

August 28, 1989

Docket Nos. 50-272/311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric & Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: REACTOR HEAD VENTS (TAC NOS. ^{71097/71098}~~70197/70198~~)

RE: SALEM GENERATING STATION, UNIT NOS. 1 AND 2

The Commission has issued the enclosed Amendment Nos. 101 and 78 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 12, 1988 and supplemental letters dated March 3, 1989 and June 8, 1989. The March 3, 1989 supplemental letter provided revised pages to correct administrative errors in the original submittal and the Index. The June 8, 1989 supplemental letter provided clarification of the action statements.

These amendments incorporate technical specifications for reactor head vents into the Salem 1 and 2 TSs in accordance with the requirements of Generic Letter 83-37, NUREG-0737 Technical Specifications, dated November 1, 1983.

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

Sincerely, /S/

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

Enclosures:

1. Amendment No. 101 to
License No. DPR-70
2. Amendment No. 78 to
License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File	MO'Brien (2)	Wanda Jones	Brent Clayton
NRC PDR	OGC	EButcher	EWenzinger
Local PDR	DHagan	WHodges	PDI-2 Reading
EJordan	ACRS (10)	WButler	BGrimes
CMiles, GPA/PA	JStone/MThadani	TMeek (8)	RDiggs, ARM/LFMB

*Previously concurred

PDI-2/LA*	PDI-2/PM*
MO'Brien	JStone
03/28/89	03/28/89

OGC
8/1/89

PDI-2/DW
WButler
8/2/89

SRXB
WHodges
03/30/89

[MILT LETTER]

8909120297 890828
PDR ADDOCK 05000272
PDC

CP-1
JFol
1/1

August 28, '89

Docket Nos. 50-272/311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric & Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: REACTOR HEAD VENTS (TAC NOS. 70197/70198)

RE: SALEM GENERATING STATION, UNIT NOS. 1 AND 2

The Commission has issued the enclosed Amendment Nos. 101 and 78 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 12, 1988 and supplemental letters dated March 3, 1989 and June 8, 1989. The March 3, 1989 supplemental letter provided revised pages to correct administrative errors in the original submittal and the Index. The June 8, 1989 supplemental letter provided clarification of the action statements.

These amendments incorporate technical specifications for reactor head vents into the Salem 1 and 2 TSs in accordance with the requirements of Generic Letter 83-37, NUREG-0737 Technical Specifications, dated November 1, 1983.

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

Sincerely, /S/

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

Enclosures:

1. Amendment No. 101 to License No. DPR-70
2. Amendment No. 78 to License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION w/enclosures:

Docket File	MO'Brien (2)	Wanda Jones	Brent Clayton
NRC PDR	OGC	EButcher	EWenzinger
Local PDR	DHagan	WHodges	PDI-2 Reading
EJordan	ACRS (10)	WButler	BGrimes
CMiles, GPA/PA	JStone/MThadani	TMeek (8)	RDiggs, ARM/LFMB

*Previously concurred
PDI-2/LA* PDI-2/PM*
MO'Brien JStone
03/28/89 03/28/89

OGC

5/27/89

PDI-2/DW SRXB
WButler WHodges
5/27/89 03/30/89

[MILT LETTER]



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

August 28, 1989

Docket Nos. 50-272/311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric & Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: REACTOR HEAD VENTS (TAC NOS. 70197/70198)

RE: SALEM GENERATING STATION, UNIT NOS. 1 AND 2

The Commission has issued the enclosed Amendment Nos. 101 and 78 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 12, 1988 and supplemental letters dated March 3, 1989 and June 8, 1989. The March 3, 1989 supplemental letter provided revised pages to correct administrative errors in the original submittal and the Index. The June 8, 1989 supplemental letter provided clarification of the action statements.

These amendments incorporate technical specifications for reactor head vents into the Salem 1 and 2 TSs in accordance with the requirements of Generic Letter 83-37, NUREG-0737 Technical Specifications, dated November 1, 1983.

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

Sincerely,

A handwritten signature in cursive script that reads "James C. Stone".

