shut the plant down as did the Operation Superintendent until I had all six of the pumps available to me. I am quite confident that I can fix the issue that is at hand.

QUESTION:

Willie Davis of the Stockton Action Volunteers from the Environment:

My question concerns the three assessments that you folks did before you went back on line. One being a self assessment, the second being the Nuclear Regulatory Commission assessment, which although you assure us that you are "not in bed with them" you mentioned that 34 people at least work on your site. So that is 34 jobs that depend directly on your existence so it seems to me you are in bed with them. The third assessment was an independent assessment. Who funds these independent people? Who exactly are they and what are their qualifications? Are they biologists, engineers or what?

ANSWER:

First and coming back to the NRC again, they are an independent body. It is my understanding the way they work. They have jobs whether I operate or not. I can assure you that they have a lot of teeth in what they look at and they dig very hard and very deep. The independent review is done by two parties. The first one is a nuclear review board that we have. It is made up of other utilities executives as well as former NRC regional

administrators in two cases. They have a broad base of industry experience and also have very strong educational background. The did the assessment. The other team that comes in is the instituting nuclear power operations. It is an industry group that is funded by the industry and has a lot of technical expertise. Their job is to insure the plants operate properly and they control our insurance premium so that gives them the bite on whether we operate or not. They can control the costs of our insurance.

QUESTION:

Bonnie from Stockton who works for the Coalition for Peace and Justice:

I have two questions. One involves the use of sound to keep the fish safe. But the problem is I don't think the sound is going to help the (words inaudible) and it is important for you to understand that that gets sucked up equally in your filters and that whether or not you save the fish by killing their food source, they will still die. The second point I think is something that we are kind of overlooking here is that this whole conversation is about electricity. How many risks are necessary for electricity. There are many different ways to get it out there. It is just basically a plea that I am up here for. As a human being, why are you risking no matter how safe your plant is the risk is still there. Why should you risk my life, my future children's life, grandchildren's life on toxic waste that we don't know how long it is going to be here. It is costly and it's inefficient.

ANSWER:

The first question related to the sound deterrents. As I said we are going to be performing feasibility testing on sound deterrent frequencies. The question was basically, does that have any impact on the fish eggs and fish larvae in the estuary? The entrainment numbers are not affected by sound deterrent. Sound deterrent will move fish that can swim away from the area of intake if it works. Again, it is a feasibility test that is being done. That is why it is being done, to make sure it will work before it is implemented. So we don't gain false confidence in something that it is doing a good job when it isn't. The populations in the estuary have been going up for between ten and 20 years. The data comes from the State of Delaware, it comes from the University of Delaware, it comes from the State of New Jersey, it comes from our own monitoring. Early the Versar report was mentioned. (Words inaudible) - was a contractor to the DEP who prepared a report in 1989 that the DEP of New Jersey used as a basis for the 1990 draft permit which called for the shutdown of Salem and the retrofitted cooling towers. In 1993, we submitted an application supplement that took issue with many of the technical conclusions of the Versar Report. Specifically one of them is the fact that the entrainment in the plant which is fish eggs and larvae, juvenile life stages, young life stages of fish. The natural mortality on those life stages is well over 99 percent. We took issue with the Versar findings. The 1993 application supplement addressed that and after that was submitted in 1994, the state issued us the permit. So with regard with the specific question, entrainment losses are not affected by the sound

deterrence but they do -- the sound deterrence is expected to have a position impact on the impinged fish, the larger fish. Very candidly, a fish that gets through the gauntlet of that 99 percent plus mortality and makes it to adult size has a considerable higher value than a fish egg or larvae that nature has compensatory mechanisms to deal with the losses.

QUESTION:

Mark Logan of Margate, NJ and affiliate of the Green Party:

I have a question for these executives here. What effort is PSE&G making towards steps for renewed energy, clean technologies that don't kill, pollute and destroy the earth and the people that live there and the biology of the planet? I want that question answered, okay?

