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 NJPDES 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

### 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.

Lew

John F. Perry Site Vice President – Salem

Sworn and subscribed before me this 25ª day of October 2013 NANCY M. GUNNING State of New Jerse missionExpires September 22, 2014

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:					
NJ0005622	MonthDayYear912013To9302013	FACA – SW Outfall FACA					
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> PSEG NUCLEAR LLC SALEM GENERATING STATION ALLOWAY CREEK NECK RD HANCOCKS BRIDGE, NJ 08038	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038					
<b>REGION / COUNTY: Southern / Salem County</b>							
CHECK IF APPLICABLE	: No Discharge this Monitoring Period Monitoring	g Report Comments Attached					

CHECK IF APPLICABLE: \_\_\_\_ No Discharge this Monitoring Period

**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	<u>N/A</u>				
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTIO	GRADE AND REGISTRY NUMBER (IF APPLICABLE)				
_ Joh 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 person designated by that person shall sign the following certified		s and hire personnel	, a person having that responsibility o		
I certify under penalty of law and in accordance with N.J.S.A. 58:	OA-6F(5) that I have reviewed the attached disc	charge monitoring re	ports.		
N/A	N/A	N/A	N/A		

Surface Water	Discharg	je Monitori	ng Repor	t	· · · · · · · · · · · · · · · · · · ·						PI 46814
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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".

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#### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622		<b>FACB – SW Outfall FACB</b>
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
	<b>REGION / COUNTY: Southern /</b>	Salem County
CHECK IF APPLICABLE:	No Discharge this Monitoring Period	Monitoring Report Comments Attached

<u>WHO MUST SIGN</u> 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	<u>N/A</u>				
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)				
Joh 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 expenditu person designated by that person shall sign the following certification:	res and hire personne	l, a person having that responsibility of			
I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached d	ischarge monitoring re	eports.			

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

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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".

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:						
NJ0005622		<b>EACC – SW Outfall FACC</b>						
<b>PERMITTEE:</b> 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	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038						
<b>REGION / COUNTY: Southern / Salem County</b>								
CHECK IF APPLICABLE:	No Discharge this Monitoring Period	Monitoring Report Comments Attached						
WHO MUST SIGN The highe	est ranking official having day-to-day managerial and oper	ational responsibilities for the discharging facility shall sign						

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John F. Perry, Site Vice President - Salem	<u>N/A</u>						
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.

NAMI

<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
E AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

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PERMIT NUMBER:	MON	ITORED LOCA	TION:	MONITOR	ING PERIOD:	FACILITY NA	AME:				
NJ0005622	FAC	C SW Outfall FA	ACC	9/1/2013 T	O 9/30/2013	PSEG NUCL	EAR LLC SAL	EM GEN	ERA	ΓΙΝ	
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### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To9302013	
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> PSEG NUCLEAR LLC SALEM GENERATING STATION ALLOWAY CREEK NECK RD HANCOCKS BRIDGE, NJ 08038	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
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CHECK IF APPLICABLE:	No Discharge this Monitoring Period	Monitoring Report Comments Attached

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John F. Perry, Site Vice Pr		<u>N/A</u>				
NAME AND TITLE OF PRINCIPAL EXECUTIV	GRADE AND REGISTRY NUMBER (IF APPLICAB					
_ Cot t. Per	m	10/24/2013	856-339-3463			
SIGNATURE OF PRINCIPAL EXECUTIVE OF	FICED, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE	AREA CODE/PHONE NUMBER			
*For a local agency where the highest-ranki person designated by that person shall sign	ng operator does not have the ability to authorize capital expenditu the following certification:	ires and hire personnel,	a person having that responsibility or			
I certify under penalty of law and in accordance	nce with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached d	lischarge monitoring rep	ports.			
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>			
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER			

PERMIT NUMBER:
NJ0005622

MONITORED LOCATION: 048C SW Outfall 48C

MONITORING PERIOD:

9/1/2013 TO 9/30/2013

FACILITY NAME:

PSEG NUCLEAR LLC SALEM GENERATIN

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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".

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To9302013	481A – SW Outfall 481A
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> PSEG NUCLEAR LLC SALEM GENERATING STATION ALLOWAY CREEK NECK RD HANCOCKS BRIDGE, NJ 08038	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
CHECK IF APPLICABLE	REGION / COUNTY: Southern / Salem	County g 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	<u>N/A</u>					
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)					
Joh 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 querey where the highest repline operator does not have the ghility to gutherize capital expenditur	ere and hise personnel	a narrow having that responsibility				

\*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.