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

Enclosures:

1. Amendment No. 101 to
License No. DPR-70
2. Amendment No. 78 to
License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. Steven E. Miltenberger
Public Service Electric & Gas Company

Salem Nuclear Generating Station

cc:

Mark J. Wetterhahn, Esquire
Conner and Wetterhahn
Suite 1050
1747 Pennsylvania Avenue, NW
Washington, DC 20006

Richard B. McGlynn, Commission
Department of Public Utilities
State of New Jersey
101 Commerce Street
Newark, NJ 07102

Richard Fryling, Jr., Esquire
Law Department - Tower 5E
80 Park Place
Newark, NJ 07101

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

Mr. L. K. Miller
General Manager - Salem Operations
Salem Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

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

Mr. S. LaBruna
Vice President - Nuclear Operations
Nuclear Department
P.O. Box 236
Hancocks Bridge, New Jersey 08038

Mr. Bruce A. Preston, Manager
Licensing and Regulation
Nuclear Department
P.O. Box 236
Hancocks Bridge, NJ 08038

Robert Traee, Mayor
Lower Alloways Creek Township
Municipal Hall
Hancocks Bridge, NJ 08038

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

Kathy Halvey Gibson, Resident Inspector
Salem Nuclear Generating Station
U.S. Nuclear Regulatory Commission
Drawer I
Hancocks Bridge, NJ 08038

Scott B. Ungerer
MGR. - Joint Generation Projects
Atlantic Electric
P.O. Box 1500
1199 Black Horse Pike
Pleasantville, NJ 08232

Richard F. Engel
Deputy Attorney General
Department of Law and Public Safety
CN-112
State House Annex
Trenton, NJ 08625

Delmarva Power & Light Company
c/o Jack Urban
General Manager, Fuel Supply
800 King Street
P.O. Box 231
Wilmington, DE 19899

Mr. David M. Scott, Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
State of New Jersey
CN 411
Trenton, NJ 08625



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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 101
License No. DPR-70


1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated September 12, 1988 and supplemented by letters dated March 3, 1989 and June 8, 1989 comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-70 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 101, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

for 
Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 101

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
I	I
III	III
V	V
VI	VI
X	X
XIII	XIII
-	3/4 4-34
-	3/4 4-35
3/4 11-16 (marked delete)	-

DEFINITIONS

<u>SECTION</u>	<u>PAGE</u>
<u>1.0 DEFINITIONS</u>	
DEFINED TERMS	1-1
ACTION	1-1
AXIAL FLUX DIFFERENCE	1-1
CHANNEL CALIBRATION	1-1
CHANNEL CHECK	1-1
CHANNEL FUNCTIONAL TEST	1-1
CONTAINMENT INTEGRITY	1-2
CONTROLLED LEAKAGE	1-2
CORE ALTERATION	1-2
DOSE EQUIVALENT I-131	1-2
E-AVERAGE DISINTEGRATION ENERGY	1-3
ENGINEERED SAFETY FEATURE RESPONSE TIME	1-3
FREQUENCY NOTATION	1-3
FULLY WITHDRAWN	1-3
GASEOUS RADWASTE TREATMENT SYSTEM	1-3
IDENTIFIED LEAKAGE	1-3
MEMBER(S) OF THE PUBLIC	1-4
OFFSITE DOSE CALCULATION MANUAL (ODCM)	1-4
OPERABLE - OPERABILITY	1-4
OPERATIONAL MODE	1-4
PHYSICS TESTS	1-5
PRESSURE BOUNDARY LEAKAGE	1-5
PROCESS CONTROL PROGRAM (PCP)	1-5
PURGE-PURGING	1-5
QUADRANT POWER TILT RATIO	1-5
RATED THERMAL POWER	1-5
REACTOR TRIP SYSTEM RESPONSE TIME	1-6
REPORTABLE OCCURRENCE	1-6
SHUTDOWN MARGIN	1-6
SITE BOUNDARY	1-6
SOLIDIFICATION	1-6
SOURCE CHECK	1-6
STAGGERED TEST BASIS	1-6
THERMAL POWER	1-7
UNIDENTIFIED LEAKAGE	1-7
UNRESTRICTED AREA	1-7
VENTILATION EXHAUST TREATMENT SYSTEM	1-7
VENTING	1-7

