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PSEG
Nuclear LLC

JUN 1 1 2004

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U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

LER 311/04-003-00
SALEM - UNIT 2
FACILITY OPERATING LICENSE NO. DPR-75
DOCKET NO. 50-311

This Licensee Event Report, "Salem Unit 2 Control Room Emergency Air Conditioning System Unable to Mitigate The Consequences of an Accident," is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(v)(D).

Should there be any questions regarding this matter please contact Rick Villar at

856-339-5456

The attached LER contains no commitments.

Sincerely,

C. Fricker
Salem Plant Manager

Attachment
/EHV

C Distribution
LER File 3.7

IE22

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Salem Unit 2 Generating Station	05000311	1 OF 4

4. TITLE

Salem Unit 2 Control Room Emergency Air Conditioning System Unable to Mitigate The Consequences of an Accident

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									Salem Unit 1	05000272
04	12	2004	2004	- 003 -	00	06	11	2004	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	1
10. POWER LEVEL	100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	X 50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
E. H. Villar, Licensing Engineer	856-339-5456

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	JG-	ECBD-	W120	Yes					

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 12, 2004, at approximately 10:33, the Control Room Emergency Air Conditioning System was placed in a condition where it did not comply with its design basis for post LOCA mitigation. During maintenance of the Salem Unit 1 Solid State Protection System, a safety injection signal was generated. As a result of the invalid safety injection signal on Unit 1, the Control Room Emergency Air Conditioning System actuated to its accident pressurized mode alignment, in which the Salem Unit 1 emergency intake air dampers were isolated and the Salem Unit 2 dampers opened. In this configuration, Salem Unit 2 was in a condition where it did not comply with its design basis for post LOCA mitigation. The Salem dose analysis performed to meet the requirements of the General Design Criterion (GDC) 19 states that with only one train of the Control Room Emergency Air Conditioning System available at the start of a design basis LOCA, the make up air supply to pressurize the control room envelope must be supplied by the non-accident Unit's emergency outside air intake. The apparent cause of this event was a defective universal logic card in the Solid State Protection System (SSPS). When this card was moved from one position to another in the SSPS cabinet, a safety injection signal from Unit 1 Train 'B' occurred. Corrective actions taken were: (1) The defective card was replaced, and (2) A full functional test procedure on Train B was performed satisfactory. This condition is reportable under 10 CFR 50.73(a)(2)(v)(D).

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Salem Unit 2 Generating Station	05000311	2004	- 0 0 3 -	00	2 OF 4

NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* (17)

PLANT AND SYSTEM IDENTIFICATION

Control Room Emergency Air Conditioning System {VI} (CREACS)
Solid State Protection System {JG}(SSPS)

* Energy Industry Identification System {EIIS} codes and component function identifier codes appear as {SS/CCC}

IDENTIFICATION OF OCCURRENCE

Event Date: April 12, 2004
Discovery Date: April 12, 2004

CONDITIONS PRIOR TO OCCURRENCE

Salem Unit 2 was in Mode 1 (POWER OPERATION) at the time of the event.
Salem Unit 1 was defueled

Salem Unit 1 was defueled in its sixteenth refueling outage (1R16). Salem Unit 2 was operating at approximately 100% Rated Thermal Power (RTP) with two shutdown Limiting Condition for Operations (LCO) in effect. The first LCO was for the Control Room Emergency Air Conditioning System {VI}(CREACS), and the second LCO was for the outside air intake dampers {DMP} being out of service for scheduled maintenance. The Salem Units 1 and 2 common Control Room share the CREACS, one train per unit with each train containing: two fans and associated outlet dampers, one cooling coil, one charcoal/HEPA filtration unit and return air isolation dampers. Salem Technical Specifications 3.7.6.1 and 3.7.6 for Salem Units 1 and 2, respectively, provide a full description of the requirements.

The Salem Unit 1 Control Room Emergency Air Conditioning System train was out of service for normal refueling maintenance activity.