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

PERMIT NUMBER:	MONITORED LOCATION:			NONITOR	NITORING PERIOD: FACILITY NAME:						
NJ0005622	481A	SW Outfall 481	IA S	9/1/2013 TO 9/30/2013 PSEG NUCLEAR LLC SALEM GENERATIN					ΓΙΝ		
PARAMETER	$\square$	QUANTITY (	OR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	444	459		*****	*****	*****		0	1/Day	CALCTP
50050 1 Effluent Gross Value	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX	MGD	********* 10. 1489 g	n o set n e Reserve <b>Hereine</b> Reserve <del>Hereine</del>	*****	******	ار به ار روستان ا	1/Day	CALCTD
	QL	****** (1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	an ana <b>karat</b> pir		2995 <b>*****</b> 1992 963	28	*****			an marting alpha and a star	Angel - Angel
рН	SAMPLE MEASUREMENT	*****	*****		7.5	*****	7.7		0	week	GRAB
00400 1 Effluent Gross Value	PERMIT REQUIREMENT	******	*****	******	6.0 Martine 01DAMN	ана селото и Маласа <b>Жажажа</b> ала селото на селото Маласа	9.0 01DAMX	SU	- #1 <sup>1</sup>	1/Week	GRAB
	QL	*****	*****	]	***** Weighter	2.1.200 - 100 <b>*****</b> (\$1 <sup>0</sup> (\$100)	1. 1. 1. 1. 1. <b>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1</b>	L	29 H*	and the factor	and the second secon
рН	SAMPLE MEASUREMENT	***	***		7.7	*****	8.0		0	lweek	GRAB
00400 7 Intake From Stream	PERMIT REQUIREMENT	*****	*****	******	REPORT 01DAMN	n ny sarahan <mark>a amin'ny</mark> tanàna sa	REPORT 01DAMX	SU	land ya war oto	1/Week	References of the second se
	QL .	****	1		*****	*****	*****		$\omega_0^{\prime} < \varepsilon_1 > \varepsilon_2$	n an	
LC50 Statre 96hr Acu Cyprinodon	SAMPLE MEASUREMENT	***	*****		CODE = N	****	****		0	CODE=N	CODE = N
TAN6A 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	2010	*****	50 01DAMN	na sente a s	na an state a s	%EFFL		2/Year	COMPOS
	QL	****	1	]	*****	11.4 min - <b>******</b> ( <sup>11.01</sup> M)	14 <sup>10</sup> *****	L		and a construction of the second	
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	***		****	CODE=N	CODE=N		0	CODE=N	CODE=N
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	алан алар алар алар алар алар алар алар	than the state of	*****	*****	0.3 01MOAV	0.5 01DAMX	MG/L	en aller Chierge		Baller GRAB
Option 1	QL <sup>isk</sup>	*****	1. No	]	*****	*****	AAAAAA 19 <sup>20</sup> - Lee Olympic Agente - Could of the P		$\left\  \delta \xi \right\ _{1}^{2}$	nan - Kanadan in	and the second s
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	****		*****	2011	20.1		0	3/week	GRAB
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	******	a a general talego a tale Manageria (19	*****	*****		0.2 01DAMX	MG/L		3/Week	GRAB
Option 2	QL	*****	*****	]	*****	********	*****				andietan 1920 - 1

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.

PI 46814

Surface Water	Discharç	ge Monitor	ing Repor	t							PI 46814
PERMIT NUMBER:	MONITORED LOCATION:			MONITORING PERIOD: FACILITY NAME:							
NJ0005622	481A	SW Outfall 48	1A	9/1/2013 T	O 9/30/2013	PSEG NUCL	ΓΙΝ				
PARAMETER	$\mathbf{>}$	QUANTITY (	OR LOADING	UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC	SAMPLE MEASUREMENT	****	*****		*****	32.2	37.0		0	1/20-1	CONTIN
00010 1 Effluent Gross Value	PERMIT REQUIREMENT		*****	in a <b>seco</b> tion of the	REPORT REPOR 01MOAV 01DAM		DEG.C		1/Day	CONTIN	
		an 15 <b>****</b>	1 ****** 1.		2019 - <b>*****</b> 24.216.21	1997 - 19	*****		ar an <sup>27</sup>	an a	n an
Lab Certification #	SAMPLE MEASUREMENT	17327	17451		PA166						
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Sate	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.

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To9302013	482A – SW Outfall 482A
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> PSEG NUCLEAR LLC SALEM GENERATING STATION ALLOWAY CREEK NECK RD HANCOCKS BRIDGE, NJ 08038	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
CHECK IF APPLICABLE	REGION / COUNTY: Southern / Salem :	County 2 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	<u>N/A</u>					
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)					
Jol 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 expenditure, person designated by that person shall sign the following certification:	s and mre personnel, i	i person naving mai responsionny o				
I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have reviewed the attached disc	charge monitoring repo	orts.				

<u>N/A</u>	<u>N/Λ</u>	<u>N/A</u>	<u>N/A</u>
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

•

PERMIT NUMBER:	MONITORED LOCATION:		MONITORING PERIOD: FACILITY NAME:							• ••••••••••••••••••••••••••••••••••••	
NJ0005622	482A	SW Outfall 482	2A	9/1/2013 TO 9/30/2013 PSEG NUCLEAR LLC SALEM GENERATIN				ΓΙΝ			
PARAMETER	$\square$	QUANTITY (	DR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	417	441		*****	*****	*****		0	1Doy	CALCTD
50050 1 Effluent Gross Value	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX	MGD			*****	*****		1/Day 1.	CALCTD
	QL	*****	*****		*****	*****	*****		<u> </u>	es sol and the second second	Service Carl
рН	SAMPLE MEASUREMENT	****	*****		7.6	*****	7.7		0	luxek	GRAB
00400 1 Effluent Gross Value	PERMIT REQUIREMENT	****	*****	*****	6.0 01DAMN	sa St V2 (12) (12) (12) V2 (12) (12) (12) (12) (12)	9.0 01DAMX	SU	- 10 - 10	* 1/Week	Salar GRAB
	QL	*****	*****		*****	*****	AAAAAA Dif Diggi Karataa		· .	and the set of the set of the set	and the second
рH	SAMPLE MEASUREMENT	*****	*****		ח.ת	***	8.0		0	lusek	GRAB
00400 7 Intake From Stream	PERMIT REQUIREMENT	*****	****	*****	REPORT 01DAMN	nagen a sain sain sain sa na a tri <b>na na na na na</b> g <b>in</b> ga sta	REPORT 01DAMX	SU		1/Week	GRAB
	QL	*****	*****		*****	*****	*****		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Latte Barnetar	A DAY STOLEN
LC50 Statre 96hr Acu Cyprinodon	SAMPLE MEASUREMENT	*****	*****		CODE=N	*****	*****		0	CODE=N	CODE=N
TAN6A 1 Effluent Gross Value	PERMIT REQUIREMENT	<sup>ан</sup> жа <b>жажа</b> На 1977		****	50 01DAMN	an a	1.5.1 ( <b>******</b>	%EFFL	ir songe með gann	2/Year	ant <sub>E</sub> COMPOS
	QL	*****			****	*****	****			e generation de Miller de la companya de la company La companya de la comp	an ann an an an Anna Angairtí
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	*****		****	CODE=N	CODE=N		0	CODE=N	CODE = N
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	14 14 - 14 ( <b>*****</b>	*****	******	*****	0.3 01MOAV	0.5 01DAMX	MG/L		3/Week	GRAB Second
Option 1	QL	****	<b>*****</b>		*****	****	****		$+ (k_{\rm P}^{\rm s} k_{\rm P}^{\rm s})$	and the states	Realization and the second
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	****		*****	٢.0 ٢	20.1		0	3/week	GRAB
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	*****		*****	*****	REPORT 01MOAV	0.2 01DAMX	MG/L	n ng san	3/Week	
Option 2	QL	**************************************	*****		*****	*****	***		; 11.978-	and the second	and the second