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.0 APPLICABILITY</u>	3/4 0-1
<u>3/4.1 REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1 BORATION CONTROL	
Shutdown Margin - $T_{avg} > 200^{\circ}\text{F}$	3/4 1-1
Shutdown Margin - $T_{avg} \leq 200^{\circ}\text{F}$	3/4 1-3
Boron Dilution	3/4 1-4
Moderator Temperature Coefficient	3/4 1-5
Minimum Temperature for Criticality	3/4 1-6
3/4.1.2 BORATION SYSTEMS	
Flow Paths - Shutdown	3/4 1-7
Flow Paths - Operating	3/4 1-8
Charging Pump - Shutdown	3/4 1-10
Charging Pump - Operating	3/4 1-11
Boric Acid Transfer Pumps - Shutdown	3/4 1-12
Boric Acid Transfer Pumps - Operating	3/4 1-13
Borated Water Sources - Shutdown	3/4 1-14
Borated Water Sources - Operating	3/4 1-16
3/4.1.3 MOVABLE CONTROL ASSEMBLIES	
Group Height	3/4 1-18
Position Indicating System - Operating	3/4 1-19
Position Indicating Systems - Shutdown	3/4 1-20
Rod Drop Time	3/4 1-21
Shutdown Rod Insertion Limit	3/4 1-22
Control Rod Insertion Limits	3/4 1-23

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.4 REACTOR COOLANT SYSTEM	
3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION	
Startup and Power Operation	3/4 4-1
Hot Standby	3/4 4-2
Hot Shutdown	3/4 4-3
Cold Shutdown	3/4 4-3b
3/4.4.2.1 SAFETY VALVES - SHUTDOWN	3/4 4-4
3/4.4.2.2 SAFETY VALVES - OPERATING	3/4 4-4a
3/4.4.3 RELIEF VALVES	3/4 4-5
3/4.4.4 PRESSURIZER	3/4 4-6
3/4.4.5 STEAM GENERATORS	3/4 4-7
3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE	
Leakage Detection System	3/4 4-14
Operational Leakage	3/4 4-15
Pressure Isolation Valves	3/4 4-16a
3/4.4.7 CHEMISTRY	3/4 4-17
3/4.4.8 SPECIFIC ACTIVITY	3/4 4-20
3/4.4.9 PRESSURE/TEMPERATURE LIMITS	
Reactor Coolant System	3/4 4-24
Pressurizer	3/4 4-29
Overpressure Protection Systems	3/4 4-30
3/4.4.10 STRUCTURAL INTEGRITY	
ASME Code Class 1, 2, and 3 Components	3/4 4-32
3/4.4.11 INTENTIONALLY BLANK	3/4 4-34
3/4.4.12 HEAD VENTS	3/4 4-35

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)</u>	
3/4.5.1 ACCUMULATORS	3/4 5-1
3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350^{\circ}\text{F}$	3/4 5-3
3/4.5.3 ECCS SUBSYSTEMS - $T_{avg} < 350^{\circ}\text{F}$	3/4 5-6
3/4.5.4 DELETED	3/4 5-6a
3/4.5.5 REFUELING WATER STORAGE TANK	3/4 5-9
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
Containment Integrity	3/4 6-1
Containment Leakage	3/4 6-2
Containment Air Locks	3/4 6-5
Internal Pressure	3/4 6-6
Air Temperature	3/4 6-7
Containment Structural Integrity	3/4 6-8
Containment Ventilation System	3/4 6-8a
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
Containment Spray System	3/4 6-9
Spray Additive System	3/4 6-10
Containment Cooling System	3/4 6-11
3/4.6.3 CONTAINMENT ISOLATION VALVES	3/4 6-12
3/4.6.4 COMBUSTIBLE GAS CONTROL	
Hydrogen Analyzers	3/4 6-18
Electric Hydrogen Recombiners	3/4 6-19

