

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-1 **Category:** Land Use and Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question #s LUS-1 and GEN-2.

Salem County Tax Maps

Response: The requested maps are being provided.

List Attachments Provided:

1. Salem County Tax Map Zone 8
2. Salem County Tax Map Zone 14

STATE OF DELAWARE
NEW CASTLE COUNTY

ELLSINBORO TOWNSHIP

RIVER

ALLOWAYS

CREEK

ELLSINBORO TOWNSHIP

ALLOWAYS CREEK

SHEET 9

DELAWARE RIVER

RIVER

ARTIFICIAL ISLAND

DELAWARE

26

EXEMPTED
STATE OF N.J.
D.E.P.
669.74 ACRES TOTAL

EXEMPTED
UNITED STATES GOVERNMENT
355 ACRES TOTAL

EXEMPTED
UNITED STATES GOVERNMENT
516 ACRES TOTAL

NEW JERSEY DEPARTMENT OF THE TREASURY
DIVISION OF TAXATION
ENGINEERING & SURVEYING BUREAU
APPROVED AS A FINAL MAP PURSUANT TO THE
PROVISIONS OF CHAPTER 123, TITLE 17B, N.J.A.C.
FOR THE SECTION BUREAU OF TAXATION
BY: *C. J. ...*
DATE: JUN 23 1962 SERIAL NO. 3,660

TAX MAP
LOWER ALLOWAYS CREEK
TOWNSHIP
SCALE 1" = 400'
SALEM CO., N.J.
-SKINNER & COMPTON, ENGINEERS
JUNE 8, 1962 REVISED 1952
MAY 16, 1958

EASEMENT
PUBLIC SERVICE
ELECTRIC & GAS

SHEET 14

MATCH LINE

NON-PSEG

**THIS PAGE IS AN
OVERSIZED DRAWING OR
FIGURE,
THAT CAN BE VIEWED
AT THE RECORD TITLED:**

**“TAX MAP
LOWER ALLOWAYS CREEK
TOWNSHIP,
NO. 8”**

**WITHIN THIS PACKAGE...OR
BY SEARCHING USING THE
DOCUMENT/REPORT NO.**

D-01

**THIS PAGE IS AN
OVERSIZED DRAWING OR
FIGURE,
THAT CAN BE VIEWED AT THE
RECORD TITLED:**

**“TAX MAP
LOWER ALLOWAYS CREEK
TOWNSHIP,
NO. 14”**

**WITHIN THIS PACKAGE...OR
BY SEARCHING USING THE
DOCUMENT/REPORT NO.**

D-02

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-2 **Category:** Land Use and Socioeconomics

Statement of Question:

Distance from reactor buildings to site boundary, including schematic drawing.

Response:

The Salem License Renewal ER, Section 2.1, states that the “[d]istance to the Salem site boundary from the Salem reactor buildings is approximately 1.3 km (4,200 ft).”

The Hope Creek License Renewal ER, Section 2.1, states that the “[d]istance to the HCGS site boundary from the HCGS reactor building is 902 m (2,960 ft).”

The distances reported in the License Renewal ERs were taken from the reactors’ respective FSARs, but the FSARs do not provide information on the location of the points on the site boundary that were used to establish these distances.

PSEG is providing a schematic of the site, with measurements from each reactor to (1) the nearest eastern site boundary, (2) the nearest western site boundary, and (3) the point where the access road enters the property.

The distances are as follows:

From Salem Unit 1:

- To the closest point of the PSEG boundary (Delaware Estuary): 0.16 km
- To the access road at the boundary: 1.57 km
- To the closest point on inland PSEG boundary: 1.37 km

From Salem Unit 2:

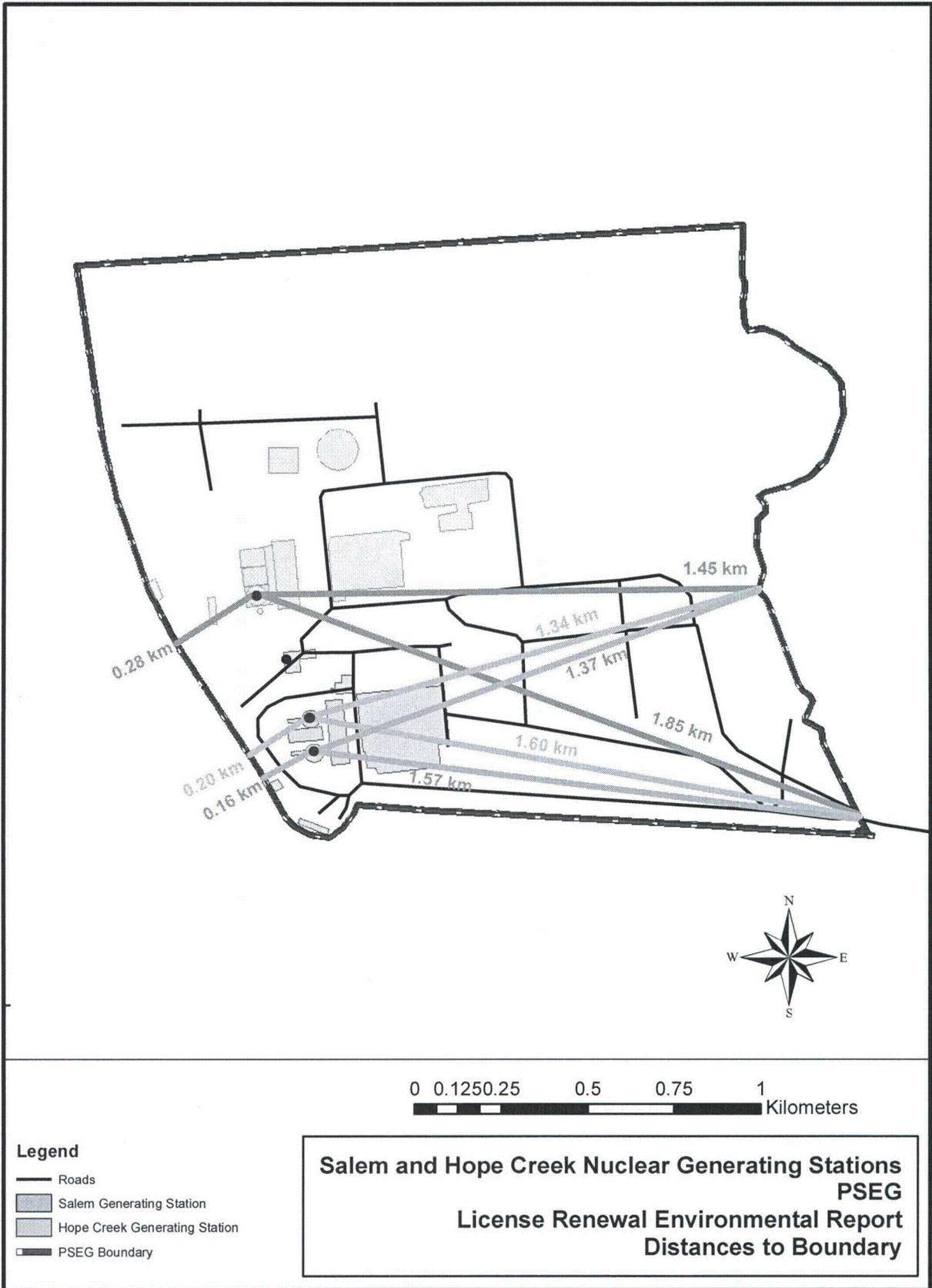
- To the closest point of the PSEG boundary (Delaware Estuary): 0.20 km
- To the access road at the boundary: 1.60 km
- To the closest point on the inland PSEG boundary: 1.34 km

From Hope Creek:

- To the closest point of the PSEG boundary (Delaware Estuary): 0.28 km
- To the access road at the PSEG boundary: 1.85 km
- To the closes point on the inland PSEG boundary: 1.45 km

List Attachments Provided:

Figure titled “Salem and Hope Creek Nuclear Generating Stations, PSEG, License Renewal Environmental Report, Distances to Boundary.”



**Salem and Hope Creek Nuclear Generating Stations
PSEG
License Renewal Environmental Report
Distances to Boundary**

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-4 **Category:** Land Use and Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question # LUS-4.

Update of 2003 to 2007 property tax data

Response:

A combined version of Table 2.7-1, which appears in both the Salem and HCGS License Renewal Environmental Reports, containing updated tax information for both stations and the Energy and Environmental Resource Center (EERC) is being provided.