DESCRIPTION OF OCCURRENCE

On April 12, 2004 at approximately 10:33 during maintenance of the Salem Unit 1 Solid State Protection System {JG}(SSPS) an invalid safety injection signal was generated. As a result of the invalid safety injection signal, the CREACS system actuated to its accident pressurized mode alignment. This alignment includes the start of the CREACS fans, isolating the control room envelope from the normal control room ventilation system and aligning the emergency outside intake air dampers to the non-affected unit. Because the inadvertent safety injection signal was generated in Salem Unit 1, the Salem Unit 1 emergency intake air dampers closed and the Salem Unit 2 dampers opened. Once the dampers actuated to their required position, these dampers were locked out from manual operation until the safety injection signal was reset; then the dampers were manually reconfigured as needed.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Salem Unit 2 Generating Station	05000311	2004	- 0 0 3 -	00	3 OF 4

NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* (17)

DESCRIPTION OF OCCURRENCE(cont'd)

The control room ventilation system configuration following the safety injection signal was one train of CREACS operating with the emergency outside air intake dampers for Salem Unit 2 open and the Salem Unit 1 emergency outside air intake dampers closed.

With the CREAC System actuated to its accident pressurized mode alignment as described above, Salem Unit 2 was in a condition where it would not have been able to mitigate the consequences of an accident. The Salem dose analysis performed to meet the requirements of the General Design Criterion (GDC) 19 states that with only one train of CREACS available at the start of a design basis accident, the make up air supply to pressurize the control room envelope must be supplied by the non-accident Unit's emergency outside air intake. In this particular event, for the 2 hour period that it took operators to reset the CREACS actuation signal, the Salem Unit 2 emergency outside air intake dampers would not have been able to close if demanded to by an accident signal in Unit 2, therefore failing to achieve the acceptable configuration assumed in the dose analysis with only one train of CREACS operable.

On April 12, 2004 at approximately 12:32, the CREACS actuation signal was reset and the CREACS system was placed back in its normal standby alignment, thereby returning Salem 2 to a condition where it would have been able to mitigate the consequences of an accident.

This condition is reportable under 10 CFR 50.73(a)(2)(v)(D).

CAUSE OF OCCURRENCE

A defective universal card A207 caused the inadvertent safety injection in Unit 1. The safety injection signal occurred when the A207 card was moved from one position in the SSPS cabinet to another position in the SSPS cabinet, while in the process of maintenance troubleshooting activities.

The initial investigation of the SSPS cards revealed that the safety injection signal generated in a failed portion of the circuit card when it was inserted into the low pressurizer pressure safety injection position. The failed part of the card (a malfunctioning Isolator card) was not used in its prior position, thus the failed circuit was previously undetected.

PREVIOUS OCCURRENCES

A review of LERs at Salem and Hope Creek Generating Stations for the years 2002 and 2003 did not identify any previous similar events as stated in the apparent cause of occurrence such that this event could have been prevented by previous corrective actions.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Salem Unit 2 Generating Station	05000311	2004	- 0 0 3 -	00	4 OF 4

NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* (17)

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences associated with this event.

Although the CREACS was aligned in a configuration that was non-conforming to the Salem dose analysis assumptions, the time duration of this non-conformance was limited, and no design basis events occurred that required the system to automatically respond.

A review of this event determined that a Safety System Functional Failure (SSFF) as defined in NEI 99-02 did occur.

CORRECTIVE ACTIONS

1. The defective card was replaced.
2. A full functional test procedure on Train B was performed satisfactory.
3. Maintenance will determine a minimum quantity of refurbished/ tested circuit cards needed to be kept available for troubleshooting and Work Management will create a scheduled operation within the work management process to dedicate the required resources to refurbish and test the needed circuit cards.
4. An operating experience report will be issued relative to this event.

COMMITMENTS

The corrective actions cited in this LER are voluntary enhancements and do not constitute commitments.