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.11 RADIOACTIVE EFFLUENTS</u>	
3/4.11.1 LIQUID EFFLUENTS	
Concentration	3/4 11-1
Dose	3/4 11-5
Liquid Radwaste Treatment	3/4 11-6
Liquid Holdup Tanks	3/4 11-7
3/4.11.2 GASEOUS EFFLUENTS	
Dose Rate	3/4 11-8
Dose-Noble Gases	3/4 11-12
Dose-Iodine-131, Tritium, and Radionuclides in Particulate Form	3/4 11-13
Gaseous Radwaste Treatment	3/4 11-14
Explosive Gas Mixture	3/4 11-15
3/4.11.3 SOLID RADIOACTIVE WASTE	3/4 11-17
3/4.11.4 TOTAL DOSE	3/4 11-18
<u>3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING</u>	
3/4.12.1 MONITORING PROGRAM	3/4 12-1
3/4.12.2 LAND USE CENSUS	3/4 12-11
3/4.12.3 INTERLABORATORY COMPARISON PROGRAM	3/4 12-13

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)</u>	
3/4.5.1 ACCUMULATORS	B 3/4 5-1
3/4. 5.2 and 3/4.5.3 ECCS SUBSYSTEMS	B 3/4 5-1
3/4.5.4 DELETED	
3/4.5.5 REFUELING WATER STORAGE TANK (RWST)	B 3/4 5-2
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	B 3/4 6-1
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	B 3/4 6-3
3/4.6.3 CONTAINMENT ISOLATION VALVES	B 3/4 6-3
3/4.6.4 COMBUSTIBLE GAS CONTROL	B 3/4 6-4

SECTION 3/4.4.11
INTENTIONALLY BLANK

LIMITING CONDITION FOR OPERATION

3.4.12 Four reactor vessel head vent paths shall be operable with the vent paths closed. A vent path consists of at least two head vent valves in series, powered from vital sources, and associated flowpath.

APPLICABILITY: MODES 1, 2, 3 AND 4.

- ACTION:
- a. With one, two or three reactor vessel head vent path(s) inoperable, STARTUP and/or POWER OPERATION may continue provided the inoperable vent path(s) is maintained closed with the valve actuators key locked in the closed position; restore the inoperable vent path(s) to OPERABLE status within 30 days, or, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
 - b. With four reactor vessel head vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all the vent valves in the inoperable vent paths, and restore at least one of the vent paths to OPERABLE status within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.4.12 Reactor vessel head vent system vent paths shall be demonstrated OPERABLE at least once per 18 months by:
1. Verifying all manual isolation valves in each vent path are locked in the open position.
 2. Cycling each valve in the vent paths through at least one complete cycle of full travel from the control room during COLD SHUTDOWN or REFUELING.
 3. Verifying flow through the reactor vessel head vent system vent path during venting.



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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 78
License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated September 12, 1988 and supplemented by letters dated March 3, 1989 and June 8, 1989 comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-75 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 78 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

for *Moham C. Thadani*
Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 78

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
I	I
V	V
VI	VI
IX	IX
X	X
XIII	XIII
XV	XV
-	3/4 4-34

DEFINITIONS

<u>SECTION</u>	<u>PAGE</u>
1.0 <u>DEFINITIONS</u>	
DEFINED TERMS	1-1
ACTION	1-1
AXIAL FLUX DIFFERENCE	1-1
CHANNEL CALIBRATION	1-1
CHANNEL CHECK	1-1
CHANNEL FUNCTIONAL TEST	1-1
CONTAINMENT INTEGRITY	1-2
CONTROLLED LEAKAGE	1-2
CORE ALTERATION	1-2
DOSE EQUIVALENT I-131	1-2
E-AVERAGE DISINTEGRATION ENERGY	1-3
ENGINEERED SAFETY FEATURE RESPONSE TIME	1-3
FREQUENCY NOTATION	1-3
FULLY WITHDRAWN	1-3
GASEOUS RADWASTE TREATMENT SYSTEM	1-3
IDENTIFIED LEAKAGE	1-3
MEMBER(S) OF THE PUBLIC	1-4
OFFSITE DOSE CALCULATION MANUAL (ODCM)	1-4
OPERABLE - OPERABILITY	1-4
OPERATIONAL MODE	1-4
PHYSICS TESTS	1-5
PRESSURE BOUNDARY LEAKAGE	1-5
PROCESS CONTROL PROGRAM (PCP)	1-5
PURGE-PURGING	1-5
QUADRANT POWER TILT RATIO	1-5
RATED THERMAL POWER	1-5
REACTOR TRIP SYSTEM RESPONSE TIME	1-6
REPORTABLE OCCURRENCE	1-6
SHUTDOWN MARGIN	1-6
SITE BOUNDARY	1-6
SOLIDIFICATION	1-6
SOURCE CHECK	1-6
STAGGERED TEST BASIS	1-6
THERMAL POWER	1-7
UNIDENTIFIED LEAKAGE	1-7
UNRESTRICTED AREA	1-7
VENTILATION EXHAUST TREATMENT SYSTEM	1-7
VENTING	1-7

