

SCH-13-042
CERTIFIED MAIL
RETURN RECEIPT REQUESTED
ARTICLE NUMBER: 7011 3500 0000 5084 9179



Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, N.J. 08625-0029

OCT 25 2013

**NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT
SALEM GENERATING STATION
NJPDDES PERMIT NJ0005622**

Dear Sir:

Attached is the Discharge Monitoring Report for the Salem Generating Station for the month of September 2013.

This report is required by and prepared specifically for the New Jersey Department of Environmental Protection (NJDEP). It presents only the observed results of measurements and analyses required to be performed by the above agencies. The choice of the measurement devices and analytical methods are controlled by the EPA and the NJDEP, not by the company, and there are limitations on the accuracy of such measurement devices and analytical techniques even when used and maintained as required. Accordingly, this report is not intended as an assertion that any instrument has measured, or that any reading or analytical result represents the true value with absolute accuracy, nor is it an endorsement of the suitability of any analytical or measurement procedure.

If you have any questions concerning this report, please feel free to contact Mark Pyle (856) 339-2331.

Sincerely,


John F. Perry
Site Vice President - Salem

Attachment (12 DMR's)

C Executive Director, DRBC
USNRC - Docket numbers 50-272 & 50-311

*IE25
MRK*

EXPLANATION OF CONDITIONS

September 2013

The following explanations are included to clarify possible deviation from permit conditions.

General - The columns labeled "No. Ex" on the enclosed DMR tabulate the number of daily discharge values outside the indicated limits.

Data reporting and accuracy reflect the working environment, the design capabilities and reliability of the monitoring instruments and operating equipment.

Deviations from required sampling, analysis monitoring and reporting methods and periodicities are noted on the respective transmittal sheet.

Results reported on the Discharge Monitoring Report forms are consistent with permit limits, data supplied from contract laboratories, the December 2007 revision of the NJDEP DMR Instruction Manual and specific guidance from DEP personnel.

Included in this months report are the results of the bioassay samples performed during the monitoring period. The test was performed by New England Bioassay.

ATTACHMENT:

000NJPDES Biomonitoring Report Form – Acute Toxicity

EXPLANATION OF EXCEEDANCES

September 2013

The following exceedance(s) are included in the attached report and explained below.

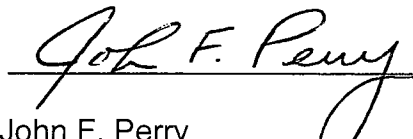
EXPLANATION

No Exceedances

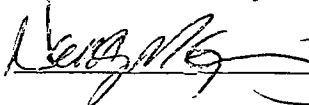
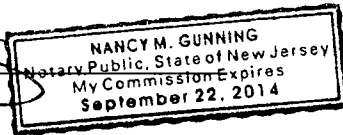
COUNTY OF SALEM
STATE OF NEW JERSEY

I, John F. Perry, of full age, being duly sworn according to law, upon my oath depose and say:

1. I am the Site Vice President – Salem for PSEG Nuclear, and as such am authorized to sign Salem's Discharge Monitoring Reports submitted to the New Jersey Department of Environmental Protection pursuant to the Station's New Jersey Pollutant Discharge Elimination System permit.
2. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
3. The signature on the attached Discharge Monitoring Reports is my signature and I am submitting this affidavit in satisfaction of the requirement that my signature be notarized.


John F. Perry
Site Vice President – Salem

Sworn and subscribed before me
this 25th day of October 2013

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	FACA – SW Outfall FACA
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:


PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

**For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: FACA SW Outfall FACA MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 G Raw Sew/influent	SAMPLE MEASUREMENT	*****	*****	*****	*****	23.8	26.7	DEG.C	0	Continuous	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			Continuous	CONTIN
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	32.0	36.0	DEG.C	0	Continuous	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	46.1 01DAMX			Continuous	CONTIN
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 2 Effluent Net Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	8.2	9.4	DEG.C	0	1/Day	CALCTD
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	15.3 01DAMX			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451	*****	PA166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: If there are any questions in regards to the monitoring report form, please contact Susan Rosenwinkel of the BPSP - Region 2 at (609)292-4860 or via email at "srosenwi@dep.state.nj.us".

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month 9	Day 1	Year 2013	To	Month 9	Day 30	Year 2013	FACB – SW Outfall FACB

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE:

☐

No Discharge this Monitoring Period

☐

Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem

N/A

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

GRADE AND REGISTRY NUMBER (IF APPLICABLE)

John F. Perry

10/24/2013

856-339-3463

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

DATE

AREA CODE/PHONE NUMBER

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I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A

N/A

N/A

N/A

NAME AND TITLE

SIGNATURE

DATE

AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: FACB SW Outfall FACB MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 G Raw Sew/influent	SAMPLE MEASUREMENT	*****	*****	*****	*****	23.8	26.7	DEG.C	0	Continuous	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			Continuous	CONTIN
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	32.2	34.6	DEG.C	0	Continuous	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	46.1 01DAMX			Continuous	CONTIN
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 2 Effluent Net Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	8.4	9.4	DEG.C	0	1/Day	CALCTD
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	15.3 01DAMX			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	174S1	*****	PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: If there are any questions in regards to the monitoring report form, please contact Susan Rosenwinkel of the BPSP - Region 2 at (609)292-4860 or via email at "srosenwi@dep.state.nj.us".