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.

PI 46814

PERMIT NUMBER:			MONITORING PERIOD: 9/1/2013 TO 9/30/2013		FACILITY NA						
NJ0005622					PSEG NUCL						
PARAMETER	$\bigtriangledown$	QUANTITY C	DR LOADING	UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Temperature, oC 00010 1 Effluent Gross Value	SAMPLÉ MEASUREMENT	*****	*****		*****	31.9	37.3		٥	1Doy	CONTIN
	PERMIT REQUIREMENT	******	*****	*****	*****	REPORT 01MOAV	REPORT 01DAMX	DEG.C	star nationalis Ministrationalis	1/Day	
	<sup>a</sup> QL	*****	*****		*****	*****			and 1	an a	an taon ang sang sang sang sang sang sang sang
Lab Certification #	SAMPLE MEASUREMENT	17321	17451		PA 166						
99999 99 Lab	PERMIT REQUIREMENT	REPORT	REPORT Lab #		REPORT	REPORT	REPORT Lab #			Not Applic	NOT AP
_	QL ·	1 42 1 4 <b>*****</b> **	* *****	· 1	*****	*****	*****		ľ.		

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.

PI 46814

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To93020	ar 113 483A – SW Outfall 483A
<b>PERMITTEE:</b> 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	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
	<b>REGION / COUNTY: Southern / S</b>	Salem County
CHECK IF APPLICABLE	: 🔲 No Discharge this Monitoring Period	<b>Monitoring Report Comments Attached</b>

**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	<u>N/A</u>					
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REG	ISTRY 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				
*C - Lead - de la Lichert de la constitue de chilite de la de la constitue de la const		a second s				

\*For a local agency where the highest-ranking overator 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.

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

PERMIT	NUMBER:
NJ00056	522

MONITORED LOCATION: 483A SW Outfall 483A MONITORING PERIOD: 9/1/2013 TO 9/30/2013 FACILITY NAME:

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER	$\searrow$	QUANTITY C	DR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	440	456		*****	****	*****		0	1/Day	CALCTD
50050 1 Effluent Gross Value	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX	MGD	*****		ан сулана) Салар Салар (1994) Салар (1994)	*****	Sec. 1987 Sec. 1988 S	1/Day	CALCTD
	QL	*****	*****		****	at 100 and <b>****</b> ** #42020	**************************************	_	an a	and a straight of the second s	and Maria Barray and Anna an
рH	SAMPLE MEASUREMENT	*****	*****		7.4	*****	7.7		0	1/week	GANB
00400 1 Effluent Gross Value	PERMIT REQUIREMENT		* *****	*****	6.0 01DAMN		9.0 01DAMX	SU	i niji	1/Week	GRAB
	QL	*****	*****		*****	an an ann <b>Anna Anna</b> Anna Anna Anna Anna Anna Anna	- 2011 - A - <b>会会会会会</b> (1999) (1		WY Yerre	gar appendies to the second	Alfondo Harrison (1914) Alfondo Harrison (1914)
рН	SAMPLE MEASUREMENT	*****	*****		ח.ח	*****	8.0		0	Jueek	GRAB
00400 7 Intake From Stream	PERMIT REQUIREMENT	、	алан <b>жарара</b> ос <sup>1</sup> 16. 1971 — Но <b>жарара</b> ос <sup>1</sup> 16.	*****	REPORT 01DAMN	****	REPORT 01DAMX	su	e kije Dre	1/Week	GRAB
	QL	***	*****		*****	1	1.17		mps of 1	and the second second	an a
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	****		*****	CODE=N	CODE =N		0	CODE=N	CODE=N
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT			******	11 <sup>2</sup> - 12 <b>84888</b> <sup>201</sup> 221	0.3 01MOAV	0.5 01DAMX	MG/L	, 20 10	3/Week	Setting GRAB
Option 1	QL	*****	****		*****	******	1998 - 3. <b>*****</b> Jame Par		170.590	C. C. C. B. B. B. W. C. C. C. B.	an an ann an Airte an Airte an Airte
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	*****		****	K0.1	20.1		0	3/week	GRAB
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT		an an Bearlann an Dagair <b>a≭aaka</b> an Bart	*****	611 <b>*****</b> *	REPORT 01MOAV	0,2 01DAMX	MG/L	a i charala	3/Week	GRAB State
Option 2	QL	*****	*****	F	*****	****	*****			sult. "" - Line Minde	and the segment of the second of the second s
Temperature, oC	SAMPLE MEASUREMENT	***	*****		*****	31.9	36.0		0	1/Day	CONTIN
00010 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	*****	*****	*****	REPORT 01MOAV	REPORT 01DAMX	DEG.C	8996.0 a	y and <b>1/Day</b> ( Lease	CONTIN
	QL	*****	*****		*****	*****	*****			De la la page	$\left[ \left[ x - \left( \left[ \cos \phi \sin^2 \left( \frac{1}{2} + \cos^2 \phi \right] \right] + \left[ \cos^2 \phi \sin^2 \left( \frac{1}{2} + \cos^2 \phi \right] + \left[ \cos^2 \phi \sin^2 \phi \sin^2$

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.