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION	
Startup and Power Operation	3/4 4-1
Hot Standby	3/4 4-2
Hot Shutdown	3/4 4-3
Cold Shutdown	3/4 4-4a
3/4.4.2 SAFETY VALVES - SHUTDOWN	3/4 4-5
3/4.4.3 SAFETY VALVES - OPERATING	3/4 4-6
3/4.4.4 PRESSURIZER	3/4 4-7
3/4.4.5 RELIEF VALVES	3/4 4-8
3/4.4.6 STEAM GENERATORS	3/4 4-9
3/4.4.7 REACTOR COOLANT SYSTEM LEAKAGE	
Leakage Detection System	3/4 4-16
Operational Leakage	3/4 4-17
3/4.4.8 CHEMISTRY	3/4 4-20
3/4.4.9 SPECIFIC ACTIVITY	3/4 4-23
3/4.4.10 PRESSURE/TEMPERATURE LIMITS	
Reactor Coolant System	3/4 4-27
Pressurizer	3/4 4-30
Overpressure Protection Systems	3/4 4-31
3/4.4.11 STRUCTURAL INTEGRITY	
ASME Code Class 1, 2, and 3 Components	3/4 4-33
3/4.4.12 HEAD VENTS	3/4 4-34

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)</u>	
3/4.5.1 ACCUMULATORS	3/4 5-1
3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350^{\circ}\text{F}$	3/4 5-3
3/4.5.3 ECCS SUBSYSTEMS - $T_{avg} < 350^{\circ}\text{F}$	3/4 5-7
3/4.5.4 DELETED	
3/4.5.5 REFUELING WATER STORAGE TANK	3/4 5-9
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
Containment Integrity	3/4 6-1
Containment Leakage	3/4 6-2
Containment Air Locks	3/4 6-4
Internal Pressure	3/4 6-6
Air Temperature	3/4 6-7
Containment Structural Integrity	3/4 6-8
Containment Ventilation System	3/4 6-9
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
Containment Spray System	3/4 6-10
Spray Additive System	3/4 6-11
Containment Cooling System	3/4 6-12
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	3/4 6-14
3/4.6.4 COMBUSTIBLE GAS CONTROL	
Hydrogen Analyzers	3/4 6-21
Electric Hydrogen Recombiners	3/4 6-22

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION	3/4 9-1
3/4.9.2 INSTRUMENTATION	3/4 9-2
3/4.9.3 DECAY TIME	3/4 9-3
3/4.9.4 CONTAINMENT BUILDING PENETRATIONS	3/4 9-4
3/4.9.5 COMMUNICATIONS	3/4 9-5
3/4.9.6 MANIPULATOR CRANE	3/4 9-6
3/4.9.7 CRANE TRAVEL - FUEL HANDLING AREA	3/4 9-7
3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION	
All Water Levels	3/4 9-8
Low Water Level	3/4 9-9
3/4.9.9 CONTAINMENT PURGE AND PRESSURE-VACUUM RELIEF ISOLATION SYSTEM	3/4 9-10
3/4.9.10 WATER LEVEL - REACTOR VESSEL	3/4 9-11
3/4.9.11 STORAGE POOL WATER LEVEL	3/4 9-12
3/4.9.12 FUEL HANDLING AREA VENTILATION SYSTEM	3/4 9-13
<u>3/4.10 SPECIAL TEST EXCEPTIONS</u>	
3/4.10.1 SHUTDOWN MARGIN	3/4 10-1
3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS	3/4 10-2
3/4.10.3 PHYSICS TESTS	3/4 10-4
3/4.10.4 NO FLOW TESTS	3/4 10-5