Also being provided are corrected versions of Table 2.7-1 for each individual plant. The corrected tables do not contain updated tax information, but have been changed from the original versions in the License Renewal ERs to include tax payments made during the period from 2003 through 2007 by Exelon, which is minority owner of the Salem Nuclear Generating Company and was then minority owner of the EERC. Exelon's portion of certain tax payments were inadvertently omitted from Table 2.7-1 in both ERs. Official corrections, including change pages for the tables and affected text in chapters 2, 4, 6 and 8, were submitted to the NRC by letters dated April 6, 2010.

List Attachments Provided:

Table titled "Update to Tables 2.7-1, Tax Information for Salem and Hope Creek Generating Station and the Energy and Environmental Resource Center, 2003 - 2009"

Table titled "Table 2.7-1, Tax Information for HCGS and the Energy and Environmental Resource Center, 2003 – 2007" (HCGS License Renewal Environmental Report page 2-46)

Table titled "Table 2.7-1, Tax Information for Salem Nuclear Generating Station and the Energy and Environmental Resource Center, 2003 – 2007" (Salem License Renewal Environmental Report page 2-52)

Update to Tables 2.7-1 Tax Information for Salem and Hope Creek Generating Station and the Energy and Environmental Resource Center, 2003-2009

Property Taxes for the Salem Nuclear Generating Station

	2003	2004	2005	2006	2007	2008	2009
Amount Paid in Property Tax for SNGS	\$748,537	\$764,379	\$783,644	\$734,841	\$772,543	\$745,081	\$931,785
LACT Property Tax Revenue	\$2,099,185	\$2,251,474	\$2,325,378	\$2,195,746	\$2,310,262	\$2,038,467	\$2,644,636
Percent of LACT Property Tax Revenue	35.7	34.0	33.7	33.5	33.4	36.6	35.2
Salem County Total Property Tax Revenue	\$34,697,781	\$36,320,365	\$40,562,971	\$43,382,037	\$46,667,551	\$49,058,072	\$51,636,999
Percentage of Salem County Total Property Tax Revenue	2.2	2.1	1.9	1.7	1.7	1.5	1.8

Property Taxes for the Hope Creek Generating Station

	2003	2004	2005	2006	2007	2008	2009
Amount Paid in Property Tax for HCGS	\$464,677	\$474,512	\$4,856,624	\$457,029	\$480,476	\$463,397	\$579,516
LACT Property Tax Revenue	\$2,099,185	\$2,251,474	\$2,325,378	\$2,195,746	\$2,310,262	\$2,038,467	\$2,644,636
Percent of LACT Property Tax Revenue	22.1	21.1	208.9	20.8	20.8	22.7	21.9
Salem County Total Property Tax Revenue	\$34,697,781	\$36,320,365	\$40,562,971	\$43,382,037	\$46,667,551	\$49,058,072	\$51,636,999
Percentage of Salem County Total Property Tax Revenue	1.3	1.3	12.0	1.1	1.0	0.9	1.1

Property Taxes for the Energy and Environmental Resource Center in Salem, New Jersey

	2003	2004	2005	2006	2007	2008	2009
Amount Paid in Property Tax	\$177,360	\$211,755	\$220,822	\$228,492	\$318,910	\$184,445	\$387,353
City of Salem Total Property Tax Revenue	\$5,092,527	\$6,049,675	\$6,294,613	\$6,485,947	\$7,389,319	\$8,423,203	\$8,313,289
Percent of City of Salem Total Property Tax Revenue	3.5	3.5	3.5	3.5	4.3	2.2	4.7

The property tax rate for LACT: 2008 = 1.033; 2009 = 1.336

Jurisdictional tax data for 2003-2007 from revised Tables 2.7--1

Salem transferred ownership of the EERC to PSEG Power in the 4th quarter of 2008

Tax data for 2008-2009: LACT Personal communication with Kevin Clour, CFO, 2/22/10
 Salem City E-Mail from Dave Crescenzi, CFO, 2/19/10

Salem County 2009 Salem County Budget, R. 2009-184

Table 2.7-1 Tax Information for HCGS and the Energy and Environmental Resource Center, 2003 - 2007

Property Taxes for HCGS					
	2003	2004	2005	2006	2007
Amount PSEG Paid in Property Tax for HCGS	\$464,677	\$474,512	\$485,624	\$457,029	\$480,476
Lower Alloways Creek Total Property Tax Revenue ^a	\$2,099,185	\$2,251,474	\$2,325,378	\$2,195,746	\$2,310,262
Percent of Lower Alloways Creek Total Property Tax Revenues	22.1	21.1	20.9	20.8	20.8
Salem County Total Property Tax Revenue ^a	\$34,697,781	\$36,320,365	\$40,562,971	\$43,382,037	\$46,667,551
Percent of Salem County Total Property Tax Revenues	1.3	1.3	1.2	1.1	1.0
Property Taxes for the Energy and Environmental Resource Center in Salem New Jersey					
	2003	2004	2005	2006	2007
Amount PSEG Paid in Property Tax ^b	\$177,360	\$211,755	\$220,822	\$228,492	\$318,910
City of Salem Total Property Tax Revenues ^a	\$5,092,527	\$6,049,675	\$6,294,613	\$6,485,947	\$7,389,319
Percent of City of Salem Total Property Tax Revenues	3.5	3.5	3.5	3.5	4.3

^a Source: State of New Jersey 2008

^b Includes taxes paid by both PSEG and Exelon.

Table 2.7-1 Tax Information for Salem Nuclear Generating Station and the Energy and Environmental Resource Center, 2003-2007

Property Taxes for the Salem Nuclear Generating Station					
	2003	2004	2005	2006	2007
Amount Paid in Property Tax for SNGS ^b	\$748,537	\$764,379	\$783,644	\$734,841	\$772,543
Lower Alloways Creek Total Property Tax Revenue ^a	\$2,099,185	\$2,251,474	\$2,325,378	\$2,195,746	\$2,310,262
Percent of Lower Alloways Creek Total Property Tax Revenues	35.7	34.0	33.7	33.5	33.4
Salem County Total Property Tax Revenue ^a	\$34,697,781	\$36,320,365	\$40,562,971	\$43,382,037	\$46,667,551
Percent of Salem County Total Property Tax Revenues	2.2	2.1	1.9	1.7	1.7
Property Taxes for the Energy and Environmental Resource Center in Salem, New Jersey					
	2003	2004	2005	2006	2007
Amount Paid in Property Tax ^b	\$177,360	\$211,755	\$220,822	\$228,492	\$318,910
City of Salem Total Property Tax Revenues ^a	\$5,092,527	\$6,049,675	\$6,294,613	\$6,485,947	\$7,389,319
Percent of City of Salem Total Property Tax Revenues	3.5	3.5	3.5	3.5	4.3
a. Source: State of New Jersey 2008 b. Includes taxes paid by both PSEG and Exelon.					

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-6 & ENV-97 **Category:** Land Use and Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question #s LUS-6 and ENV-97.

- A Updated Table 2.6-2 from both ERs (residential distribution of employees for Salem and HCGS)
- B Number and residence information for corporate and matrixed employees (identified separately)

Response:

- A PSEG has provided updated Tables 2.6-2 for Salem and Hope Creek. As in the ER, the same corporate and matrixed employees are included in both updated tables, so the estimate for each plant is conservative, and the two should not be added together to get cumulative impacts.
- B The residential distribution of the corporate and matrixed employees, which are common to Salem and Hope Creek is being provided separately as Table 2.6-2a.