PERMIT NUMBER: NJ0005622	MONITORED LOCATION: 483A SW Outfall 483A				FACILITY NAME: PSEG NUCLEAR LLC SALEM GENERATIN						
PARAMETER	$\square$	QUANTITY	OR LOADING	UNITS	S QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	17327	17451		PA166						
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #	1		Not Applic	NOT AP
	QL	*****	····	7	****	*****	*****			ي الما كي الم ما الما كي الم	procession and

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 Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To9302013	484A – SW Outfall 484A
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> 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	g 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	<u></u>	<u>N/A</u>					
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLIC						
Yoh F. Percy	10/24/2013	856-339-3463					
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER; AUTHORIZED AGENT, OR *LICENSED OPERATOR *For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditur person designated by that person shall sign the following certification:	<b>DATE</b> res and hire personnel,	AREA CODE/PHONE NUMBER a person having that responsibility o					
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.

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

484A SW Outfall 484A

PERMIT NUMBER:	_
NJ0005622	

MONITORED LOCATION: MOI

MONITORING PERIOD: FACILI

9/1/2013 TO 9/30/2013

FACILITY NAME:

PSEG NUCLEAR LLC SALEM GENERATIN

PARAMETER	$\searrow$	QUANTITY (	DR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	402	451		***	****	****		0	VDay	CALCTO
50050 1 Effluent Gross Value	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX	MGD	*****	na an an Anna Anna Anna Anna Anna Anna		*****	in status Maria a La gantar	1/Day mention	Maria CALCTD
	QL	****	*****		****	*****	*****		1.1.15	Contract of the second	Second second
рH	SAMPLE MEASUREMENT	****	*****		7.5	*****	7.8		0	Yweek	GRAB
00400 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	*****	***	6.0 01DAMN	*****	9.0 01DAMX	SU		ss <b>1/Week</b>	GRAB
	QL	******	*****		*****	*****	*****			and constants to possible	na shekara yaka
рН	SAMPLE MEASUREMENT	*****	*****		רי ת	*****	୫.୦		0	YWEEK	GRAB
00400 7 Intake From Stream	PERMIT REQUIREMENT	an an an ta <b>ta ta an an</b>	. Ву . [18]. <b>жажка</b> . сулса. По пос	****	REPORT 01DAMN	*****	REPORT 01DAMX	su	r y prista	1/Week	HAR GRAD
	QL	*****	****		*****	n an	- 1.00 - 1.00 <b>*****</b> 2.00 % a	ļ	199	an Maria and	$= \sum_{\substack{\alpha \in \mathcal{A}_{1}, \dots, \alpha \in \mathcal{A}_{n} \\ \alpha \in \mathcal{A}_{n}}} \left\  \mathcal{A}_{1} - \mathcal{A}_{1} - \mathcal{A}_{n} \right\ _{\mathcal{A}} + \left\  \mathcal{A}_{1} \mathcal{A}_{1} - \mathcal{A}_{n} \right\ _{\mathcal{A}}$
LC50 Statre 96hr Acu Cyprinodon	SAMPLE MEASUREMENT	*****	*****		CODE= N	*****	****		0	CODE=N	CODETN
TAN6A 1 Effluent Gross Value	PERMIT REQUIREMENT	an a	ng 9° <b>*****</b>	*****	50 01DAMN	******	*****	%EFFL	98 194 194	2/Year	Par COMPOS
	QL	*****	****		****	*****	1997 - <b>*****</b> 2007		1.58	anger Marine	$\sum_{i=1}^{l_{\mathrm{eff}}} (\partial_{i_{\mathrm{eff}}}^{i_{\mathrm{eff}}} \partial_{i_{\mathrm{eff}}}^{i_{\mathrm{eff}}}) = \sum_{i=1}^{l_{\mathrm{eff}}} (\partial_{i_{\mathrm{eff}}}^{i_{\mathrm{eff}}} \partial_{i_{\mathrm{eff}}}^{i_{\mathrm{eff}}} \partial_{i_{e$
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	*****		****	CODE=H	CODE = N		0	CODE=N	CODE=N
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	in de la constance de la const La constance de la constance de	*****	****** ******	0.3 01MOAV	0.5 01DAMX	MG/L	A 1 4 1933 - 191	3/Weeks	GRAB
Option 1	QL	*****	*****		*****	. 1997 1998 <b>998 4988 488 48</b> - 1997 (1999)	1.14		an ang tig	- Chille Berger	Martine Constant
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	*****		****	20.1	20.1		0	3/week	GAAB
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	*****	******		REPORT 01MOAV	0.2 01DAMX	MG/L	n tinta e se refer	3/Week #	GRAB
Option 2	QL	*****	*****		*****		*****		۶.,	all the main in the constant	alf film the second second second second

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.