ANSWER:

Going back into my history and I don't remember all the details of it, but for a number of years PSE&G evaluated battery energy storage technologies up in a facility we have in Hillsboro, New Jersey. The intent there was to find ways to store electricity that is generated during times of low use, overnight and on weekends when the loads are lower and so that it can be used during periods of peak use. That in turn would allow fewer plants to be built, less pollution would be put in the air and would allow electricity to be developed less expensively and more efficiently. A battery energy storage feasibility work covered and I am going to say at least a decade and I don't know the exact numbers, but it did not pan out. There is not a good battery that can hold electricity in quantities needed to feed an electric grid. Electricity is used the moment it is

generated. That is something that is a fact of nature. It is one of the laws of physics. The issue of recyclables or renewables has come up in the past. In New Jersey, there are no hydroelectric opportunities left. There is not ample wind to be able to create wind, to be able to create wind power generation, to provide the quantity of electricity that is needed. The numbers that we talked about earlier, I think we said the three plants are approximately 3,300 megawatts which in round numbers is three million households. That is a huge amount of electricity and it cannot be generated by renewables in New Jersey. PSE&G has a demand site management program that we have put in place for many years now. It is funded through the rates and in essence, we work to find ways to reduce electric use which allows us to not build power plants and as a result not burn fuels, not have to build new power plants, not have to increase rates from that perspective. The demand site program has worked. The final element of renewables is we have a fleet of compressed natural gas and electric powered vehicles. It is in the feasibility testing stage right now. I know GM and other major car manufacturers are looking for it. There is a variety of different ways to reduce electric use in this nation. But what it comes down to is and I don't mean to be flip with this, but I suspect everyone in this room uses electricity. There is a large amount of it used in the State of New Jersey and throughout the nation. PSE&G has balanced generation. We have nuclear, we have coal, we have gas, we have oil. We use whatever electricity sources we can find to provide the lowest cost electricity. I know there is people who are not satisfied

with that answer, but that is the way it is. With regard to renewables, there isn't a lot out there in New Jersey and if you try and transmit from far across the country you lose electricity along the way. There are line losses associated with it. You can't run it from California to New Jersey.

QUESTION:

Elizabeth Canderan of Sea Isle City, NJ:

My major concern is disposal of nuclear waste and what to do with it. No one has solved the problem yet anywhere in this country or in the world. Something has to be done and until that happens, what is the sense of going on with it? As a consumer, the record of these Salem plants is abominable. Why it was allowed to remain as bad as it was for so long is abominable. It is going to cost the taxpayers money to pay the Department of Energy to get rid of this stuff and that's unfair. It will cost us money as taxpayers. As a consumer, I can tell you that after deregulation I will not give any business to any company that has anything to do with Salem I or II.

ANSWER:

The only question I would like to answer is the waste stream. There are two elements to it. There is the low level waste stream. Right now, the items that we have in the plant that are the low level criteria and shipped to (word inaudible) South Carolina where they are buried for long-term disposal. The technology for the high level waste for the fuel exists. The French have a process call vitrification which basically takes the fuel and puts it in the glass balls for long term storage.

So technology exists. The rate payers have already paid the DOE 14 billion dollars to handle this issue and they haven't chosen to deal with it.

QUESTION:

David Check of Wildwood Crest, NJ:

I have a couple of questions, but they are all short and inter-related. I was wondering number one in the event of category three or worse hurricane. You are talking roughly winds of 115 miles or better, storm surge of 15 feet or more. What would happen to a nuclear plant like Salem especially since artificial island is built out on the swamp and how much and how deep flooding can Salem withstand? What size storm surges are built to withstand, especially in a major northeaster like the storm of '62 were to strike? Most interested in ironically a few weeks back there was an engineer here who brought to our attention something that I never knew that there is a earthquake fault line that runs beneath the Salem plants. Last week there was an item in the newspaper. There was a 2.5 earthquake and the engineer mentioned at the last meeting that the artificial island, even though it has a deep cement foundation, the mud is very unstable and an earthquake of about 3.2 to 3.5 would cause the structural failure of the plant that would lead to a major accident or meltdown. A few more points on that Richter scale and we all might not be here today. I would like to have that addressed. Also, last one is that on a west or southwest wind if there is indeed a catastrophic accident at the plant that has a major radiation release. You indicated that it could not happen, but let's say that is the case. Then if you draw the

line from the Salem plants to the seacoast, every resident of South Jersey below that line virtually has no vehicular evacuation route except for the Cape May Lewes Ferry. Has there been any preparations or an evacuation emergency plans put into effect for that?