List Attachments Provided:

- A
 - i. Table 2.6-2 Update. Residential Distribution of Hope Creek Employees
 - ii. Table 2.6-2 Update. Residential Distribution of Salem Employees
- B Table 2.6-2a. Residential Distribution of Matrixed and Corporate Salem/Hope Creek Staff

Table 2.6-2 Update. Residential Distribution of Hope Creek Employees

County and State of Residence	Total by county	% of total workforce
Atlantic NJ	4	0.41%
Bergen NJ	4	0.41%
Berks PA	2	0.21%
Brunswick NC	1	0.10%
Bucks PA	1	0.10%
Burlington NJ	26	2.68%
Cambria PA	1	0.10%
Camden NJ	37	3.81%
Cape May NJ	4	0.41%
Cecil MD	14	1.44%
Chester PA	38	3.92%
Cumberland NJ	86	8.87%
Delaware PA	28	2.89%
Gloucester NJ	142	14.64%
Harford MD	1	0.10%
Kent DE	1	0.10%
Kitsap WA	1	0.10%
Lancaster PA	2	0.21%
Lehigh PA	1	0.10%
Mercer NJ	1	0.10%
Middlesex NJ	1	0.10%
Montgomery MD	1	0.10%
Montgomery PA	8	0.82%
New Castle DE	170	17.53%
Ocean NJ	2	0.21%
Philadelphia PA	3	0.31%
Salem NJ	387	39.90%
Sussex DE	1	0.10%
Washington DC	1	0.10%
Westchester NY	1	0.10%
	970	

Table 2.6-2 Update. Residential Distribution of Salem Employees

County and State of Residence	Total by county	% of total workforce
Atlantic NJ	4	0.37%
Bergen NJ	2	0.18%
Berks PA	4	0.37%
Brunswick NC	1	0.09%
Bucks PA	1	0.09%
Burlington NJ	21	1.92%
Calvert MD	1	0.09%
Cambria PA	1	0.09%
Camden NJ	39	3.57%
Cape May NJ	6	0.55%
Cecil MD	23	2.10%
Chester PA	42	3.84%
Cobb GA	1	0.09%
Columbia PA	1	0.09%
Cumberland NJ	108	9.88%
Delaware PA	27	2.47%
Essex NJ	1	0.09%
Gloucester NJ	168	15.37%
Harford MD	3	0.27%
Kent De	1	0.09%
Lancaster PA	2	0.18%
Montgomery MD	1	0.09%
Montgomery PA	4	0.37%
New Castle DE	187	17.11%
Salem NJ	442	40.44%
Washington DC	1	0.09%
Washington PA	1	0.09%

1093

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-9 **Category:** Land Use and Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question # LUS-9.

LUS-9 response sheet.

Response: The document requested is being provided.

List Attachments Provided:

Response sheet for Pre-Audit Question # LUS-9.

Salem/ Hope Creek Environmental Audit – Pre-Audit Questions

Question #: LUS-9 **Category:** Land Use and Socioeconomics

Statement of Question:

Any studies that have quantified, or considered, the impact of noise from Salem or HCGS facilities at various locations offsite.

Response:

As the Hope Creek FES reported, the nearest resident to the boundary of the PSEG-owned property associated with the Salem and Hope Creek sites is located 3.4 miles away. As a result, area residents are not affected by noise levels from station operations.

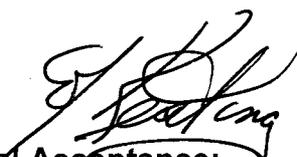
Field noise measurements were made in 2009 at the boundary of the PSEG-owned property, but these have not been formally reported. They are being provided for the NRC Staff to view during the License Renewal Environmental Audit, but should be treated as confidential business information.

List Attachments Provided:

1. Excerpt from the Hope Creek FES
2. DRAFT Field Results, Ambient Noise Levels at the HCGS and SGS in February 2009 (Note: PSEG Proprietary Information-Not To Be Released)

Approved By:

Ed Keating



License Renewal Acceptance:

Nancy Ranek



Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-10 **Category:** Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question # LUS-10.

FAA permit evaluations, with data on height of structures (this currently does not include item #2 that is listed as business confidential)

Response:

The FAA has evaluated the meteorological tower, the Hope Creek cooling tower, and the containment buildings for Salem Units 1 and 2 and Hope Creek for Aeronautical Obstructions. The results of these evaluations, which report the heights of the structures, are being provided.

List Attachments Provided:

FAA Permits

- a. FAA Permit AEA-208 - Salem 1 Containment
- b. FAA Permit AEA-209 - Salem 2 Containment
- c. FAA Permit AEA-210 - Meteorological Tower
- d. FAA Permit AEA-211 - Hope Creek Cooling Tower
- e. FAA Permit AEA-212 - Hope Creek Containment



Federal Aviation Administration
 Air Traffic Airspace Branch, ASW-520
 2601 Meacham Blvd.
 Fort Worth, TX 76137-0520

Aeronautical Study No.
 2008-AEA-208-OE

NON-PSEG

Issued Date: 01/22/2008

Edward Keating
 Salem Generating Station
 P.O. Box 236
 M/C N21
 Hancocks Bridge, NJ 08038

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Salem Unit No.1 Containment Lightning Mast
Location:	Port Penn, NJ
Latitude:	39-27-45.20N NAD 83
Longitude:	75-32-08.00W
Heights:	202 feet above ground level (AGL) 211 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that the enclosed FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 07/22/2009 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-4546. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AEA-208-OE.

Signature Control No: 556952-101501726
Robert Alexander
Specialist

(DNE)

7460-2 Attached



Federal Aviation Administration
 Air Traffic Airspace Branch, ASW-520
 2601 Meacham Blvd.
 Fort Worth, TX 76137-0520

Aeronautical Study No.
 2008-AEA-209-OE

NON-PSEG

Issued Date: 01/22/2008

Edward Keating
 Salem Generating Station
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 M/C N21
 Hancocks Bridge, NJ 08038

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Salem Unit No.2 Containment Lightning Mast
Location:	Port Penn, NJ
Latitude:	39-27-48.35N NAD 83
Longitude:	75-32-08.43W
Heights:	202 feet above ground level (AGL) 211 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that the enclosed FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 07/22/2009 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-4546. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AEA-209-OE.

Signature Control No: 556953-101501727
Robert Alexander
Specialist

(DNE)

7460-2 Attached



Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-AEA-210-OE

NON-PSEG

Issued Date: 03/20/2008

Edward Keating
Salem Generating Station
P.O. Box 236
M/C N21
Hancocks Bridge, NJ 08038

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Met Tower Meteorological Tower
Location:	Port Penn, NJ
Latitude:	39-27-49.45N NAD 83
Longitude:	75-31-10.26W
Heights:	301 feet above ground level (AGL) 312 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (770) 909-4329. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AEA-210-OE.

Signature Control No: 556954-101869889

(DNE)

Michael Blaich
Specialist

Attachment(s)
Map(s)

cc: NACO w/map



Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-AEA-211-OE

NON-PSEG

Issued Date: 01/22/2008

Edward Keating
Salem Generating Station
P.O. Box 236
M/C N21
Hancocks Bridge, NJ 08038

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Building Hope Creek Cooling Tower
Location: Port Penn, NJ
Latitude: 39-28-13.46N NAD 83
Longitude: 75-32-05.62W
Heights: 511 feet above ground level (AGL)
526 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does exceed obstruction standards but would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, 24-hr hi-strobes - Chapters 4,7(HIWOL),&12.

It is required that the enclosed FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
 Within 5 days after the construction reaches its greatest height (7460-2, Part II)

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 07/22/2009 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-4546. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AEA-211-OE.

Signature Control No: 556955-101501738
Robert Alexander
Specialist

(EBO)

7460-2 Attached



Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-AEA-212-OE

NON-PSEG

Issued Date: 01/23/2008

Edward Keating
Salem Generating Station
P.O. Box 236
M/C N21
Hancocks Bridge, NJ 08038

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	HC Unit No.1 Containment Lightning Mast
Location:	Port Penn, NJ
Latitude:	39-27-59.73N NAD 83
Longitude:	75-32-14.86W
Heights:	214 feet above ground level (AGL) 225 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (718) 553-4546. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-AEA-212-OE.

Signature Control No: 556956-101503383
Robert Alexander
Specialist

(DNE)

cc: NACO w/map

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-11 **Category:** Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question # LUS-11.

Report on local subsistence consumption behavior patterns.

Response:

Investigation of local social services organizations indicates there is no local subsistence population. A report on the investigation is being provided.

List Attachments Provided:

Hill, N. [TetraTech NUS, Inc.] *Subsistence Living in the Vicinity of Salem and Hope Creek Nuclear Generating Stations*. Prepared for PSEG Nuclear, LLC. February 18, 2010.

**Subsistence Living in the Vicinity of Salem and Hope
Creek Nuclear Generating Stations**

**Prepared for
PSEG Nuclear, LLC**

**Nicole Hill
Tetra Tech NUS, Inc.
Aiken, SC**

February 18, 2010

Subsistence Living Activities in the Vicinity of Salem and Hope Creek Nuclear Generating Stations

As part of the Environmental Justice analysis, TtNUS identified minority and low-income populations within a 50-mile radius of Salem and Hope Creek Nuclear Generating Stations. Also, TtNUS identified environmental impacts associated with the continued operation of Salem and Hope Creek Nuclear Generating Stations.