PERMIT NUMBER:	MON	ITORED LOCA	TION: I	MONITORING PERIOD:		FACILITY NAME:							
NJ0005622	484A	SW Outfall 484	4A 9	9/1/2013 TO 9/30/2013		PSEG NUCL	PSEG NUCLEAR LLC SALEM GENERATIN						
PARAMETER		QUANTITY (	OR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE		
Temperature, oC	SAMPLE MEASUREMENT	*****	*****		*****	32.9	35.7		0	11004	CONTIN		
00010 1 Effluent Gross Value	PERMIT REQUIREMENT	******	*****	*****	*****	REPORT 01MOAV	REPORT 01DAMX	DEG.C	nang gan Ang gan	nte der <b>1/Day</b> (1986) Geschenden Station	CONTIN		
	QL	*****	*****		1 <b>*****</b> (3) (4)	2	<b>****</b>		1.00	يەلىمە يەرەپ ئەردىيە ي			
Lab Certification #	SAMPLE MEASUREMENT	17327	17451		PAILL								
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #		lana yayi Tana yayi	Not Applic			
	QL	*****	*****	1	*****	*****	*****			a santa ang ang	19 Andreas Anna Angele		

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 Submittal Form

NJPDES PERMIT	MONITORING PERIO	D	MONITORED LOCATION:
NJ0005622	MonthDayYearMonth912013To9	DayYear302013	485A – SW Outfall 485A
<b>PERMITTEE:</b> PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	LOCATION OF ACT PSEG NUCLEAR LLC SA GENERATING STATION ALLOWAY CREEK NECH HANCOCKS BRIDGE, NJ	LEM K RD	REPORT RECIPIENT: PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
CHECK IF APPLICABLE	5	Monitorinţ	County g 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	<u>N/A</u>				
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REG	ISTRY NUMBER (IF APPLICABLE)			
John F. Perrel	10/24/2013	856-339-3463			
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AVTHORIZED 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 expenditur- person designated by that person shall sign the following certification:	es and hire personnel, a	a person having that responsibility or			

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.

<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
	ALCINEATELIDE	D. CEP	ADEA CODE/BUONE NUMBER

PERMIT NUMBER:	MON	TORED LOCAT	TON: M	ONITOR	ING PERIOD:	FACILITY NA	ME:				
NJ0005622	485A	SW Outfall 485			O 9/30/2013		EAR LLC SALE	EM GENI	ERAT	- -IN	
PARAMETER	$\mathbf{\mathbf{X}}$	QUANTITY C	OR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	412	424		*****	*****	*****		0	VDay	CALCTD
50050–1 Effluent Gross Value	JPERMIT(2) REQUIREMENT		REPORT	MGD	alt - Carl - Car			******		en 1/Day The second se	CALCTD
	·····································	WAR STATES				allen (instation and instation)					MA GAT AND STATION
рН	SAMPLE MEASUREMENT	*****	*****		7.6	*****	7.8		0	1/week	GRAB
00400  1 Effluent Gross Value	PERMIT// REQUIREMENT	eren an de la companya de la company Reference de la companya de la company		******	6.0 100000000000000000000000000000000000			su		11/Week	GRAB (4)
	協調QL機能					AND ALL	到的爆制的计算机的作				
рН	SAMPLE MEASUREMENT	*****	*****		1,7	****	8.0		0	Week	GRAB
00400  7 Intake From Stream	RÉQUIREMENT			*****	REPORT 01DAMN		REPORT 01DAMX	รบ		1/Week	GRAB
·	QL			ļ		President to the first state of the second sta	We are an and a second second				
LC50 Statre 96hr Acu Cyprinodon	SAMPLE MEASUREMENT	*****	*****		710090	*****	****		0	2/year	compo
TAN6A 1 Effluent Gross Value		"自己也能是我的能力,我们是不是你的。" 化乙烯酸 化乙烯酸酸 化乙烯酸 化乙烯酸 化乙烯酸 化乙烯酸 化乙烯酸 化乙烯			50 01DAMN			%EFFL		2/Year.	COMPOS
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	*****	<u>21 ()::::::::::::::::::::::::::::::::::</u>		<u>, , , , , , , , , , , , , , , , , , , </u>	CODE = N	CODE=N		0	CODE=N	CODE = N
*CPOX_1 Effluent Gross Value	PERMIT- REQUIREMENT					10:3 14101MOAV-80		MG/L		ku 3/Week	國家國家的法律的代表
Option 1	QL	[] Welling Weiters and Stations		<u></u>	*****	New Martines		ų.			
Chlorine Produced Oxidants	SAMPLE MEASUREMEN	*****	*****		*****	20.1	20.1	_	0	3/week	GRAB
*CPOX_1 Effluent Gross Value	PERMIT REQUIREMENT	a water series and the series of	an ar si si an			REPORT	0,2 and 0 5, 15, 01DAMX	MG/L		3/WeeK	GRAB
Option 2	<b>CAL</b>	N WIND HARDS AND A STAT	the first the second states	(A)	<b>建碱加速加速加速</b>	a fire management to a fire	R THE MARKANN	ð)			建國家語名的

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.

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PERMIT NUMBER: NJ0005622	MONITORED LOCATION: 485A SW Outfall 485A			MONITORING PERIOD:FACILITY NAME:9/1/2013 TO 9/30/2013PSEG NUCLEAR LLO								
PARAMETER	$\triangleright$	QUANTITY (	DR LOADING	UNITS	UNITS QUALITY OR CONCENTRATION		UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE		
Temperature, oC	SAMPLE MEASUREMENT	****	*****		*****	32.3	35.3		0	1/Don	CONTIN	
00010 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	*****	*****		REPORT 01MOAV	REPORT 01DAMX	DEG.C	a sala A dinaka A dinaka	1/Day		
	QL	****	*****		*****	1. 1945. 12 <b>******</b> 6.874 + 7	****			A State R. S. Allinger P. S. S. S.	ni 1999an i	
Lab Certification #	SAMPLE MEASUREMENT	17327	17451		PA 166							
99999 99 Lab	PERMIT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #		angle (1997)	Not Applic	NOT AP	
	QL	*****	*****	-	*****	****	*****		an ba	allan in the state of the state	and the first second	

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.