ANSWER:

The plant is designed to withstand a hurricane. I am sorry but off the top of my head I don't remember the wind speed it is geared off of. It is also designed to withstand earthquakes I believe up to 6.3 on the Richter scale, if my memory is correct. Is that right Trish? The plant is also provided with flood doors. It is designed to handle flooding. The systems are designed to handle potential flooding from that type of storm. And again, I will reiterate the plants design is such that the type of release that was seen at Cherynoble will not happen.

QUESTION:

Dennis Dawing of Wildwood Crest, NJ:

I just moved my wife and three children out here from the mid-west. We have been here two years and I want to tell you it is really great to be back in Cape May County. I spent all my summers growing up over in the Villas and raised in South Philadelphia. Okay. But here I am in Wildwood Crest. In the mid-west I took part in stopping the first grass roots movement to stop a nuclear power plant. Back in those days it was very difficult to inform people because there wasn't that much of a track record with nuclear energy. We all know using nuclear reactors to boil water is like ringing a doorbell with a

cannon. You don't need that much. Now, in terms of the process, my hats off to you folks up there. I wouldn't want to be in any of your positions. You know this is a heck of a little tug of war we have going on here. At the same time there is something that is insidious that every time I come to these to get clear information, no disrespect to you all, but the truth that is told with bad intent is worse than a lie one can invent. And I think that is what we are seeing here and that is what we are experiencing. I would like to challenge the Freeholders to please look across this great country of our because I've traveled all across it and every town that I have ever been in that has nuclear power is the same thing is going on. Now, though, you don't have to get real complex. Look at it. As a ratepayer it is a bad deal. Back when it first came up you could say 'Well, its gonna be a bad deal.' But there was no track record. Look across the country. Clearly examine the books. It's a bad deal. If it was a good deal we wouldn't have four professionals here. You are intelligent individuals. I won't go into sincerity. At the same time having grown up in South Philadelphia I come across an awful lot of people who started and built that down there probably before any of you all worked there. Anyhow these guys they got these jobs. Well, let me put it in the form of a question. Are any of you all aware that this plant was built with an awful lot of mob payolas and was examined by a lot of people who were covering up the mob jobs that were handed out? I know how a lot of business gets done at a grass roots level on the site here. You can have the nuclear regulatory commission in Washington, D.C. But it is who

is handing the paycheck out to who, who is giving who the job to who and I'm here to tell you I heard over fishing lines, I heard over beer, I heard after somebody's funeral that the father died of cancer that it was because the proper -- the precautions were kind of subverted. Mainly because of money. Again the truth that is told with bad intent is worse than a lie one can invent. Examine the books across the country. It is pretty clear. Thank you.

ANSWER:

I worked here since 1995. I have no idea of what you are talking about. If you have anything specific I can look into it. I would appreciate it if you will provide it to me.

QUESTION:

Wendy Williams of Beachwood, NJ:

I was very disappointed with PSE&G because they didn't show us photos on the screen of the inside of the plant. Showing us what would it blow up or cause heavy leaking and radiation. There were no photographs of the plant inside and no photographs of the Oyster Creek Plant that leaked if you remember. What caused it to leak. What keeps a plant safe. We were not really shown with photographs of the inside of these plants. And I'd like to know where the other two nuclear plants are in New Jersey, please. That's all I have to say.

We are not shown the inside of these plants. We are novices. We are not scientists and we are not shown the insides of the plant and shown what makes it safe and what will make it blow up like Cherynoble.

ANSWER: We'd be happy at some point in the future to provide pictures. I didn't bring them because I didn't know that you wanted to see them. In answer to your question to what makes the plant safe. There is really two answers. First there is a defense indepth. But in the end the real answer is people and the standards that people operate to and their personal integrity. There are two units at Salem.

There are four units in New Jersey - Salem I, Salem II, Hope Creek which belonged to PSE&G and the co-owners. Oyster Creek is a facility owned by the General Public Utility Company and that is in Forked River, New Jersey.

QUESTION:

Rob (inaudible), Avalon, NJ.