In response to an audit request from NRC, in February 2010, TtNUS contacted local government officials, staff of social welfare agencies, and community-based aid programs concerning subsistence living (see attached telephone logs). Geographical coverage focused on the region surrounding the Salem and Hope Creek Nuclear Generating Stations site.

The anecdotal responses from these social service agencies or community-based aid programs, identified no unusual resource dependencies or practices such as subsistence agriculture, hunting, or fishing through which the populations could be disproportionately impacted by the operation of Salem and Hope Creek Nuclear Generating Stations.

These interviews support the conclusion that few, if any, subsistence living activities occur near Salem and Hope Creek Nuclear Generating Stations. Agency representatives reported that activities such as hunting, fishing, and gardening are done for recreational purposes, or to supplement current food supplies rather than for subsistence. Agency representatives reported that most low-income individuals rely on government and/or community aid programs rather than fishing, hunting, or gardening. With respect to migrant workers, agency representatives reported that migrant workers do not engage in subsistence fishing, hunting, or gardening because local farmers provide the majority of their food, shelter, income, and transportation.

TELEPHONE LOG

Date/Time of Call: February 17, 2010 12:30pm.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Thomas Ottinger, Volunteer, Phone #: 856-935-4192	Harvest Time Pantry (Church/Food Pantry)
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Thomas if, in his work at the Harvest Time Pantry or in the community, he has observed subsistence living activities in the region. Thomas responded that he was not aware of populations that engage in hunting, fishing, or gardening to subsist, and described these activities as done for sport/hobby.

Thomas stated that most low-income families receive aid from the government or other charities within the area. His church provides a food distribution 1 time per month. The church also provides shelter, transportation, clothing, job training/searching assistance, and education. They have seen an upswing in need since the economy has turned sour. Among other plant closings, a couple of automobile manufacturing facilities in the area have closed. However, despite the economic downturn, he has seen no evidence of subsistence living.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 16, 2010 1:00pm.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Rebecca "Becky" Nnadi, Cancer Education Coordinator, Salem County Cancer Coalition, Phone #: 856-935-1912	Salem County Health Department
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Becky if, in her work at the Salem County Health Department or in the community, she has observed subsistence living activities in the region. Becky responded that she was not aware of populations that engage in hunting, fishing, or gardening to subsist, and described these activities as done for sport or hobby in the region, especially fishing.

Becky stated that most low-income families receive aid from the government or other social service agencies/charities within the area, like food banks, and the Puerto Rican Action Committee. She referred me to the Puerto Rican Action Committee to obtain information about migrant populations in the area.

Becky stated that there are migrant populations in the area that are supported by the local farming community. Local farmers grow tomatoes, strawberries, asparagus, corn, peaches, and apples. These farmers provide employment, temporary housing, and transportation for their workers. The temporary housing is usually on the farms, or in the rural areas of the county. A small concentration of this housing is located in the outskirts of Penns Grove. The farmers transport their migrant workers, many of whom are Hispanic, to local Hispanic grocery stores to buy much of their food and supplies.

Becky also referred me to Marilyn Blickle, Director of Public Health Nursing at the Salem County Health Department, for information about the occurrence of subsistence living populations in the region.

Becky is also faxing me a list of food banks in the area.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 17, 2010 11:00am.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Gayle, Employee, Phone #: 856-455-6910 (Note: Gayle declined to give me her last name or title)	Nanticoke Leni-Lenape Indians of New Jersey
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Gayle if, in her work at the Nanticoke Leni-Lenape Indians of New Jersey or in the community, she has observed subsistence living activities in the region. Gayle responded that she was not aware of populations that engage in hunting, fishing, or gardening to subsist, and described these activities as done for sport or hobby in the region. She speculated that, at most, people might do it to supplement their food supplies. However, she was adamant that no one engaged in subsistence living activities for the majority of their food supplies. Also, she indicated that current hunting and fishing laws would probably prohibit one's ability to hunt and fish enough to sustain this type of lifestyle.

Gayle stated that most of the population she encounters in her work and community have jobs or receive aid from the government or other social service agencies/charities within the area.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 16, 2010 2:00pm.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Stephanie Holmes, Human Resources Manager, Phone #: 856-299-5800	Puerto Rican Action Committee
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Stephanie if, in her work at the Puerto Rican Action Committee or in the community, she has observed subsistence living activities in the region. Stephanie consulted with Karen Richards, Program Coordinator (head of case management), and responded that, neither she, nor Karen, were aware of populations that engage in hunting, fishing, or gardening to subsist.

Stephanie stated that most low-income families receive aid from the government or other social service agencies/charities within the area, like food pantries. She referred me to the Salem County Board of Social Services for more information.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 17, 2010, 2:00 pm

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Evelyn Brown, Administrative Assistant, Phone #: 856-935-2538	United Way - Salem
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Evelyn if, in her work at the United Way or in the community, she has observed subsistence living activities in the region. Evelyn responded that she was not aware of populations that engage in hunting, fishing, or gardening to subsist, and described these activities as done for sport or hobby in the region.

Evelyn stated that most low-income families receive aid from the government or other charities within the area. The United Way's primary mission is to provide funding to other social service agencies. In addition to this, the United Way has programs that: help people with taxes, distribute food, provide Christmas assistance, etc.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 16, 2010 2:50pm.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Bonnie Bennett, Supervisor of Services Unit, Phone #: 856-299-7200	Salem County Board of Social Services
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

This agency administers welfare, food stamps, Medicaid, and emergency assistance to residents of Salem County. I asked Bonnie if, in her work at the Salem County Board of Social Services or in the community, she has observed subsistence living activities in the region. Bonnie responded she is not aware of populations that engage in hunting, fishing, or gardening to subsist. She said it isn't a question that they ask. But, even in her team's interactions with their clients, they have not encountered any clients that have mentioned that they engage in subsistence living activities.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

TELEPHONE LOG

Date/Time of Call: February 17, 2010, 1:00pm.

Topic: Subsistence Living Activities in the vicinity of Salem and Hope Creek Nuclear Generating Stations

Personnel Involved in Call (and contact info.)	Company/Organization
Theresa Tilton, Visiting Nurse, Phone #: 856-678-4341	Pennsville Visiting Nurses Association
Nicole Hill	Tetra Tech NUS, Inc.

Summary of Conversation:

I asked Theresa if, in her work at the Pennsville Visiting Nurses Association or in the community, she has observed subsistence living activities in the region. Theresa responded that she was not aware of populations that engage in hunting, fishing, or gardening to subsist, and described these activities as done for sport or hobby in the region.

Theresa stated that most low-income families receive aid from the government or other charities within the area. The people she visits are primarily elderly and do not hunt or fish. They may garden as a hobby. Theresa maintains that, out in the community, the people she sees hunting and fishing are doing it for sport.

Actions Items from Call	Responsibility

TtNUS representative: Nicole Hill

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-12 **Category:** Socioeconomics

Statement of Question: Please provide the following information and documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question # LUS-12.

- A Information on current or past wildlife sampling and testing of game animals such as deer, squirrel, turkey, etc.
- B In addition, include excerpted pages of REMP reports

Response:

- A Although not required by the Salem or Hope Creek Offsite Dose Calculation Manual, muskrat meat obtained from trappers was tested until 2005, when the testing was discontinued because the trappers terminated trapping. No records of other game animal testing were found in preparing this response.
- B The requested excerpts from annual Radiological Environmental Monitoring Reports for the years 2000 through 2006 are being provided.

List Attachments Provided:

- B.1 Pages 11 and 12 from PSEG. *2000 Annual Radiological Environmental Operating Report January 1 to December 31, 2000* [for Salem and HCGS]. Prepared by PSEG Maplewood Testing Services. April 2001.
- B.2 Pages 11 and 12 from PSEG. *2001 Annual Radiological Environmental Operating Report January 1 to December 31, 2001* [for Salem and HCGS].
- B.3 Page 12 from PSEG. *2002 Annual Radiological Environmental Operating Report January 1 to December 31, 2002* [for Salem and HCGS].
- B.4 Pages 11 and 12 from PSEG. *2003 Annual Radiological Environmental Operating Report January 1 to December 31, 2003* [for Salem and HCGS].

- B.5 Page 12 from PSEG. *2004 Annual Radiological Environmental Operating Report January 1 to December 31, 2004* [for Salem and HCGS].
- B.6 Page 12 from PSEG. *2005 Annual Radiological Environmental Operating Report January 1 to December 31, 2005* [for Salem and HCGS].
- B.7 Page 6 from PSEG. *2006 Annual Radiological Environmental Operating Report January 1 to December 31, 2006* [for Salem and HCGS].