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	FACC – SW Outfall FACC
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE:

☐

No Discharge this Monitoring Period

☐

Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem

N/A

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

GRADE AND REGISTRY NUMBER (IF APPLICABLE)

John F. Perry

10/24/2013

856-339-3463

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

DATE

AREA CODE/PHONE NUMBER

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I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A

N/A

N/A

N/A

NAME AND TITLE

SIGNATURE

DATE

AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:

FACILITY NAME:

NJ0005622

FACC SW Outfall FACC

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 G Raw Sew/influent	SAMPLE MEASUREMENT	2427	2552	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	3024 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
Thermal Discharge Million BTUs per Hr 00015 2 Effluent Net Value	SAMPLE MEASUREMENT	13051	13187	MBTU/HR	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	30600 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451		PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: If there are any questions in regards to the monitoring report form, please contact Susan Rosenwinkel of the BPSP - Region 2 at (609)292-4860 or via email at "srosenwi@dep.state.nj.us".

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	048C – SW Outfall 48C
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE:

☐

No Discharge this Monitoring Period

☐

Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

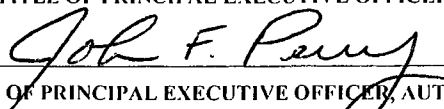
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John F. Perry, Site Vice President - Salem

N/A

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

GRADE AND REGISTRY NUMBER (IF APPLICABLE)



10/24/2013

856-339-3463

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

DATE

AREA CODE/PHONE NUMBER

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N/A

N/A

N/A

N/A

NAME AND TITLE

SIGNATURE

DATE

AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: 048C SW Outfall 48C MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	0.2693	0.5474	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
Solids, Total Suspended 00530 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	6	6	MG/L	0	2/Month	COMPOS
	PERMIT REQUIREMENT	*****	*****		*****	30 01MOAV	100 01DAMX			2/Month	COMPOS
	QL	*****	*****		*****	*****	*****				
Nitrogen, Ammonia Total (as N) 00610 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	2	3	MG/L	0	2/Month	COMPOS
	PERMIT REQUIREMENT	*****	*****		*****	35 01MOAV	70 01DAMX			2/Month	COMPOS
	QL	*****	*****		*****	*****	*****				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	< 5	< 5	MG/L	0	2/Month	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	10 01MOAV	15 01DAMX			2/Month	GRAB
	QL	*****	*****		*****	*****	*****				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	9	11	MG/L	0	2/Month	COMPOS
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	50 01DAMX			2/Month	COMPOS
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451	*****	PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: If there are any questions in regards to the monitoring report form, please contact Susan Rosenwinkel of the BPSP - Region 2 at (609)292-4680 or via email at "srosenwi@dep.state.nj.us".

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	481A – SW Outfall 481A
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

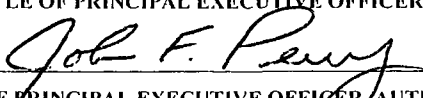
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

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John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

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N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:

FACILITY NAME:

NJ0005622

481A SW Outfall 481A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	444	459	MGD	*****	*****	*****	*****	0	1/Day	CALCTP
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.5	*****	7.7	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
pH 00400 7 Intake From Stream	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
LC50 Statre 96hr Acu Cyprinodon TAN6A 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	CODE = N	*****	*****	%EFFL	0	CODE = N	CODE = N
	PERMIT REQUIREMENT	*****	*****		50 01DAMN	*****	*****			2/Year	COMPOS
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 1	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE = N	CODE = N	MG/L	0	CODE = N	CODE = N
	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 2	SAMPLE MEASUREMENT	*****	*****	*****	*****	<0.1	<0.1	MG/L	0	3/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622
 MONITORED LOCATION: 481A SW Outfall 481A
 MONITORING PERIOD: 9/1/2013 TO 9/30/2013
 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	32.2	37.0	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451		PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:												
NJ0005622	<table border="1"><tr><th>Month</th><th>Day</th><th>Year</th></tr><tr><td>9</td><td>1</td><td>2013</td></tr></table> To <table border="1"><tr><th>Month</th><th>Day</th><th>Year</th></tr><tr><td>9</td><td>30</td><td>2013</td></tr></table>	Month	Day	Year	9	1	2013	Month	Day	Year	9	30	2013	482A – SW Outfall 482A
Month	Day	Year												
9	1	2013												
Month	Day	Year												
9	30	2013												

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

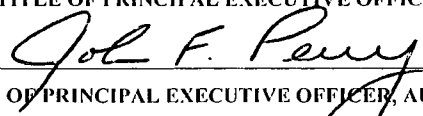
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey water Pollution Control Act provides for penalties up to \$50,000 per violation.

John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

**For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: 482A SW Outfall 482A MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	417	441	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.6	*****	7.7	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
pH 00400 7 Intake From Stream	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
LC50 Statre 96hr Acu Cyprinodon TAN6A 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	CODE=N	*****	*****	%EFFL	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		50 01DAMN	*****	*****			2/Year	COMPOS
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 1	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE=N	CODE=N	MG/L	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 2	SAMPLE MEASUREMENT	*****	*****	*****	*****	<0.1	<0.1	MG/L	0	3/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: 482A SW Outfall 482A MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	31.9	37.3	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451	PA 166							
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:												
NJ0005622	<table border="1"><tr><td>Month</td><td>Day</td><td>Year</td></tr><tr><td>9</td><td>1</td><td>2013</td></tr></table> To <table border="1"><tr><td>Month</td><td>Day</td><td>Year</td></tr><tr><td>9</td><td>30</td><td>2013</td></tr></table>	Month	Day	Year	9	1	2013	Month	Day	Year	9	30	2013	483A – SW Outfall 483A
Month	Day	Year												
9	1	2013												
Month	Day	Year												
9	30	2013												

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

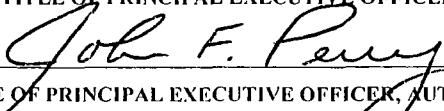
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey water Pollution Control Act provides for penalties up to \$50,000 per violation.