PI 46814

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:							
NJ0005622	MonthDayYear912013To9302013	486A – SW Outfall 486A							
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> 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		<u>N/A</u>
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REG	SISTRY NUMBER (IF APPLICABLE)
Joh F. Perry	10/24/2013	856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICE <mark>R</mark> , 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 expenditur	es 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.

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

PERMIT NUMBER:	MONITORED LOCATION:			MONITOR	ING PERIOD:	FACILITY N	AME.			- <u></u>	PI 4681
NJ0005622	486A SW Outfall 486A 9/1/2013 TO 9/3		······································	PSEG NUCLEAR LLC SALEM GENERATIN							
PARAMETER	$\square$	QUANTITY (	DR LOADING	UNITS	QUALI	TY OR CONCENTR	ATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant	SAMPLE MEASUREMENT	414	434		*****	*****	*****		0	1)Day	CALCTI
50050  1 Effluent Gross Value	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT	MGD	a <b>*****</b>	*****		*****	an a		
		21 21 <b>34 3 3 3 3</b>	*****		*****	*****	*****			Ster Ster	Nak milita 👔 👔
РH	SAMPLE MEASUREMENT	***	****		7,5	*****	7.7		0	Yweek	GRAB
00400  1 Effluent Gross Value	PERMIT REQUIREMENT	1	any ants <b>ala</b> asa ajardi	···	6.0 01DAMN	Rich gang gang digu di Sirang d Rich gang di Sirang di	9.0 01DAMX	su	is jito ⊂n <sup>age</sup> ,	1/Week	GRAB
	QL	*****	****		*****	*****	**************************************		1.11	Salar Salar	An the Control of South
рН	SAMPLE MEASUREMENT	****	*****		ヿ゙゙ヿ	***	8,0		0	Jusek	GRAB
00400 7 Intake From Stream	PERMIT REQUIREMENT	****	*****	******	REPORT 011	Electronic Electronic States Address Address	REPORT 01DAMX	su	t, white	1/Week	GRAB
	QL	*****	*****		****	*****	****		4	e e antre le traditione	in a contract of the
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	****	*****		***	CODE=N	CODE=N		0	CODE=N	Code =n
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	*****	тараан <b>жажаж</b> аста	******	ал. <b>*****</b>	0.3 01MOAV	0,5	MG/L	- WELF	3/Week	GRAB
Option 1	QL	****	*****		· ****** · ·	<b>*****</b>	9 - 10 - 10 <b>* 88***</b> * 10 <sup>-</sup> - 10 - 10			and the second s	an a
Chlorine Produced Oxidants	SAMPLE MEASUREMENT	***	*****		*****	20.1	٢٥.١		0	3/week	GRAB
*CPOX 1 Effluent Gross Value	PERMIT REQUIREMENT	ан аларын аларын ****** - С. А	All	******	ter en en fer <b>*****</b> en eksenser	REPORT	0.2 01DAMX	MG/L	indar s -	3/Week	GRAB
Option 2	QL	****	*****	1-	· *****	12 <b></b>	16 graden (******		Contraction (Contraction)	$\sum_{i=1}^{n+1} \left( \sum_{i=1}^{n+1} \left( \sum_{i$	
Temperature, oC	SAMPLE MEASUREMENT	***	*****	_	*****	31.8	35.0		0	1/Day	CONTIN
00010  1 Effluent Gross Value	PERMIT REQUIREMENT	en de la companya de La companya de la comp	ан аландан <b>жазака</b> уг	******	**************************************	REPORT 01MOAV	REPORT 01DAMX	DEG.C	in sure	1/Day	
	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.

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PERMIT NUMBER:					ING PERIOD: FACILITY NAME:						
NJ0005622	486A	SW Outfall 48	5A	9/1/2013 TO 9/30/2013		PSEG NUCLEAR LLC SALEM GENERATIN					
PARAMETER		QUANTITY (	OR LOADING	UNITS	QUALI	TY OR CONCENT	RATION	UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	17327	17451		PA 166						
99999 99 Lab	: PERMIT- REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #		n den	Not Applic	NOT AP
	QL	*****	*****		*****	*****	*****			Second and	and a second

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PI 46814

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:				
NJ0005622	MonthDayYear912013To9302013	487B – SW Outfall 487B				
<b>PERMITTEE:</b> PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> 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				
CHECK IF APPLICABLE:	REGION / COUNTY: Southern / Salem	County ng 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		<u>N/A</u>
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REG	ISTRY NUMBER (IF APPLICABLE)
Clock F. Perel	10/24/2013	856-339-3463
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICEP, AUTHORIZED AGENT, OR *LICENSED OPERATOR	рате	AREA CODE/PHONE NUMBER
*For a local agency where the highest-ranking operator does not have the ability to authorize capital expenditure person designated by that person shall sign the following certification:	es and hire personnel, a	a person having that responsibility or

1 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.