PSEG

**RADIOLOGICAL ENVIRONMENTAL
MONITORING PROGRAM**

For

Salem Generating Station, Unit 1: Docket No. 50-272

Salem Generating Station, Unit 2: Docket No. 50-311

Hope Creek Generating Station : Docket No. 50-354

**2000 ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT
JANUARY 1 TO DECEMBER 31, 2000**

**Prepared By
PSEG MAPLEWOOD TESTING SERVICES
APRIL 2001**

- The radionuclide K-40 was detected in 17 of the raw and treated potable waters at concentrations ranging from 27 to 76 pCi/L. The combined average for both raw and treated samples was 38 pCi/L. There was no preoperational data available for comparison.
- Radium was not detected in any potable raw samples and in only 1 of the treated samples at a concentration of 4.2 pCi/L. LLD sensitivities for both raw and treated waters ranged from <1.4 to <3.4 pCi/L. The maximum preoperational level detected was 1.4 pCi/L. The higher results in the two measurable samples are most likely due to the procedural change for sample preparation, as discussed in the Well Water section.

Vegetables (Table C-10)

Although vegetables in the region are not irrigated with water into which liquid plant effluents have been discharged, a variety of food products grown in the area for human consumption were sampled at 5 indicator stations (16 samples) and 3 control stations (11 samples). The vegetables collected as management audit samples were analyzed for gamma emitters and included asparagus, cabbage, collard greens, sweet corn, peppers and tomatoes.

Gamma spectroscopy performed on each of the 27 samples indicated the presence of the naturally occurring radionuclides K-40 and Radium. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in all 27 samples. Concentrations for the 16 indicator station samples ranged from 1430 to 3100 pCi/kg-wet and averaged 2280 pCi/kg-wet. Concentrations for the 11 control station samples ranged from 1460 to 2650 pCi/kg-wet, and averaged 2180 pCi/kg-wet. The average concentration detected for all samples, both indicator and control, was 2230 pCi/kg-wet. The maximum preoperational level detected was 4800 pCi/kg-wet, with an average of 2140 pCi/kg-wet.

Radium was detected in 2 indicator samples (corn and tomato) at concentrations of 16 and 20 pCi/kg-wet. It was not detected in any of the control station samples. No preoperational data is available for comparison.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats, inhabiting the marshlands surrounding the site, are collected. This game is consumed by local residents. The samples, when available, are collected from 2 locations once a year as management audit samples and analyzed for gamma emitters.

Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the indicator station sample at a concentration of 3240 pCi/kg-wet and the control station sample at 2550 pCi/kg-wet. The average for both muskrat samples was 2900 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

Fodder Crops (Table C-12)

Although not required by the SGS or HCGS Technical Specifications/ODCM, seven samples of crops normally used as cattle feed (silage and soybeans) were collected from three indicator stations (5 samples) and one control station (2 samples). It was determined that these products may be a significant element in the food-chain pathway. Fodder crops are collected as management audit samples and analyzed for gamma emitters. All of the locations from which samples were collected this year are milk sampling stations.

Gamma spectroscopy performed on each of the 7 samples indicated the presence of the naturally-occurring radionuclides Be-7 and K-40. All other gamma emitters searched for were below the LLD.

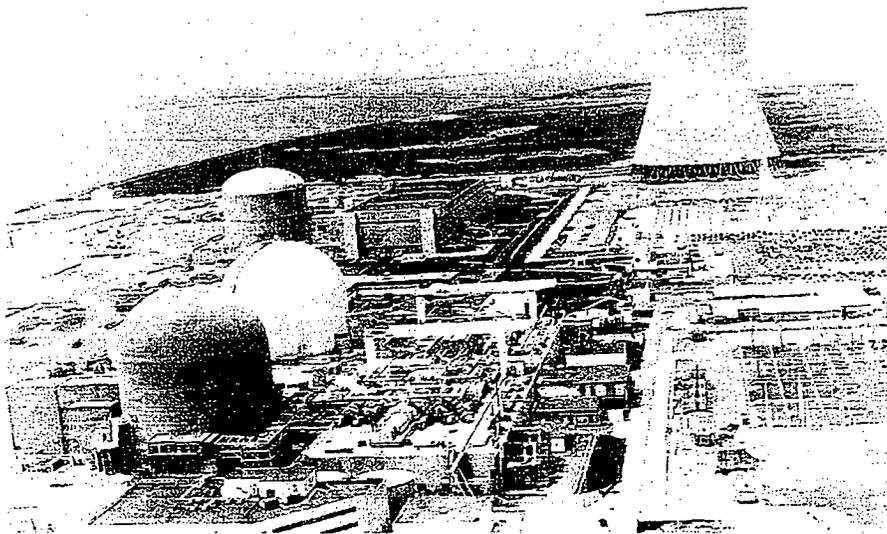
Beryllium-7, attributed to cosmic ray activity in the atmosphere, was detected in all 3 of the indicator silage samples at concentrations of 490 to 840 pCi/kg-wet. It was detected in the control station silage sample at 690 pCi/kg-wet. The average for all the silage samples was 710 pCi/kg-wet. The maximum preoperational level detected for silage was 4700 pCi/kg-wet, with an average of 2000 pCi/kg-wet. Be-7 was not detected in any of the soybean samples. LLD sensitivities for the soybean samples ranged from <30 to <40 pCi/kg-wet. The maximum preoperational level detected for soybean samples was 9300 pCi/kg-dry.

Potassium-40 was detected in all 7 samples. Concentrations for the 5 indicator station samples ranged from 3100 to 15600 pCi/kg-wet and for the 2 control station samples at 3860 and 14100 pCi/kg-wet. The average concentration detected for the silage samples (both indicator and control) was 3930 pCi/kg-wet. Preoperational results averaged 7000 pCi/kg-wet. Results for the soybean samples (both indicator and control) averaged 14500 pCi/kg-wet which is comparable to preoperational studies when the average wet/dry factor of 1.2 is used. Preoperational soybean results averaged 22000 pCi/kg-dry.

AQUATIC

All aquatic samples were collected by Environmental Consulting Services, Inc. Surface water samples were collected in new polyethylene containers that were rinsed twice with the sample medium prior to collection.

RADIOLOGICAL ENVIRONMENTAL
MONITORING PROGRAM



SALEM & HOPE CREEK
GENERATING STATIONS

2001 ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT

JANUARY 1 TO DECEMBER 31, 2001

- The radionuclide K-40 was detected in 11 of the raw and treated potable waters at concentrations ranging from 26 to 70 pCi/L. The combined average for both raw and treated positive results was 44 pCi/L. There was no preoperational data available for comparison.
- Radium was detected in one potable raw samples and in four of the treated samples at concentrations of 4 to 6.5 pCi/L. LLD sensitivities for the remaining raw and treated waters ranged from <1.6 to <3.5 pCi/L. The maximum preoperational level detected was 1.4 pCi/L. The higher results in the two measurable samples are most likely due to the procedural change for sample preparation, as discussed in the Well Water section.

Vegetables (Table C-10)

Although vegetables in the region are not irrigated with water into which liquid plant effluents have been discharged, a variety of food products grown in the area for human consumption were sampled at 5 indicator stations (14 samples) and 5 control stations (15 samples). The vegetables collected as management audit samples were analyzed for gamma emitters and included asparagus, cabbage, sweet corn, peppers and tomatoes.

Gamma spectroscopy performed on each of the 29 samples indicated the presence of the naturally occurring radionuclides K-40 and Radium. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in all 29 samples. Concentrations for the 14 indicator station samples ranged from 1420 to 2570 pCi/kg-wet and averaged 2090 pCi/kg-wet. Concentrations for the 15 control station samples ranged from 1230 to 2710 pCi/kg-wet, and averaged 2060 pCi/kg-wet. The average concentration detected for all samples, both indicator and control, was 2070 pCi/kg-wet. The maximum preoperational level detected was 4800 pCi/kg-wet, with an average of 2140 pCi/kg-wet.

Radium was detected in 1 indicator sample (tomato) at a concentration of 16 pCi/kg-wet. It was not detected in any of the control station samples. No preoperational data is available for comparison.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats, inhabiting the marshlands surrounding the site, are collected. This game is consumed by local residents. The samples, when available, are collected from 2 locations once a year as management audit samples and analyzed for gamma emitters.

Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the indicator station sample at a concentration of 2600 pCi/kg-wet and the control station sample at 2840 pCi/kg-wet. The average for both muskrat samples was 2720 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

Fodder Crops (Table C-12)

Although not required by the SGS or HCGS Technical Specifications/ODCM, six samples of crops normally used as cattle feed (silage and soybeans) were collected from three indicator stations (5 samples) and one control station (1 sample). It was determined that these products may be a significant element in the food-chain pathway. Fodder crops are collected as management audit samples and analyzed for gamma emitters. All of the locations from which samples were collected this year are milk sampling stations.

Gamma spectroscopy performed on each of the 6 samples indicated the presence of the naturally-occurring radionuclides Be-7, K-40 and Radium. All other gamma emitters searched for were below the LLD.

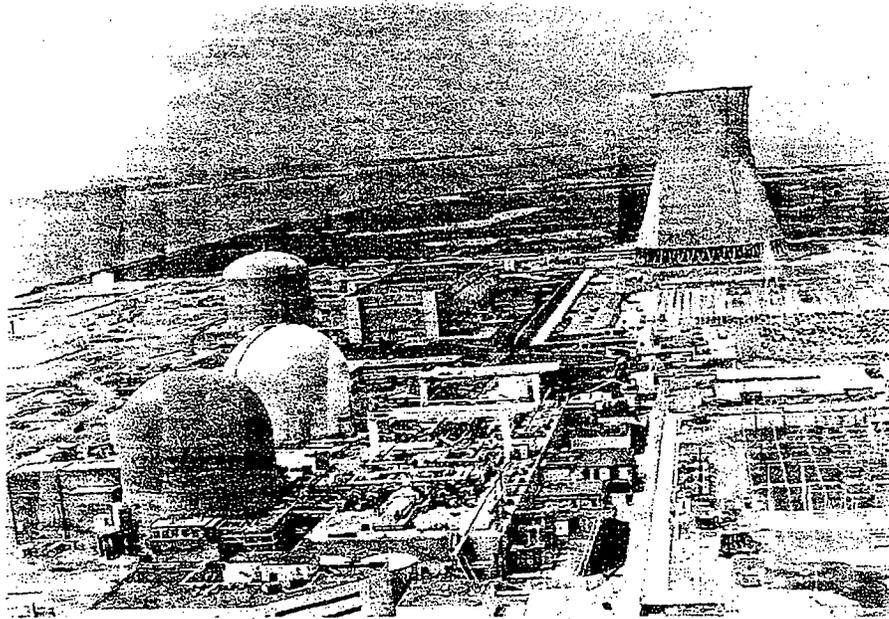
Beryllium-7, attributed to cosmic ray activity in the atmosphere, was detected in the 3 indicator silage samples at concentrations of 210 to 670 pCi/kg-wet. It was detected in the control station silage sample at 350 pCi/kg-wet. The average for all the silage samples was 400 pCi/kg-wet. The maximum preoperational level detected for silage was 4700 pCi/kg-wet, with an average of 2000 pCi/kg-wet. Be-7 was not detected in either of the two indicator soybean samples. LLD sensitivities for the soybean samples were <30 and <40 pCi/kg-wet. The maximum preoperational level detected for soybean samples was 9300 pCi/kg-dry.

Potassium-40 was detected in all 6 samples. Concentrations for the 5 indicator station samples ranged from 2560 to 16800 pCi/kg-wet and for the 1 control station sample at 4380 pCi/kg-wet. The average concentration detected for the silage samples (both indicator and control) was 3710 pCi/kg-wet. Preoperational results averaged 7000 pCi/kg-wet. Results for the soybean samples (both indicator and control) averaged 15900 pCi/kg-wet which is comparable to preoperational studies when the average wet/dry factor of 1.2 is used. Preoperational soybean results averaged 22000 pCi/kg-dry.

Soil (Table C-13)

Soil is sampled every three years at nine stations, including one control, and analyzed for gamma emitters. Samples are collected at each station, in areas that have been relatively undisturbed since

RADIOLOGICAL ENVIRONMENTAL
MONITORING PROGRAM



SALEM & HOPE CREEK
GENERATING STATIONS

2002 ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT

JANUARY 1 TO DECEMBER 31, 2002

Radium was detected in one control sample (asparagus) at a concentration of 38 pCi/kg-wet. It was not detected in any of the indicator station samples. No preoperational data is available for comparison.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats inhabiting the marshlands surrounding the Site, are collected. This game is consumed by local residents. The samples, when available, are collected from 2 locations once a year as management audit samples and analyzed for gamma emitters.

Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the indicator station sample at a concentration of 3240 pCi/kg-wet and the control station sample at 2580 pCi/kg-wet. The average for both muskrat samples was 2910 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

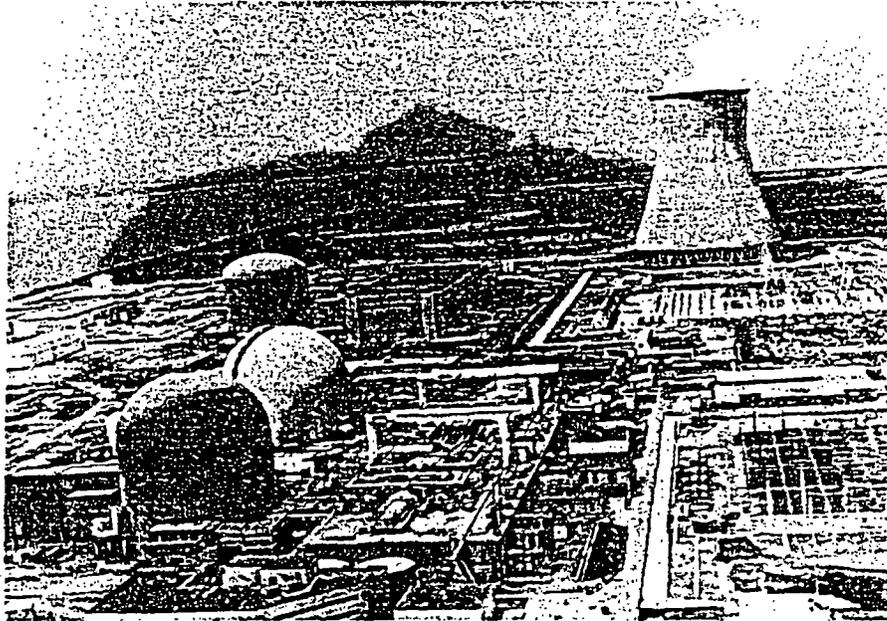
Fodder Crops (Table C-12)

Although not required by the SGS or HCGS Technical Specifications/ODCM, 6 samples of crops normally used as cattle feed (silage and soybeans) were collected from 3 indicator stations (4 samples) and one control station (2 samples). It was determined that these products may be a significant element in the food-chain pathway. Fodder crops are collected as management audit samples and analyzed for gamma emitters. All of the locations from which samples were collected this year are milk sampling stations.

Gamma spectroscopy performed on each of the 6 samples indicated the presence of the naturally-occurring radionuclides Be-7, K-40 and Radium. All other gamma emitters searched for were below the LLD.

Beryllium-7, attributed to cosmic ray activity in the atmosphere, was detected in 2 indicator silage samples at concentrations of 140 and 340 pCi/kg-wet. It was detected in the control station silage sample at 390 pCi/kg-wet. The average for all the positive silage samples was 290 pCi/kg-wet. The maximum preoperational level detected for silage was 4700 pCi/kg-wet, with an average of 2000 pCi/kg-wet. Be-7 was not detected in either of the two soybean samples. LLD sensitivities for the soybean samples were <23 and <46 pCi/kg-wet. The maximum preoperational level detected for soybean samples was 9300 pCi/kg-dry.

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These sensitivities ranged from <0.1 to <0.4 pCi/L. There was no preoperational data available for comparison.

Gamma spectroscopy performed on each of the 24 monthly water samples indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

O The radionuclide K-40 was detected in 7 of the raw and treated potable waters at concentrations ranging from 32 to 78 pCi/L. The combined average for both raw and treated positive results was 49 pCi/L. There was no preoperational data available for comparison.

Vegetables (Table C-10)

Although vegetables in the region are not irrigated with water into which liquid plant effluents have been discharged, a variety of food products grown in the area for human consumption were sampled at 4 indicator stations (10 samples) and 3 control stations (10 samples). The vegetables collected as management audit samples were analyzed for gamma emitters and included asparagus, cabbage, sweet corn, peppers, spinach and tomatoes.