John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

**For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:

FACILITY NAME:

NJ0005622

483A SW Outfall 483A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	440	456	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.4	*****	7.7	SU	0	1/week	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
pH 00400 7 Intake From Stream	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/week	GRAB
	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 1	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE=N	CODE=N	MG/L	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 2	SAMPLE MEASUREMENT	*****	*****	*****	*****	<0.1	<0.1	MG/L	0	3/week	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	31.9	36.0	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				

Comments: Any questions in regards to the monitoring report form can be directed to S. Rosenwinkel of the BPSP - Region 2 at (609)292-4860.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622
 MONITORED LOCATION: 483A SW Outfall 483A
 MONITORING PERIOD: 9/1/2013 TO 9/30/2013
 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451		PA166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: Any questions in regards to the monitoring report form can be directed to S. Rosenwinkel of the BPSP - Region 2 at (609)292-4860.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	484A – SW Outfall 484A
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

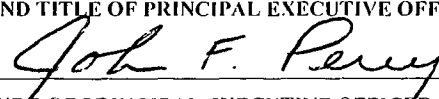
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

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N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:


FACILITY NAME:

NJ0005622

484A SW Outfall 484A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	402	451	MGD	*****	*****	*****	*****	0	1/Day	CALCTO
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.5	*****	7.8	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
pH 00400 7 Intake From Stream	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
LC50 Statre 96hr Acu Cyprinodon TAN6A 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	CODE=N	*****	*****	%EFFL	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		50 01DAMN	*****	*****			2/Year	COMPOS
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 1	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE=N	CODE=N	MG/L	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 2	SAMPLE MEASUREMENT	*****	*****	*****	*****	<0.1	<0.1	MG/L	0	3/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: 484A SW Outfall 484A MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, °C 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	32.9	35.7	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451	PA 166	PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	485A – SW Outfall 485A
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

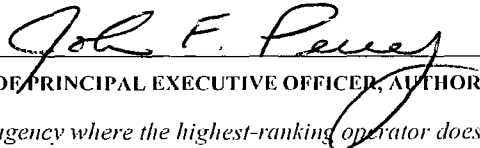
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

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John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

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N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:

FACILITY NAME:

NJ0005622

485A SW Outfall 485A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATING

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	412	424	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
50050 1	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
Effluent Gross Value	QL	*****	*****		*****	*****	*****				
pH	SAMPLE MEASUREMENT	*****	*****	*****	7.6	*****	7.8	SU	0	1/Week	GRAB
00400 1	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
Effluent Gross Value	QL	*****	*****		*****	*****	*****				
pH	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/Week	GRAB
00400 7	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
Intake From Stream	QL	*****	*****		*****	*****	*****				
LC50 Statre 96hr Acu Cyprinodon	SAMPLE MEASUREMENT	*****	*****	*****	> 100%	*****	*****	%EFFL	0	2/Year	COMPOS
TAN6A 1	PERMIT REQUIREMENT	*****	*****		50 01DAMN	*****	*****			2/Year	COMPOS
Effluent Gross Value	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE = N	CODE = N	MG/L	0	CODE = N	CODE = N
*CPOX 1	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
Effluent Gross Value Option 1	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	*****	*****	*****	< 0.1	< 0.1	MG/L	0	3/Week	GRAB
*CPOX 1	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
Effluent Gross Value Option 2	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622 MONITORED LOCATION: 485A SW Outfall 485A MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	32.3	35.3	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451		PA 166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: The permittee is required to perform acute toxicity testing on a minimum of one representative CWS outfall while DSN 48C is being routed to that outfall.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:													
NJ0005622	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; text-align: center;">Month</td> <td style="border: 1px solid black; text-align: center;">Day</td> <td style="border: 1px solid black; text-align: center;">Year</td> <td rowspan="2" style="padding: 0 10px;">To</td> <td style="border: 1px solid black; text-align: center;">Month</td> <td style="border: 1px solid black; text-align: center;">Day</td> <td style="border: 1px solid black; text-align: center;">Year</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">9</td> <td style="border: 1px solid black; text-align: center;">1</td> <td style="border: 1px solid black; text-align: center;">2013</td> <td style="border: 1px solid black; text-align: center;">9</td> <td style="border: 1px solid black; text-align: center;">30</td> <td style="border: 1px solid black; text-align: center;">2013</td> </tr> </table>	Month	Day	Year	To	Month	Day	Year	9	1	2013	9	30	2013	486A – SW Outfall 486A
Month	Day	Year	To	Month		Day	Year								
9	1	2013		9	30	2013									

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

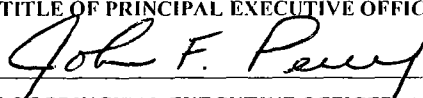
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey water Pollution Control Act provides for penalties up to \$50,000 per violation.