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.11 RADIOACTIVE EFFLUENTS</u>	
3/4.11.1 LIQUID EFFLUENTS	
Concentration	3/4 11-1
Dose	3/4 11-5
Liquid Radwaste Treatment	3/4 11-6
Liquid Holdup Tanks	3/4 11-7
3/4.11.2 GASEOUS EFFLUENTS	
Dose Rate	3/4 11-8
Dose-Noble Gases	3/4 11-12
Dose-Iodine-131, Tritium, and Radionuclides in Particulate Form	3/4 11-13
Gaseous Radwaste Treatment	3/4 11-14
Explosive Gas Mixture	3/4 11-15
3/4.11.3 SOLID RADIOACTIVE WASTE	3/4 11-17
3/4.11.4 TOTAL DOSE	3/4 11-18
<u>3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING</u>	
3/4.12.1 MONITORING PROGRAM	3/4 12-1
3/4.12.2 LAND USE CENSUS	3/4 12-11
3/4.12.3 INTERLABORATORY COMPARISON PROGRAM	3/4 12-13

BASES

SECTION

PAGE

3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3/4.5.1 ACCUMULATORSB 3/4 5-1

3/4.5.2
and ECCS SUBSYSTEMSB 3/4 5-1
3/4.5.3

3/4.5.4 DELETED

3/4.5.4 REFUELING WATER STORAGE TANK (RWST)B 3/4 5-2

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENTB 3/4 6-1

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMSB 3/4 6-3

3/4.6.3 CONTAINMENT ISOLATION VALVESB 3/4 6-4

3/4.6.4 COMBUSTIBLE GAS CONTROLB 3/4 6-4

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION	B 3/4 9-1
3/4.9.2 INSTRUMENTATION	B 3/4 9-1
3/4.9.3 DECAY TIME	B 3/4 9-1
3/4.9.4 CONTAINMENT BUILDING PENETRATIONS	B 3/4 9-1
3/4.9.5 COMMUNICATIONS	B 3/4 9-1
3/4.9.6 MANIPULATOR CRANE	B 3/4 9-2
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING	B 3/4 9-2
3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION	B 3/4 9-2
3/4.9.9 CONTAINMENT PURGE AND PRESSURE-VACUUM RELIEF ISOLATION SYSTEM	B 3/4 9-3
3/4.9.10 WATER LEVEL - REACTOR VESSEL and AND	
3/4.9.11 STORAGE POOL	B 3/4 9-3
3/4.9.12 FUEL HANDLING AREA VENTILATION SYSTEM	B 3/4 9-3
<u>3/4.10 SPECIAL TEST EXCEPTIONS</u>	
3/4.10.1 SHUTDOWN MARGIN	B 3/4 10-1
3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS	B 3/4 10-1
3/4.10.3 PHYSICS TESTS	B 3/4 10-1
3/4.10.4 NO FLOW TESTS	B 3/4 10-1

REACTOR COOLANT SYSTEM

3/4.4.12 HEAD VENTS

LIMITING CONDITION FOR OPERATION

- 3.4.12 Four reactor vessel head vent paths shall be operable with the vent paths closed. A vent path consists of at least two head vent valves in series, powered from vital sources, and associated flowpath.

APPLICABILITY: MODES 1, 2, 3 AND 4.