It sounds like maybe we would like to get a tour of this plant. I'd like to see the new fish grates that you guys say that protect more fish. I'd like to know how many million of fish a year are killed by these water intakes. I would also like to know if there is any documentation of any major hurricanes that have every hit any nuclear power plants on the coast, be it east or west coast before. It just seems to me that nobody likes nuclear energy here. There's gotta be a better way. We got people in geothermal solar water when whatever it be there's gotta be something better than nuclear that will create 40 years of power and have ten thousand years of nuclear waste. It is not good for anybody out here. The water intake. The highest and best use for the plant would be to have cooling towers. It would save 95 percent of the water. 3.2 billion gallons of water a day equates to cleaning out the Delaware Bay three to

four times a year. That's got to have a huge impact on fish and marine life which Cape May County is very heavily depended on. We have commercial fisherman here, we have a lot of sports people. It is what our tourism is based on. We are just totally against it no matter what anybody else says. There has gotta be a better way. I'd like to know how many fish are killed a year. If we can go see the plant, we would like to see the new grates to protect the fish and would like to know if any documentation on any major hurricanes have ever hit a site before. Also for the Board of Realtors you have a sheet here that says that each member may speak once for a period of five minutes or less. It is your rules so we will abide by your rules.

ANSWER:

First, Rob if you are interested I would be more than happy to personally give you a tour. If you stop afterwards we will set it up. Second, you asked a question about a hurricane. Off the top of my head the only one I am aware of is Turkey Point, there was extensive damage to the site but there was no radiological problem in Florida with the plant. It had a much more significant damage to the coal plant next door.

I said before there are losses of entrained organisms at Salem. We talked about the Versar Report and what will be occurring over the next year is we are in the process of developing renewable application for the Salem Discharge Permit for the NPDES permit that we talked about earlier as well. Part of that application will be a very comprehensive study and data set associated with fish loses at the plant. I do not know all the

numbers for all the different species. I have heard a lot of numbers thrown around tonight. I think your literature had an 800 million or 700 million number. I don't know where the number comes from. If it came from the Versar Report, as I said, we had significant problems with the technical basis for it. But the bottom line is that the majority of the fish that show up in the high numbers are in that entrained organism category with the 99 percent plus mortality. I am sorry if I can't answer the question any better than that, but I don't have a good number.

QUESTION:

Norman Cohen, 215 Amhurst Road, North Cape May, NJ:

We have time for a quick survey. How many people in this room love nuclear power, except for our guests? How many people don't want nuclear power? These are your voters, take their message. Your ground rules. You know it would have been a sign of respect to those organizing this. All you had to do was pick up the phone and call us and say 'You know, there will be a lot of people at this meeting. Let's work out some ground rules.' All you had to do is call me. We could have worked something out so that we could have had three hours of good questions and answers and we wouldn't have been yelling at you all of the time. So if we have another meeting like this and you know a lot of people are coming, call the organizers. Alright, I have a lot of questions here and I only have five minutes. I'll have to read real fast. A few weeks ago Salem II was shutdown because its diesel generator keeps breaking. You had two years while Salem II was shut down to fix the problem. Why didn't

you? If you can't keep a diesel generator running how can we trust you to keep this aging, dangerous dinosaur running. Why should we in Cape May County and South Jersey take that risk especially when safer forms of energy are available. Everybody sing along, each question will have that. Tell us about the new study by the Professor of Epistemology, Steven Wing (word inaudible) North Carolina that concerns the effects of radiation at Three Mile. The answer for you is Three Mile did cause genetic damage. Is it worth the risk to us in Cape May County and South Jersey, especially when we have other forms of energy available. What concerns do you have about what is called retail wheeling? That doesn't mean rolling tires down the road once deregulation occurs. Retail wheeling means that it will be open to the lowest bid and so the grid could become unstable. Hydroelectric will be cheaper, so the energy will go there. Are you concerned that retail wheeling can create a situation where nuclear plants are only two steps away from serious accidents? The serious accidents occurs because -- are you concerned with diesel generator problems that might coincide with station blackout or grid failure? What would be the worst case scenario? Is it worth the risk to Cape May County and South Jersey when safer forms of energy are available? Do you agree with the NRC's (word inaudible) Committee which in 1979 said the deregulation 'eliminates incentives that might attempt a utility away from its commitment to safety.' Or to be more simple about it in a free market you are going to cut corners, lay people off and cut back to make a profit. Why should we in Cape May County and South Jersey take that risk when cheaper, safer forms of