John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

**For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:


FACILITY NAME:

NJ0005622

486A SW Outfall 486A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN


PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	414	434	MGD	*****	*****	*****	*****	0	1/Day	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Day	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.5	*****	7.7	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
pH 00400 7 Intake From Stream	SAMPLE MEASUREMENT	*****	*****	*****	7.7	*****	8.0	SU	0	1/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		REPORT 01DAMN	*****	REPORT 01DAMX			1/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 1	SAMPLE MEASUREMENT	*****	*****	*****	*****	CODE=N	CODE=N	MG/L	0	CODE=N	CODE=N
	PERMIT REQUIREMENT	*****	*****		*****	0.3 01MOAV	0.5 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Chlorine Produced Oxidants *CPOX 1 Effluent Gross Value Option 2	SAMPLE MEASUREMENT	*****	*****	*****	*****	<0.1	<0.1	MG/L	0	3/Week	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	0.2 01DAMX			3/Week	GRAB
	QL	*****	*****		*****	*****	*****				
Temperature, oC 00010 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	31.8	35.0	DEG.C	0	1/Day	CONTIN
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	REPORT 01DAMX			1/Day	CONTIN
	QL	*****	*****		*****	*****	*****				

Comments: Any questions in regards to the monitoring report form can be directed to S. Rosenwinkel of the BPSP - Region 2 at (609)292-4860.

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER: NJ0005622
 MONITORED LOCATION: 486A SW Outfall 486A
 MONITORING PERIOD: 9/1/2013 TO 9/30/2013
 FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATING STATION

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification # 99999 99 Lab											
	SAMPLE MEASUREMENT	17327	17451		PA166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: Any questions in regards to the monitoring report form can be directed to S. Rosenwinkel of the BPSP - Region 2 at (609)292-4860.

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	487B – SW Outfall 487B
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

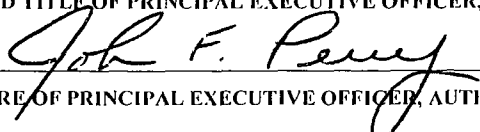
PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☒ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem	N/A
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)
	10/24/2013 856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE AREA CODE/PHONE NUMBER

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N/A	N/A	N/A	N/A
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:	
NJ0005622	Month	Day	Year	To	Month	Day	Year	489A – SW Outfall 489A
	9	1	2013		9	30	2013	

PERMITTEE:

PSE&G NUCLEAR LLC
80 PARK PLAZA
NEWARK, NJ 07101

LOCATION OF ACTIVITY:

PSEG NUCLEAR LLC SALEM
GENERATING STATION
ALLOWAY CREEK NECK RD
HANCOCKS BRIDGE, NJ 08038

REPORT RECIPIENT:

PSEG NUCLEAR LLC
PO BOX 236/N21
HANCOCKS BRIDGE, NJ 08038

REGION / COUNTY: Southern / Salem County

CHECK IF APPLICABLE: ☐ No Discharge this Monitoring Period ☐ Monitoring Report Comments Attached

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

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John F. Perry, Site Vice President - Salem

N/A

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

GRADE AND REGISTRY NUMBER (IF APPLICABLE)

John F. Perry

10/24/2013

856-339-3463

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR

DATE

AREA CODE/PHONE NUMBER

**For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached discharge monitoring reports.

N/A

N/A

N/A

N/A

NAME AND TITLE

SIGNATURE

DATE

AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 46814

PERMIT NUMBER:

MONITORED LOCATION:

MONITORING PERIOD:

FACILITY NAME:

NJ0005622

489A SW Outfall 489A

9/1/2013 TO 9/30/2013

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	0.0112	0.0112	MGD	*****	*****	*****	*****	0	1/Month	CALCTD
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		*****	*****	*****			1/Month	CALCTD
	QL	*****	*****		*****	*****	*****				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	7.5	*****	7.5	SU	0	1/Month	GRAB
	PERMIT REQUIREMENT	*****	*****		6.0 01DAMN	*****	9.0 01DAMX			1/Month	GRAB
	QL	*****	*****		*****	*****	*****				
Solids, Total Suspended 00530 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	8	8	*****	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	*****	*****		100 01DAMX	30 01MOAV	*****			1/Month	GRAB
	QL	*****	*****		*****	*****	*****				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	<5	<5	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	10 01MOAV	15 01DAMX			1/Month	GRAB
	QL	*****	*****		*****	*****	*****				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	*****	*****	*****	*****	7	7	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	*****	*****		*****	REPORT 01MOAV	50 01DAMX			1/Month	GRAB
	QL	*****	*****		*****	*****	*****				
Lab Certification # 99999 99 Lab	SAMPLE MEASUREMENT	17327	17451	*****	PA166						
	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****				

Comments: If there are any questions in regards to the monitoring report form, please contact Susan Rosenwinkel of the the BPSP - Region 2 at (609)292-4860 or via email at "srosenwi@dep.state.nj.us".

000NJPDES BIOMONITORING REPORT FORM - ACUTE TOXICITY

Permit No.: NJ[0005622]

DSN [485]

Facility name: [PSEG Nuclear LLC - Salem Generating Station]

Facility address: [Artificial Island]

[Lower Alloways Creek, NJ 08038]

Facility contact person: [Mr. Christopher White]

phone #: [(856) 339-2678]

Acute toxicity laboratory: [New England Bioassay]

[77 Batson Drive]

[Manchester, CT 06042]

Acute laboratory certification No.: [CT405]

Test Specifications:

Effluent type (e.g., final, predisinfection): [Final Effluent]

Test type (check one): Static _____ Renewal (6-hr) _____ Renewal (24-hr) X Flow-through _____

Test Results:

Test starting date: [9/18/13] Completion date: [9/22/13]

Test endpoint (check one): LC50 X NMAT _____ EC50 _____

LC50/EC50 (% effluent): [> 100%] 95% Confidence interval: [NA]

Highest percent mortality in any test concentration (if applicable): [5%]

Test concentration: [12.5%]

Test organism: [Sheepshead Minnow]; [*Cyprinodon variegatus*]
(common name) (scientific name)

Quality Control Summary:

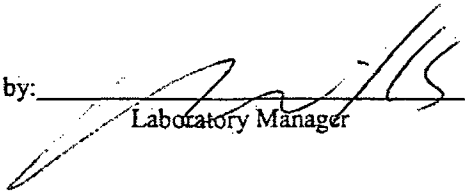
Control mortality: [0%]%

Temperature maintained within 20° + 2°C? Yes X No _____

Dissolved oxygen levels always greater than 40% saturation? Yes X No _____

Two or more concentrations exhibit a trend deviation? Yes _____ No X

Certification:

Accuracy of report certified by: 
Laboratory Manager

Date

10/15/13

Test Organism Data:

Test organism source (check one):

Cultured _____ Commercial hatchery X (specify) [Aquatic BioSystems; Fort Collins, Colorado]**Test Organism Acclimation:**Is the culture water and test dilution water the same, and is the culture water temperature and dilution water temperature identical? Yes _____ No X

If yes, proceed to Test Design section.

Fish and Grass Shrimp:

Initial number of organisms: [460]

Total acclimation period: [< 1] day,

Acclimation period to 100 percent dilution water at the specified test temperature and test salinity:

[received in ASW at 25 ± 2 ppt; NEB dripped in fresh ASW at 25 ± 2 ppt until testing]

Number of mortalities: [0]%

Test organism age at start of test (days): [12 days]

Mysid and Cladoceran:

Initial Number of Organisms: [N/A]

Test organism age at start of test (days): [N/A]

Culture water source: [N/A]

Culture water salinity: [N/A]

Culture water temperature: [N/A]

Dilution water source: [N/A]

Dilution water salinity upon collection: [N/A]

Number of mortalities: [N/A]%

Test Design:

Number of effluent test concentrations: [9]

Number of replicates/test concentration: [2]

Number of test organisms/replicate: [10]

Volume of liquid in test chambers (liters): [0.5]

Flow-through bioassay exchange rate: [N/A] (cycles/day)

Effluent Sampling:Plant sampling location: [Outfall 485 (#1, #2, #3, & #4 samples)]Effluent type: [Cooling Water]Discharge (check one): Continuous X Intermittent _____Effluent sample type: 24-hr. composite X 6-hr composite _____ Grab _____ Other _____ (Describe) [_____]

Sample Collection		Sample Data taken upon Arrival at laboratory		Use in Toxicity Test	
Beginning Date/Time	Ending Date/Time	D.O.	PH	Date(s)	Time(s) ^a
9/16/13 1200	9/17/13 1200	9.1 mg/L	7.9 SU	9/18/13	1410 h
9/17/13 1200	9/18/13 1200	9.0 mg/L	7.2 SU	9/19/13	1430 h
9/18/13 1200	9/19/13 1200	8.3 mg/L	7.7 SU	9/20/13	1410 h
9/19/13 1200	9/20/13 1200	8.3 mg/L	7.8 SU	9/21/13	1400 h

^a - Indicates time test concentrations were mixed after warming to test temperatureMaximum sample holding time (hours): [< 24 h]Testing location (check one): On-site _____ Remote Laboratory X

Effluent Sample Adjustments:Were any salinity adjustments made? Yes X No

If yes, specify the source of sea salts, brine or water used:

[Instant Ocean Artificial Sea Salts (Aquarium Systems; Mentor, OH)]Were any pH adjustments made? Yes No XIf yes, specify the reagent used [3 N HCl], the amount used [Not required]The pH level upon sample collection (initial pH): [7.2 to 7.9 SU]The pH level after the addition of the sea salts (drifted pH) [7.8 to 8.1 SU]The adjusted pH level [not required]Was the effluent sample filtered in any manner? Yes No XIf yes, please specify the mesh size: [N/A]Were any adjustments to the levels of chlorine made? Yes No XIf yes, specify the dechlorination agent used [N/A] and the amount of reagent used [N/A]Specify the chlorine levels prior to [< 0.05 mg/L] and after addition of the reagent [N/A]Was an additional control included in the test containing the dechlorination agent? Yes No X**Dilution Water:**Effluent receiving water: [Delaware River]Dilution water source: [Instant Ocean Artificial Salt Water (25 ± 1 ppt salinity; 125 mg/L as CaCO₃ Alkalinity)]
(If reconstituted water is used specify type)If a substitute dilution water (i.e. not the receiving water) was used, had its use been approved by NJDEP in the acute methodology questionnaire? Yes X No Collection location: [N/A]Collection date(s): [N/A]**Test Results:**

	24 hours	48 hours	72 hours	96 hours
LC50/EC50 (% Effluent):	[<u>> 100%</u>]	[<u>> 100%</u>]	[<u>> 100%</u>]	[<u>> 100%</u>]

Calculation method: [Observation]**NOTE:** Attach the statistical printouts used to determine the LC50 value, and the mortality data sheets.Is the calculated LC50/EC50 valid according to the specifications of the method used? Yes X No **Miscellaneous:**Were any exposure chambers aerated during the test? Yes No XIf yes, specify concentrations and duration, including the lowest percent saturation reached prior to aeration and at what time: [N/A]Were the test organisms observed for appearance and behavior at least daily? Yes X No **NOTE:** Attach a copy of the acute toxicity test bench sheets with observation coded for each day.**NOTE:** Attach a copy of the raw data sheets for physical-chemical measurements performed during the test to the test report form.



New England Bioassay
a Division of GZA GeoEnvironmental, Inc.