NAM

<u>N/A</u>	N/A	<u>N/A</u>	<u>N/A</u>
E AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

### Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD	MONITORED LOCATION:
NJ0005622	MonthDayYear912013To9302013	489A – SW Outfall 489A
PERMITTEE: PSE&G NUCLEAR LLC 80 PARK PLAZA NEWARK, NJ 07101	<b>LOCATION OF ACTIVITY:</b> PSEG NUCLEAR LLC SALEM GENERATING STATION ALLOWAY CREEK NECK RD HANCOCKS BRIDGE, NJ 08038	<b>REPORT RECIPIENT:</b> PSEG NUCLEAR LLC PO BOX 236/N21 HANCOCKS BRIDGE, NJ 08038
	<b>REGION / COUNTY: Southern / Salem</b>	County
CHECK IF APPLICABLE:	No Discharge this Monitoring Period 🛛 💭 Monitori	ng Report Comments Attached

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John F. Perry, Site Vice President - Salem	<u> </u>		
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REG	SISTRY NUMBER (IF APPLICABLE)	
Joh F. Perer	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 expenditure person designated by that person shall sign the following certification:	es and hire personnel,	a person having that responsibility o	
Leartify under penalty of law and in accordance with N LS A $58:10A$ (F(5) that I have reviewed the attached dis	charge monitoring ren	orte	

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.

<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
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 FREQ, OF SAMPLE NO. PARAMETER QUANTITY OR LOADING UNITS QUALITY OR CONCENTRATION UNITS EΧ ANALYSIS TYPE Flow, In Conduit or SAMPLE 0.0112 0.0112 CALCTP ٥ 7month \*\*\*\*\* MEASUREMENT \*\*\*\*\* \*\*\*\*\* Thru Treatment Plant 50050 1 REPORT REPORT 1/Month CALCTD 34:35 PERMIT \*\*\*\*\* MGD \*\*\*\*\*\* \*\*\*\*\* 01MOAV \*\*\*\*\* REQUIREMENT 01DAMX an again Effluent Gross Value \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* QL ۰. 1.1.2 pН SAMPLE 7.5 7.5 \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*\* GRAB MEASUREMEN 0 IMONTH 9.0 GRAB 00400 1 6.0 1/Month PERMIT \*\*\*\*\* SU \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*\* REQUIREMENT 01DAMN 01DAMX 1777 y 1890. Effluent Gross Value بالاستقار المحاكم أكرا \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* QL Solids, Total SAMPLE 8 8 \*\*\*\*\*\* \*\*\*\*\* \*\*\*\*\*\* ٥ GRAB MEASUREMENT MONTH Suspended 00530 1 100 30 1/Month GRAB \*\*\*\*\* PERMIT MG/L \*\*\*\*\* \*\*\*\*\* REQUIREMENT 01DAMX St 01MOAV \*\*\*\*\*\* Effluent Gross Value $(1, 1)^{(1)}$ 1 Sugar day Sec. 11. \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* QL Petroleum SAMPLE 15 ۲5 \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* GRAB MONTH MEASUREMEN 0 Hydrocarbons 00551 1 10 15 1/Month GRAB PERMIT \*\*\*\*\*\* MG/L REQUIREMENT \*\*\*\*\* \*\*\*\*\* \*\*\*\*\* 01MOAV 01DAMX Effluent Gross Value • \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* QL Carbon, Tot Organic SAMPLE 7 7 1month \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\* 0 MEASUREMENT GRAB (TOC) 00680 1 REPORT 1/Month GRAB 50 20.54 PERMIT \*\*\*\*\* MG/L REQUIREMENT \*\*\*\*\*\* \*\*\*\*\* \*\*\*\*\* 01MOAV 01DAMX Effluent Gross Value \*\*\*\*\* بالأمريب بالمست \*\*\*\*\* \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\* QL 4.11 Lab Certification # SAMPLE 17327 174SI PAILO MEASUREMEN REPORT REPORT REPORT 99999 99 REPORT REPORT Not Applic NOT AP PERMIT REQUIREMENT Lab # Lab # Lab # Lab # Lab #

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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".

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QL

Lab

### 000NJPDES BIOMONITORING REPORT FORM - ACUTE TOXICITY

Permit No.: NJ[_0005622]	DSN []
Facility name: [ <u>PSEG Nuclear LLC - Sa</u> Facility address: [ <u>Artificial Island</u>	lem Generating Station ]
Lower Alloways Creek, I           Facility contact person:         Mr. Christopher	NJ 08038
[77 Batson Drive	ioassay] ; ; 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 (i Test o	f applicable): [5%] concentration: [12.5%]
Test organism: [ Sheepshead Minnow (common name)	]; [_]; [
Quality Control Summary:	
Control mortality: [0%]%	
Temperature maintained within 20° + 2°C?	Yes No
Dissolved oxygen levels always greater than 40% sa	turation? Yes X No
Two or more concentrations exhibit a trend deviation	n? <u>Yes</u> No <u>X</u>
Certification:	la jolula
Accuracy of report certified by:	Manager Date Date

#### 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 dil	lution water at the specified test temperature and test salinity:
[received in ASW at $25 \pm 2$ ppt; NEE	B dripped in fresh ASW at $25 \pm 2$ ppt until testing ]
Number of mortalities:	[0]%
Test organism age at start of test (day	s): [12 days ]

[ N/A ]%

Mysid and Cladoceran:	
Initial Number of Organisms:	[ N/A ]
Test organism age at start of test (days):	[N/A]
Culture water source:	[ <u>N/A</u> ]
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:

#### Test Design:

Number of effluent test concentrations:	[	9	]
Number of replicates/test concentration:	E	2	]
Number of test organisms/replicate:	[	10	]
Volume of liquid in test chambers (liters):	Į	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): (	ContinuousX	Intermittent				
Effluent sample type: 24-h	r. composite_X	6-hr composite	Grab	Other	_(Describe)[	]

Sample (	Sample Collection		a taken upon laboratory	Use in To	xicity Test
Beginning Date/Time	Ending Date/Time	D.O.	PH	Date(s)	Time(s) <sup>a</sup>
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

<sup>a</sup> - Indicates time test concentrations were mixed after warming to test temperature