- ACTION:
- a. With one, two or three reactor vessel head vent path(s) inoperable, STARTUP and/or POWER OPERATION may continue provided the inoperable vent path(s) is maintained closed with the valve actuators key locked in the closed position; restore the inoperable vent path(s) to OPERABLE status within 30 days, or, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
 - b. With four reactor vessel head vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all the vent valves in the inoperable vent paths, and restore at least one of the vent paths to OPERABLE status within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.4.12 Reactor vessel head vent system vent paths shall be demonstrated OPERABLE at least once per 18 months by:
1. Verifying all manual isolation valves in each vent path are locked in the open position.
 2. Cycling each valve in the vent paths through at least one complete cycle of full travel from the control room during COLD SHUTDOWN or REFUELING.
 3. Verifying flow through the reactor vessel head vent system vent path during venting.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 101 AND 78 TO FACILITY OPERATING

LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM GENERATING STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated September 12, 1988 and supplemented by letters dated March 3, 1989 and June 8, 1989, Public Service Electric & Gas Company requested an amendment to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. The March 3, 1989 supplemental letter provided revised pages to correct administrative errors in the original submittal and the Index. The June 8, 1989 supplemental letter provided clarification of the action statements. The proposed amendments would incorporate Technical Specifications for reactor head vents into the Salem 1 and 2 Technical Specifications in accordance with the requirements of Generic Letter 83-37, NUREG-0737 Technical Specifications, dated November 1, 1983.

2.0 EVALUATION

The licensee has proposed to add new Specification 3/4.4.12 and Bases 3/4.4.12 to the Salem 1 and 2 Technical Specifications (TSs). These additions will incorporate the requirements for and bases of the reactor vessel head vent (RVHV) system. This amendment request includes only the RVHV system. Ref. 1 included other high point vents within the Reactor Coolant System. The licensee chose to use the power operated relief valves (PORVs) and their associated block valves as another vent path. This was approved by Ref. 2. Requirements for the PORVs and block valves are already included in the Salem 1 and 2 TSs.

The specific plant design of the RVHV system was previously reviewed by the NRC as documented in Ref. 2. That evaluation approved the current RVHV system design, except for removing power to the valves to prevent inadvertent operation. This practice would preclude indication of valve position in the control room. The licensee has modified the system to use a key lock system to prevent inadvertent operation while maintaining

8909120306 890828
PDR ADOCK 05000272
PDC

position indication in the control room. The system also contains a flow restricting orifice in the vent line that limits the flow from a pipe rupture or inadvertent opening to less than the capacity of the reactor coolant makeup system. Thus, the RVHVS meets the guidance provided in Ref. 2.

The proposed changes add requirements to the Salem 1 and 2 TSs that at least one reactor vessel head vent path shall be operable in Modes 1, 2, 3 and 4, with the valves closed. Also, the valves will be powered from vital sources.

The original proposal would have allowed all reactor vessel head vent paths to be inoperable for 30 days. By letter dated June 8, 1989, the licensee modified the proposed Action Statements to allow up to three reactor vessel head vent paths to be inoperable for up to 30 days. If not restored to operable status within 30 days, place the plant in Hot Standby within 6 hours and in Cold Shutdown within the following 30 hours. With four vent paths inoperable, at least one vent path must be restored within 72 hours or place the plant in Hot Standby within 6 hours and in Cold Shutdown within the following 30 hours.

Surveillance requirements have been added to demonstrate the operability of the RVHV System every 18 months. Included are valve position verifications, valve cycling and initiation of flow through the system.

The above TS changes are in general agreement with the guidance provided in Ref. 1. However, the case where both the RVHV system and the PORVs are inoperable has not been directly addressed. The guidance in Ref. 1 provides a 72-hour time limit to restore both to operable before a shutdown is necessary. As currently written in the TSs, the PORVs could be inoperable for an indefinite period of time. As proposed, the RVHV system could be inoperable for 72 hours before a shutdown is necessary. The staff has considered this deviation and finds it acceptable.

The proposed TS revision described herein are appropriate and generally follow the staff's position in regard to reactor vessel head vents. Therefore, based on the foregoing evaluations, the staff concludes that the requested additions are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation

exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (54 FR 7645) on February 22, 1989 and (54 FR 31119) on July 26, 1989 and consulted with the State of New Jersey. No public comments were received and the State of New Jersey did not have any comments.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

REFERENCES

1. Generic Letter 83-37, NUREG-0737 Technical Specifications, dated November 1, 1983.
2. Letter S. A. Varga, NRC, to R. A. Uderitz, PSE&G, dated September 27, 1983.

Principal Contributor: J. Stone

Dated: August 28, 1989