Gamma spectroscopy performed on each of the 20 samples indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in all 20 samples. Concentrations for the 10 indicator station samples ranged from 1710 to 6400 pCi/kg-wet and averaged 2590 pCi/kg-wet. Concentrations for the 10 control station samples ranged from 1440 to 2910 pCi/kg-wet, and averaged 2260 pCi/kg-wet. The average concentration detected for all samples, both indicator and control, was 2420 pCi/kg-wet. The maximum preoperational level detected was 4800 pCi/kg-wet, with an average of 2140 pCi/kg-wet.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats inhabiting the marshlands surrounding the Site, are collected. Local residents consume this game. The samples, when available, are collected from 2 locations once a year as management audit samples and analyzed for gamma emitters.

Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the indicator station sample at a concentration of 2840 pCi/kg-wet and the control station sample at 2670 pCi/kg-wet.

The average for both muskrat samples was 2755 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

Fodder Crops (Table C-12)

Although not required by the SGS or HCGS Technical Specifications/ODCM, 6 samples of crops normally used as cattle feed (silage and soybeans) were collected from 2 indicator stations (3 samples) and 2 control station (3 samples). It was determined that these products may be a significant element in the food-chain pathway. Fodder crops are collected as management audit samples and analyzed for gamma emitters. All of the locations from which samples were collected this year are milk sampling stations.

Gamma spectroscopy performed on each of the 6 samples indicated the presence of the naturally-occurring radionuclides Be-7 and K-40. All other gamma emitters searched for were below the LLD.

Beryllium-7, attributed to cosmic ray activity in the atmosphere, was detected in both indicator silage samples at concentrations of 610 and 1030 pCi/kg-wet. It was detected in both the control station silage samples at 890 and 910 pCi/kg-wet. The average for all the silage samples was 860 pCi/kg-wet. The maximum preoperational level detected for silage was 4700 pCi/kg-wet, with an average of 2000 pCi/kg-wet. Be-7 was not detected in either of the indicator nor control station soybean samples. LLD sensitivities for the soybean samples were <27 and <60 pCi/kg-wet. The maximum preoperational level detected for soybean samples was 9300 pCi/kg-dry.

Potassium-40 was detected in all 6 samples. Concentrations for the 3 indicator station samples ranged from 4010 to 15300 pCi/kg-wet and for the 3 control station samples from 3910 and 15800 pCi/kg-wet. The average concentration detected for the silage samples (both indicator and control) was 4200 pCi/kg-wet. Preoperational results averaged 7000 pCi/kg-wet.

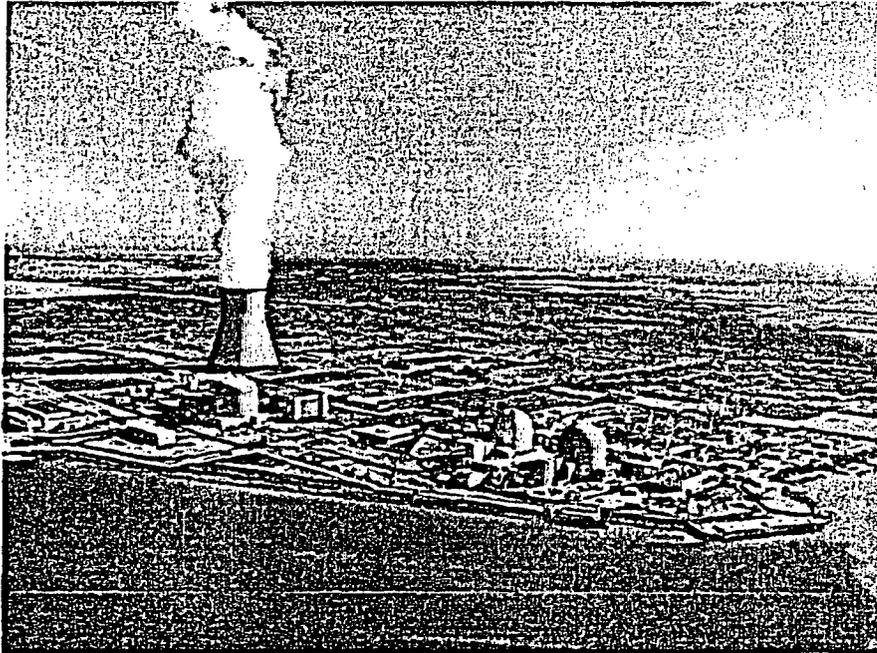
Results for the soybean samples (both indicator and control) averaged 15600 pCi/kg-wet which is comparable to preoperational studies when the average wet/dry factor of 1.2 is used. Preoperational soybean results averaged 22000 pCi/kg-dry.

AQUATIC

Environmental Consulting Services, Inc (ECS) collected all aquatic samples (with the exception of 6S2 shoreline sediment). Surface water samples were collected in new polyethylene containers that were rinsed twice with the sample medium prior to collection.

Edible fish and crabs are taken by net and then processed. In processing, the flesh is separated from the bone and shell and

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Concentrations for the 15 control station samples ranged from 1120 to 2560 pCi/kg-wet, and averaged 1970 pCi/kg-wet. The average concentration detected for all samples, both indicator and control, was 2020 pCi/kg-wet. The maximum preoperational level detected was 4800 pCi/kg-wet, with an average of 2140 pCi/kg-wet.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats inhabiting the marshlands surrounding the Site, are collected. Local residents consume this game. The samples, when available, are collected once a year as management audit samples and analyzed for gamma emitters.

Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the one sample at a concentration of 2710 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

Fodder Crops (Table C-12)

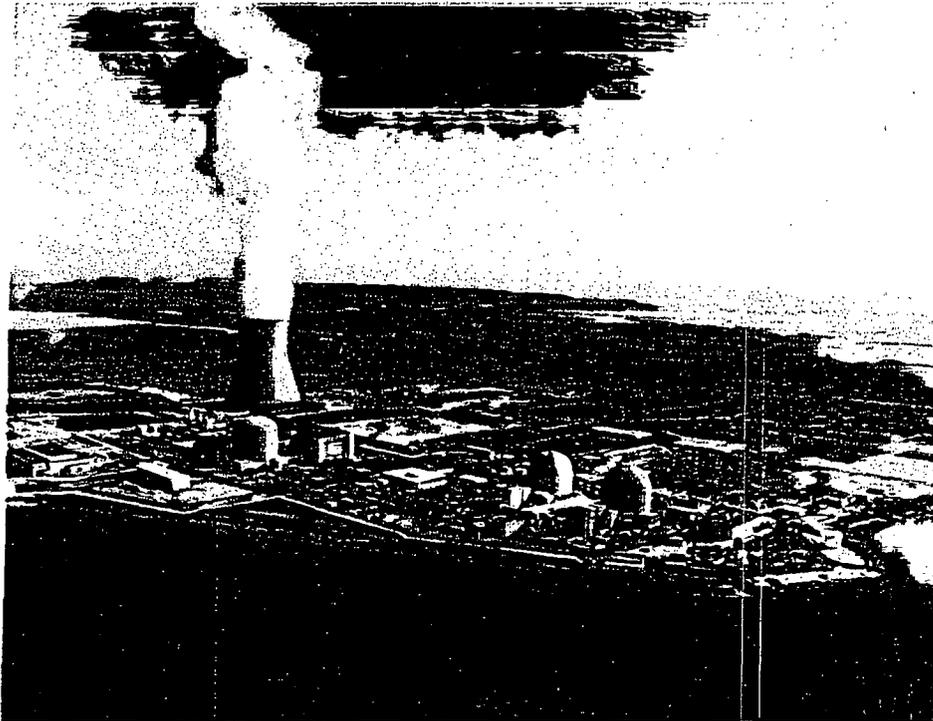
Although not required by the SGS or HCGS Technical Specifications/ODCM, 4 samples of crops normally used as cattle feed (silage and soybeans) were collected from one indicator station (2 samples) and one control station (2 samples). It was determined that these products may be a significant element in the food-chain pathway. Fodder crops are collected as management audit samples and analyzed for gamma emitters. The two locations from which samples were collected this year are milk sampling stations.

Gamma spectroscopy performed on each of the 4 samples indicated the presence of the naturally-occurring radionuclides Be-7 and K-40. All other gamma emitters searched for were below the LLD.

Beryllium-7, attributed to cosmic ray activity in the atmosphere, was detected in the indicator silage sample at a concentration of 260 pCi/kg-wet. It was detected in the control station silage sample at 80 pCi/kg-wet. The average for both the silage samples was 170 pCi/kg-wet. The maximum preoperational level detected for silage was 4700 pCi/kg-wet, with an average of 2000 pCi/kg-wet. Be-7 was not detected in either of the indicator nor control station soybean samples. LLD sensitivities for the soybean samples were <28 and <34 pCi/kg-wet. The maximum preoperational level detected for soybean samples was 9300 pCi/kg-dry.