Maximum sample holding time	(hours):	< 24 h	_1
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_X         If yes, specify the reagent used       [], the amount used[], the amount used[]         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 NoX If yes, please specify the mesh size: [N/A]	
Were any adjustments to the levels of chlorine made? Yes <u>No_X</u> If yes, specify the dechlorination agent used [ <u>N/A</u> ] and the amount of reagent used [ <u>N/A</u> ] Specify the chlorine levels prior to [< 0.05 mg/L] and after addition of the reagent[ <u>N/A</u> ] Was an additional control included in the test containing the dechlorination agent? Yes <u>No_X</u>	
Dilution Water:	
Effluent receiving water: [Delaware River]	
Dilution water source: Instant Ocean Artificial Salt Water ( $25 \pm 1 \text{ ppt salinity}$ ; 125 mg/L as CaCO <sub>3</sub> Alkalinity (If reconstituted water is used specify type)	ty)]
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): [>100%]     [>100%]     [>100%]     [>100%]	
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 <u>No X</u> If yes, specify concentrations and duration, including the lowest percent saturation reached prior to aeration and at what tim <u>N/A</u>	1e: [ ]
Were the test organisms observed for appearance and behavior at least daily? Yes X No No NOTE: Attach a copy of the acute toxicity test bench sheets with observation coded for each day.	
<b>NOTE:</b> Attach a copy of the raw data sheets for physical-chemical measurements performed during the test to the test report form.	

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New England Bioassay, a Division of GZA GeoEnvironmental, Inc. *www.nebio.com* 



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:

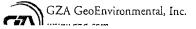
New England Bioassay, A division of GZA Geoenvironmental, Inc. 77 Batson Drive Manchester, CT 06042

NJ Laboratory Certification Number: CT405

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## SUMMARY

Client:	PSEG Nuclear LLC			
Project Name:	Salem Generating Statio	n		
Discharge Serial Number:	485 (#1, #2, #3, & #4 samples)			
NJPDES Number:	NJ 0005622			
Job Number:	05.0044750.00			
Test Number:	Influent Acute Toxicity Effluent Acute Toxicity			
Test Material:	Influent [C33-3956, C33-3972, C	233-3984, 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 Te	oxicity Test	Effluent Acute Toxicity Test		
<b>24-h</b> $LC_{50}$ : > 100% influent <b>48-h</b> $LC_{50}$ : > 100% influent <b>72-h</b> $LC_{50}$ : > 100% influent <b>96-h</b> $LC_{50}$ : > 100% influent		<b>24-h</b> $LC_{50}$ : > 100% effluent <b>48-h</b> $LC_{50}$ : > 100% effluent <b>72-h</b> $LC_{50}$ : > 100% effluent <b>96-h</b> $LC_{50}$ : > 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<br/>FROM THE SALEM GENERATING FACILITY<br/>COLLECTED BY PSEG-LTS STAFF DURING SEPTEMBER<br/>2013 FOR STATIC-RENEWAL ACUTE TOXICITY TESTS

Sample Description	Sample Date (time)	Sample Type	NEB ID Nos.
EFFLUENT SAMPLES			
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
INFLUENT SAMPLES			
Influent #1 (485)	9/16-17/13 (1200-1200 h)	24-h Composite	C33-3956
Influent #2 (485)	9/17-18/13 (1200-1200 b)	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  $25 \pm 1$  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  $25 \pm 2$  ppt and a temperature of  $20^{\circ} \pm 2^{\circ}$ 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  $25 \pm 1$  ppt. The ASW was stored in a carboy and aerated before use in testing.

# TABLE 2.INITIALWETCHEMISTRYRESULTSFORFINALEFFLUENT AND INFLUENT SAMPLES COLLECTED FROM<br/>THE SALEM GENERATINGSTATIONINLOWERALLOWAYS 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	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 <sub>3</sub> )	1300	1800	1800	1700			
Alkalinity (mg/L as CaCO <sub>3</sub> )	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 <sub>3</sub> )	1600	1800	1700	1700			
Alkalinity (mg/L as CaCO <sub>3</sub> )	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  $20^{\circ} \pm 2^{\circ}$ C. Effluent and influent salinity was  $25 \pm 1$  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<sub>50</sub> 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 <sub>50</sub> (% effluent)	95%Confidence Limits		
Acute Tests			<u>Test Dates: 1</u>	8-22 September 2013		
Final Effluent						
C. variegatus	13-2002	24 h 48 h 72 h 96 h	> 100 <sup>a</sup> > 100 > 100 > 100 > 100	N/A <sup>b</sup> N/A N/A N/A		
Influent						
Ċ. variegatus	13-2001	24 h 48 h 72 h 96 h	> 100 > 100 > 100 > 100 > 100	N/A N/A N/A N/A		

 $^{a}$   $\quad$  LC\_{50} values for test days 1 through 4 were determined by observation.

<sup>b</sup> N/A: Not applicable.

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

Test						
Concentration	Daily Survival (%) <sup>a</sup>					
(% Effluent)	1	2	3	4		
					1 Main Markenak, Jak	
Final Effluent						
ASW CONTROL <sup>b</sup>	100 (0)	100 (0)	100 (0)	100 (0)		
(ID N0. 13-2002)						
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)		
Influent						
ASW CONTROL <sup>b</sup>	100 (0)	100 (0)	100 (0)	100 (0)		
(ID N0. 13-2001)	(-)	(-)	(-)	(-)		
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)		
	· ·			• /		

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

<sup>b</sup> 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

## APPENDIX A

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# 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	SAMPLE	LAB SAMPLE	DATE				ANALYSIS			
	POINT	NO.	NO.	SAMPLED	RESULT	DATE	TIME	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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