77 Batson Drive
Manchester, CT
06042
860-643-9560
FAX 860-646-7169

**ACUTE TOXICITY TEST REPORT
(SEPTEMBER 2013)**

**PSEG Nuclear LLC
Salem Generating Station
Permit No. NJ 0005622 (DSN 485)**

15 October 2013

Performed by:

New England Bioassay,
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive
Manchester, CT 06042

NJ Laboratory Certification Number: CT405

SUMMARY

Client: PSEG Nuclear LLC

Project Name: Salem Generating Station

Discharge Serial Number: 485 (#1, #2, #3, & #4 samples)

NJPDES Number: NJ 0005622

Job Number: 05.0044750.00

Test Number: Influent Acute Toxicity Test: 13-2001
Effluent Acute Toxicity Test: 13-2002

Test Material: Influent
[C33-3956, C33-3972, C33-3984, and C33-3996]

Final Effluent - DSN 485
[C33-3957, C33-3971, C33-3983, and C33-3997]

Sample Dates: 16-17, 17-18, 18-19, and 19-20 September 2013

Test Dates: 18-22 September 2013

Test Duration: 96-h Static Renewal

Test Methods: NJDEP Regulations Governing the Certification of Laboratories and Environmental Measurements, 1996 (N.J.A.C. 7:18).

Test Species: Sheepshead Minnow (*Cyprinodon variegatus*)

Source: Aquatic Biosystems, Inc.
Age: 12 days old

Receiving Water: Delaware River

Dilution Water: Artificial Saltwater

Results: Sheepshead Minnow: *Cyprinodon variegatus*

Influent Acute Toxicity Test

24-h LC₅₀: > 100% influent
48-h LC₅₀: > 100% influent
72-h LC₅₀: > 100% influent
96-h LC₅₀: > 100% influent

Effluent Acute Toxicity Test

24-h LC₅₀: > 100% effluent
48-h LC₅₀: > 100% effluent
72-h LC₅₀: > 100% effluent
96-h LC₅₀: > 100% effluent

**SEPTEMBER 2013
ACUTE TOXICITY TEST REPORT**

PSEG - Nuclear LLC
Salem Generating Station
Permit No. NJ 0005622
DSN 485

15 October 2013

INTRODUCTION

This report contains results of 96-h static-renewal toxicity tests with sheepshead minnows (*Cyprinodon variegatus*) initiated during September 2013. Acute toxicity testing was performed using four sets of 24-h composite effluent or influent samples collected during 16-20 September 2013 from the Salem Generating Station of PSEG Nuclear LLC in Lower Alloways Creek, New Jersey. The acute toxicity tests were conducted by exposing immature *C. variegatus* to the effluent or influent samples for a period of 96 h (test dates: 18-22 September 2013). All toxicity test work reported here was performed at New England Bioassay (NEB) in Manchester, CT for PSEG.

MATERIALS AND METHODS

Sample Collection and Handling

Four 24-h composite samples of final effluent were collected during 16-20 September 2013 from discharge outfall 485 at PSEG's Salem Generating Station in Lower Alloways Creek, NJ. Concurrent with the effluent collection, four 24-h composite samples of influent were also collected. Samples were collected by PSEG LTS staff. Samples for acute toxicity testing (Table 1) were delivered to NEB via commercial overnight courier service or by PSEG LTS personnel. Sample receipt dates were 18, 19, 20, and 21 September 2013. Copies of chain of custody documentation are in Appendix A.

TABLE 1. DESCRIPTION OF INFLUENT AND EFFLUENT SAMPLES FROM THE SALEM GENERATING FACILITY COLLECTED BY PSEG-LTS STAFF DURING SEPTEMBER 2013 FOR STATIC-RENEWAL ACUTE TOXICITY TESTS

Sample Description	Sample Date (time)	Sample Type	NEB ID Nos.
<u>EFFLUENT SAMPLES</u>			
Final Effluent #1 (DSN 485)	9/16-17/13 (1200-1200 h)	24-h Composite	C33-3957
Final Effluent #2 (DSN 485)	9/17-18/13 (1200-1200 h)	24-h Composite	C33-3971
Final Effluent #3 (DSN 485)	9/18-19/13 (1200-1200 h)	24-h Composite	C33-3983
Final Effluent #4 (DSN 485)	9/19-20/13 (1200-1200 h)	24-h Composite	C33-3997
<u>INFLUENT SAMPLES</u>			
Influent #1 (485)	9/16-17/13 (1200-1200 h)	24-h Composite	C33-3956
Influent #2 (485)	9/17-18/13 (1200-1200 h)	24-h Composite	C33-3972
Influent #3 (485)	9/18-19/13 (1200-1200 h)	24-h Composite	C33-3984
Influent #4 (485)	9/19-20/13 (1200-1200 h)	24-h Composite	C33-3996

Standard wet chemistry analyses [pH, dissolved oxygen, specific conductivity, salinity, total residual chlorine (TRC), hardness and alkalinity] were performed on influent and effluent samples upon receipt at NEB (Table 2). TRC was measured by using a Fisher CL Titrimeter (Model 397). Salinity of influent and effluent samples ranged from 8 to 9 parts per thousand (ppt). Salinity was adjusted to 25 ± 1 ppt by addition of Instant Ocean artificial sea salts before use in testing. After salting, the pH of the influent and effluent samples ranged from 7.7 to 8.1; no pH adjustments with 3 N hydrochloric acid were required. Samples were not dechlorinated before use in testing.

Test Organisms

Test organisms used in acute toxicity testing were sheepshead minnows, *Cyprinodon variegatus*, obtained from a commercial supplier (Aquatic Biosystems, Fort Collins, CO). Sheepshead minnows (age: 12 days old at test initiation) were acclimated upon receipt to artificial saltwater at a salinity of 25 ± 2 ppt and a temperature of $20^\circ \pm 2^\circ\text{C}$ until test initiation. Organisms were healthy and free from disease before use in testing. Fish behavior was observed and recorded during testing; raw data sheets are provided in Appendix A.