Potassium-40 was detected in all 4 of the station samples. Concentrations for the 2 indicator station samples were at 2700 and 15100 pCi/kg-wet.

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Vegetables (Table C-10)

Although vegetables in the region are not irrigated with water into which liquid plant effluents have been discharged, a variety of food products grown in the area for human consumption were sampled at 5 indicator stations (15 samples) and 4 control stations (12 samples).

The vegetables collected as management audit samples were analyzed for gamma emitters and included asparagus, cabbage, sweet corn, peppers, and tomatoes.

Gamma spectroscopy performed on each of the 27 samples indicated the presence of the naturally-occurring radionuclide K-40 and in one sample radium. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in all 27 samples. Concentrations for the 15 indicator station samples ranged from 1240 to 2880 pCi/kg-wet and averaged 2030 pCi/kg-wet. Concentrations for the 12 control station samples ranged from 1180 to 2860 pCi/kg-wet, and averaged 1930 pCi/kg-wet. The average concentration detected for all samples, both indicator and control, was 1980 pCi/kg-wet. The maximum preoperational level detected was 4800 pCi/kg-wet, with an average of 2140 pCi/kg-wet.

Radium was detected in 1 of the control station tomato samples at a concentration of 18 pCi/l. It was not detected in any of the indicator station samples. LLD sensitivities for all the vegetable samples ranged from <4.7 to <12 pCi/L. There was no preoperational data available for comparison.

Game (Table C-11)

Although not required by the SGS or HCGS Technical Specifications/ODCM, samples of muskrats inhabiting the marshlands surrounding the Site, are collected. Local residents consume this game. The samples, when available, are collected once a year as management audit samples and analyzed for gamma emitters.

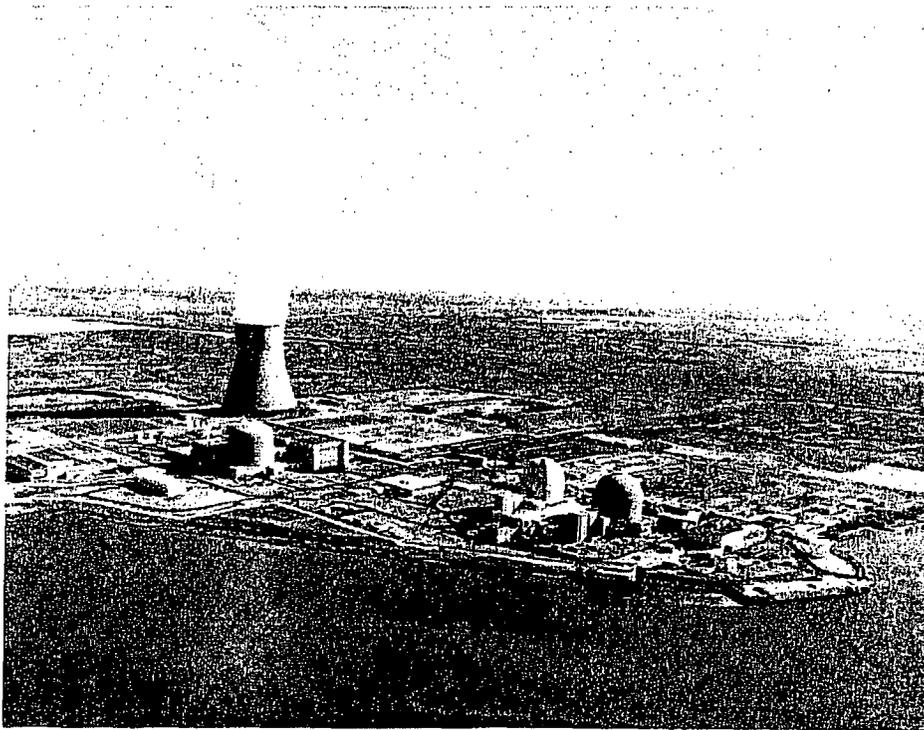
Gamma spectroscopy performed on the flesh indicated the presence of the naturally-occurring radionuclide K-40. All other gamma emitters searched for were below the LLD.

Potassium-40 was detected in the one sample at a concentration of 2970 pCi/kg-wet. The maximum preoperational level detected was 27000 pCi/kg-wet, with an average of 4400 pCi/kg-wet.

Fodder Crops (Table C-12)

Although not required by the SGS or HCGS Technical Specifications/ODCM, 3 samples of crops normally used as cattle feed (silage and soybeans) were collected from one indicator station

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control, instrument quality control, interlaboratory cross-check analyses, and data review.

The quality of the results obtained by MTS is ensured by the implementation of the Quality Assurance Program as described in the Maplewood Testing Services Quality Assurance Plan [11] and the Environmental and Chemical Division Procedures Manual. The internal quality control activity of MTS includes the quality control of instrumentation, equipment and reagents; the use of reference standards in calibration, documentation of established procedures and computer programs, and analysis of duplicate samples. The external quality control activity is implemented through participation in both the Analytics and the Environmental Resource Associates Interlaboratory Comparison Programs. The results of these Interlaboratory Comparison Programs are listed in Tables D-1 through D-4 in Appendix D.

PROGRAM CHANGES

There were no game (muskrat) samples available for analysis this year. Our Delaware contact moved and the NJ contact is no longer trapping, an alternative trapper was not identified. These samples are not required by the SGS or HCGS Technical Specifications/ODCM. The muskrats were collected once a year as management audit samples because of their inhabiting the marshlands surrounding the Site. If an alternative trapper can be identified, these management samples will resume.

RESULTS AND DISCUSSION

The analytical results of the 2006 REMP samples are divided into categories based on exposure pathways: atmospheric, direct, terrestrial, and aquatic. The analytical results for the 2006 REMP are summarized in Appendix A. The data for individual samples are presented in Appendix C. The data collected demonstrates that the SGS and HCGS REMP was conducted in compliance with the Technical Specifications/ODCM.

The REMP for the SGS/HCGS Site has historically included samples and analyses not specifically required by these Stations' Technical Specifications/ODCM. MTS continues to collect and analyze some of these samples in order to maintain personnel proficiency in performing these non-routine analyses. These analyses are referenced throughout the report as Management Audit samples. The summary tables in this report include these additional samples and analyses.

ATMOSPHERIC

Air particulates were collected on Schleicher-Schuell No. 25 glass fiber filters with low-volume air samplers.

Salem/ Hope Creek Environmental Audit – Post-Audit Information

Question #: LUS-6 & ENV-97 **Category:** Land Use and Socioeconomics

Statement of Question: Please provide the following documents that were made available during the Salem and HCGS License Renewal Environmental Audit in response to Pre-Audit Question #s LUS-6 and ENV-97.

- A Updated Table 2.6-2 from both ERs (residential distribution of employees for Salem and HCGS)
- B Number and residence information for corporate and matrixed employees (identified separately)

Response:

- A PSEG has provided updated Tables 2.6-2 for Salem and Hope Creek. As in the ER, the same corporate and matrixed employees are included in both updated tables, so the estimate for each plant is conservative, and the two should not be added together to get cumulative impacts.
- B The residential distribution of the corporate and matrixed employees, which are common to Salem and Hope Creek is being provided separately as Table 2.6-2a.

List Attachments Provided:

- A
 - i. Table 2.6-2 Update. Residential Distribution of Hope Creek Employees
 - ii. Table 2.6-2 Update. Residential Distribution of Salem Employees
- B Table 2.6-2a. Residential Distribution of Matrixed and Corporate Salem/Hope Creek Staff

Table 2.6-2a. Residential Distribution of Salem/Hope
Creek Staffs Who Are Matrixed and Corporate
Employees

County and State of Residence	Matrixed	Corporate
Atlantic NJ	1	1
Bergen NJ		2
Berks PA		2
Brunswick NC		1
Bucks PA		1
Burlington NJ	4	8
Cambia PA		1
Camden NJ	6	14
Cape May NJ	1	2
Cecil MD		7
Chester PA	4	19
Cumberland NJ	14	21
Delaware PA	3	9
Gloucester NJ	18	50
Kent DE		1
Montgomery MD		1
Montgomery PA	1	3
New Castle DE	18	46
Salem NJ	39	150
Washington DC		1