energy are available. Do you agree with former NRC Chairman Ivan Sellon who said 'From a safety point of view we must be sensitive to the unprecedented competitive pressures wheeling could impose on utilities which in turn could lead to significant safety concerns at some nuclear plants.' Do you think plants are on the watch list, is what he is talking about? Why should we take that risk when safer forms of energy are available? And Ivan went on to say he is concerned that management and (word inaudible) utilities will be tempted to cut corners or reduce capital investments to maintain equipment and that some licensees are performing maintenance on line without assessing the risk consequences. Well Salem I and II ought to be shut down half the time. Are you making this capital investments necessary? You can't keep a diesel generator running. So why should we in Cape May County and South Jersey take that risk when there are safer forms of energy available? What are your plans to fix the year 20000 computer problem? Are you on schedule? Recently GPU said that Oyster Creek was not on schedule. They are too busy on the Internet going www.sex.com. So it is worth the risk to Cape May County or South Jersey when safer forms of energy are available? Do you agree with Prudential Securities which warned its stockholders that Salem I replace its four costly steam generators with equipment of the 'the same vicinage as the steam generators being replaced.' These are the steam generators that you buy from Westinghouse. These generators are so susceptible to early failure cracking. Is it worth the risk to us in Cape May County or South Jersey when safer forms of energy are available? Are you concerned

with Paul Gunther's finding the component such as the reactor pressure vessel had proven to be susceptible to age related degradation mechanisms. What would happen if the thing fell apart. Is it worth the risk to us in Cape May County and South Jersey when safer forms of energy are available? At the NRC re-start hearing of Salem I there is a (word inaudible) there is a backlog of three thousand, supposedly minor problems not fixed. What's the backlog now? How can we be sure these problems are really minor? Why we take the risk here in Cape May County and South Jersey when safer forms of energy are available?

ANSWER:

We will start with the diesel generator. We had a turbo charger blade failure on a turbo charger. It is a extremely (word inaudible) failure on turbo chargers in the industry. I have six diesel generators. The problem affected one. One of your questions was worse case scenario. What is it? Total loss of offsite power (word inaudible) the plant is designed to withstand that with one of three diesels. I still had two and two available. The batteries work as does the steam driven (word inaudible) feed pump. If you want to debate the technical merit of the plant, I'd be happy to talk to you all night. Another concern you raised is relative to the steam generators and the litigation with Westinghouse. The model of steam generator that we replaced on the existing one on Unit I was proven good (word inaudible). Westinghouse does have a problem with a certain vintage of steam generators but the industry date on the one that we installed has a good track record. There are

several other plants that have it and have minimal problems. I have no idea of the study you are quoting. I am sorry. Retail wheeling, the NRC is looking at this issue right now. They visited a number of the transmission and distribution centers throughout the United States, including our own, the PJM. The grid realiability is important to all of us. It keeps our appliances working properly, it keeps the hospitals working properly. Any source of power has to operate at 60 cycles at a nominal voltage. So it is important to the entire country, not just the nuclear power plant. It is a concern that the NRC has right now. I believe that PJM has it well under control. The Commission is considering the issuance of a genetical letter which is there way of having the industry formally respond to it. But the issue is being addressed by the industry. You had several questions centered on competition?

Norman Cohen: Are you concerned that retail wheeling can create a situation for new plants that are two steps away from a serious accident?

ANSWER:

No. I don't believe that to be the case. I think if you remember the cornerstone and what I kept saying over and over again. We are going to operate the plant safely that is the cornerstone of making it run well. If the plant runs safely it becomes reliable and if it runs safely and reliable, it is cost effective. When competition comes around, if I can't run my plant safely, I won't run it and competition will put it out of business. The year 2000 computer issue, we have team of people working at it. We are on schedule, we have quite a few projects

in place to address that issue. I am confident we have that under control.

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