Test Methods

Acute test procedures were performed in accordance with the NJDEP document titled "Regulations Governing the Certification of Laboratories and Environmental Measurements" (N.J.A.C. 7:18, 1996, 2003). Sheepshead minnow acute toxicity tests were initiated on 18 September 2013 (Test Day 0) with samples (effluent or influent) collected during 16-17 September 2013. Tests were renewed for the next three days (Test Days 1, 2, and 3) with samples collected during 17-18 September, 18-19 September, and 19-20 September 2013.

Sheepshead minnows were exposed to nine test concentrations (6.25, 12.5, 25, 50, 60, 70, 80, 90, and 100% effluent or influent) plus an artificial saltwater (ASW) control. The ASW was prepared by adding Instant Ocean artificial sea salts (Aquarium Systems, Mentor, Ohio) to Milli-Q prepared deionized water to produce a salinity of 25 ± 1 ppt. The ASW was stored in a carboy and aerated before use in testing.

TABLE 2. INITIAL WET CHEMISTRY RESULTS FOR FINAL EFFLUENT AND INFLUENT SAMPLES COLLECTED FROM THE SALEM GENERATING STATION IN LOWER ALLOWAYS CREEK, NJ DURING SEPTEMBER 2013

Analysis Performed	Salem Generating Station Effluent			
	#1	#2	#3	#4
Dissolved oxygen (mg/L)	9.1	9.0	8.3	8.3
Temperature (°C)	1.6	2.2	3.0	0.2
pH (SU)	7.9	7.2	7.7	7.8
Sp. Conductivity (µmhos/cm)	13980	17110	15500	14830
Salinity (ppt)	8	9	8	9
TRC (mg/L) (Amperometric method)	< 0.05	< 0.05	< 0.05	< 0.05
Hardness (mg/L as CaCO ₃)	1300	1800	1800	1700
Alkalinity (mg/L as CaCO ₃)	70	65	70	65
Ammonia, as N (mg/L)*	<0.100	<0.100	<0.100	<0.100

Analysis Performed	Salem Generating Station Influent			
	#1	#2	#3	#4
Dissolved oxygen (mg/L)	8.6	8.8	8.0	7.8
Temperature (°C)	2.6	2.7	2.4	0.9
pH (SU)	7.9	7.3	7.8	7.9
Sp. Conductivity (µmhos/cm)	14030	16930	15700	14940
Salinity (ppt)	8	8	8	9
TRC (mg/L) (Amperometric method)	< 0.05	< 0.05	< 0.05	< 0.05
Hardness (mg/L as CaCO ₃)	1600	1800	1700	1700
Alkalinity (mg/L as CaCO ₃)	65	65	75	70
Ammonia, as N (mg/L)*	<0.100	<0.100	<0.100	<0.100

*Ammonia analyses performed by LTS.

Sheepshead minnow tests contained 10 animals per replicate with two replicates per test concentration, including the control. Test volume per replicate was 500 mL and test solution depth was approximately 6.2 cm in each test chamber. Mean test temperatures and individual temperature readings were $20^{\circ} \pm 2^{\circ}\text{C}$. Effluent and influent salinity was 25 ± 1 ppt. Aeration was not required during the 96-h tests. Reference toxicant tests using sodium dodecyl sulfate (SDS) are routinely performed with sheepshead minnows obtained from Aquatic Biosystems, Inc. to monitor organism sensitivity.

Statistical Analysis

Survival data for fish tests were analyzed for acute adverse effects (death) by determining daily LC_{50} values. The LC_{50} is a statistically-estimated effluent concentration which is lethal to 50% of test organisms at time of observation. When adequate mortality data were available, LC_{50} values were determined by using computer packages based on U.S. EPA's 1993 acute guidance manual.

RESULTS

Results of 96-h static-renewal acute toxicity tests indicated that Salem effluent and influent samples collected during 16-20 September 2013 were not acutely toxic to sheepshead minnows. The 96-h LC_{50} values for final effluent and influent were $> 100\%$ sample (Table 3). Survival of minnows exposed to the 6.25% to 100% effluent concentrations was $\geq 95\%$ at 96 h (Table 4). The influent samples collected concurrently with the effluent samples exhibited no significant acute toxicity to sheepshead minnows. Survival of sheepshead minnows was 100% in the 6.25% to 100% influent concentrations at 96 h (Table 4).

Survival of *C. variegatus* was 100% in the artificial saltwater controls at test completion for both the effluent and influent tests. Surviving organisms appeared healthy and were swimming normally in all concentrations for the test duration. Raw toxicity data sheets and printouts for statistical analyses of the acute tests are in Appendix A.

TABLE 3. RESULTS OF ACUTE TOXICITY TESTS PERFORMED ON SALEM GENERATING STATION EFFLUENT AND INFLUENT SAMPLES

Test Species	Test ID No.	Test Day	LC ₅₀ (% effluent)	95% Confidence Limits
<u>Acute Tests</u>			<u>Test Dates: 18-22 September 2013</u>	
<u>Final Effluent</u>				
<i>C. variegatus</i>	13-2002	24 h	> 100 ^a	N/A ^b
		48 h	> 100	N/A
		72 h	> 100	N/A
		96 h	> 100	N/A
<u>Influent</u>				
<i>C. variegatus</i>	13-2001	24 h	> 100	N/A
		48 h	> 100	N/A
		72 h	> 100	N/A
		96 h	> 100	N/A

^a LC₅₀ values for test days 1 through 4 were determined by observation.

^b N/A: Not applicable.

TABLE 4. SURVIVAL RESULTS FOR 96-H STATIC-RENEWAL ACUTE TOXICITY TESTS WITH FINAL EFFLUENT AND INFLUENT SAMPLES COLLECTED DURING 16-20 SEPTEMBER 2013 FROM THE SALEM GENERATING STATION WITH *Cyprinodon variegatus* (TEST DATES: 18-22 SEPTEMBER 2013)

Test Concentration (% Effluent)	Daily Survival (%) ^a			
	1	2	3	4
<u>Final Effluent</u>				
ASW CONTROL ^b (ID NO. 13-2002)	100 (0)	100 (0)	100 (0)	100 (0)
6.25	100 (0)	100 (0)	100 (0)	100 (0)
12.5	100 (0)	100 (0)	95 (1)	95 (1)
25	100 (0)	100 (0)	100 (0)	100 (0)
50	100 (0)	100 (0)	100 (0)	100 (0)
60	100 (0)	100 (0)	100 (0)	100 (0)
70	100 (0)	100 (0)	100 (0)	100 (0)
80	100 (0)	100 (0)	100 (0)	100 (0)
90	100 (0)	100 (0)	100 (0)	100 (0)
100	100 (0)	100 (0)	100 (0)	100 (0)
<u>Influent</u>				
ASW CONTROL ^b (ID NO. 13-2001)	100 (0)	100 (0)	100 (0)	100 (0)
6.25	100 (0)	100 (0)	100 (0)	100 (0)
12.5	100 (0)	100 (0)	100 (0)	100 (0)
25	100 (0)	100 (0)	100 (0)	100 (0)
50	100 (0)	100 (0)	100 (0)	100 (0)
60	100 (0)	100 (0)	100 (0)	100 (0)
70	100 (0)	100 (0)	100 (0)	100 (0)
80	100 (0)	100 (0)	100 (0)	100 (0)
90	100 (0)	100 (0)	100 (0)	100 (0)
100	100 (0)	100 (0)	100 (0)	100 (0)

^a Number outside parentheses represents daily *C. variegatus* survival as a percentage; number inside parentheses represents number of organisms dead out of 20.

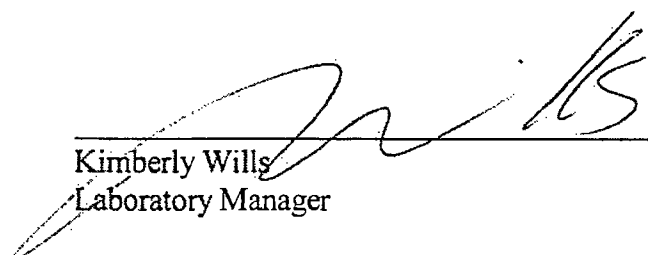
^b ASW Control: Laboratory-prepared artificial saltwater.

Reference Toxicant Testing

Reference toxicant tests using sodium dodecyl sulfate (SDS) are routinely conducted with sheepshead minnows obtained from Aquatic Biosystems (AB) to monitor organism sensitivity; sheepshead minnows used in the influent and effluent toxicity tests were obtained from AB. For the September 2013 testing with AB-purchased fish, 96-h survival data were used to calculate a LC_{50} value for the purchased *C. variegatus*. Per NJDEP, the test was conducted at $20^{\circ} \pm 1^{\circ}C$. The 96-h LC_{50} was estimated at 8.7 mg/L SDS. Survival of control fish was 100% at test completion (96 h). Copies of statistical summary sheets for SDS for AB sheepshead minnows are in Appendix A.

CERTIFICATION

I certify that the toxicity test data presented in this report were obtained under my direction or supervision in accordance with protocols of the New Jersey Department of Environmental Protection. The information is, to the best of my knowledge and belief, true, accurate, and complete.



Kimberly Wills
Laboratory Manager



Date

APPENDIX A

**SEPTEMBER 2013 TESTING
(TEST DATES: 18-22 SEPTEMBER 2013)**

**CHAIN OF CUSTODY FORMS,
COPIES OF RAW DATA FORMS, AND
STATISTICAL PRINTOUTS FOR
ACUTE EFFLUENT AND INFLUENT TOXICITY TESTS
WITH *Cyprinodon variegatus***

LABORATORY & TESTING SERVICES

ANALYSIS REPORT

STATION : Salem Generating Station

PARAMETER	SAMPLING POINT	SAMPLE NO.	LAB SAMPLE NO.	DATE SAMPLED	RESULT	DATE	TIME	ANALYSIS UNITS	BY	DILUTION	RL
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Influent # 1	ANA13000544	09/17/2013	<0.100	09/24/2013	1055	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Effluent # 1	ANA13000545	09/17/2013	<0.100	09/24/2013	1105	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Influent # 2	ANA13000546	09/18/2013	<0.100	09/24/2013	1106	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Effluent # 2	ANA13000547	09/18/2013	<0.100	09/24/2013	1108	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Influent # 3	ANA13000548	09/19/2013	<0.100	09/24/2013	1109	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Effluent # 3	ANA13000549	09/19/2013	<0.100	09/24/2013	1111	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Influent # 4	ANA13000550	09/20/2013	<0.100	09/24/2013	1122	mg/L	SAF	1	0.100
Ammonia-N	Aqueous Sample, NJPDES Bioassay Sept. 2013	Effluent # 4	ANA13000551	09/20/2013	<0.100	09/24/2013	1123	mg/L	SAF	1	0.100

Method Numbers: Ammonia: SM4500NH3 B&D

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