PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, New Jersey 08038-0236

PSEG
Nuclear LLC

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

Gentlemen:

LER 311/00-002-00
SALEM GENERATING STATION - UNIT 2
FACILITY OPERATING LICENSE NO. DPR-75
DOCKET NO. 50-311

This Licensee Event Report "Engineered Safety Feature Actuation due to 2R11A "Containment Particulate Monitor" Alarm" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(iv). The attached LER contains no commitments.

Sincerely,

for MBB

M. B. Bezilla
Vice President - Operations

Attachment

/EHV

C Distribution
LER File 3.7

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an 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

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TITLE (4)
Engineered Safety Feature Actuation due to 2R11A "Containment Particulate Monitor" Alarm

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	27	00	00	-002	- 00	11	22	00	Salem 1	05000272
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	6
POWER LEVEL (10)	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ▯: (Check one or more) (11)

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

LICENSEE CONTACT FOR THIS LER (12)

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

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

On Friday, October 27, 2000, at 2228 hours, the containment particulate radiation monitor, 2R11A, spiked into alarm resulting in a containment ventilation isolation signal being generated. This ventilation isolation function is identified as an Engineered Safety Feature (ESF) actuation in the Salem Technical Specifications. The 2R11A monitor settled at approximately 3830 cpm following the spike. Earlier on the same day, at 1955 hours, licensed control room operators (ROs) commenced draining the refueling cavity in accordance with normal operating procedures. At 2026 hours, Operations personnel performed a containment pressure relief evolution. At 2150 hours, PSEG Maintenance personnel defeated the airlock's interlock and opened both 100-foot elevation containment doors to begin containment demobilization. At 2228 hours, the containment particulate radiation monitor, 2R11A, spiked into alarm due to radon gas daughter products. All containment ventilation isolation valves {IK/V} were already closed prior to the isolation signal generation; therefore, no equipment repositioned as a result of this isolation signal. The root cause was attributed to naturally occurring radon gas and its daughter products. Corrective actions taken were: (1) Air samples taken by health physics personnel were analyzed and showed concentrations less than 1% of the DAC values in 10CFR20, (2) The R11A setpoint was changed in accordance with procedures to account for the higher background and avoid unnecessary isolation signals (3) Management was notified of the event and a notification was issued in accordance with the corrective action program, and (4) The circumstances surrounding this event will be included in the lessons learned planned for future outages.

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse – Pressurized Water Reactor

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

CONDITIONS PRIOR TO OCCURRENCE

Salem Unit 2 was in Mode 6, Refueling.

DESCRIPTION OF OCCURRENCE

On Friday, October 27, 2000, at 2228 hours, the Radiation Monitoring System {IL} (RMS) 2R11A, Containment Particulate Radiation Monitor {IK/MON} (CPRM), spiked into alarm resulting in a containment ventilation isolation signal (CVI) being generated. This ventilation isolation function is identified as an Engineered Safety Feature Actuation (ESF) in the Salem Technical Specifications. The 2R11A monitor settled at approximately 3830 cpm following the spike.

ANALYSIS OF OCCURRENCE

On Friday, October 27, 2000, at 2228 hours, the containment particulate radiation monitor, 2R11A spiked into alarm resulting in a containment ventilation isolation signal being generated. This ventilation isolation function is identified as an Engineered Safety Feature (ESF) actuation in the Salem Technical Specifications. The 2R11A monitor settled at approximately 3830 cpm following the spike.

Earlier on the same day, Friday, October 27, at 1955 hours, licensed control room operators (ROs) commenced draining the refueling cavity in accordance with normal operating procedures. At 2026 hours Operations personnel performed a containment pressure relief evolution. At 2150 hours, PSEG Maintenance personnel defeated the airlock's interlock and opened both 100-foot elevation containment doors to begin containment demobilization. At 2228 hours, the containment particulate radiation monitor, 2R11A, spiked into alarm due to radon gas daughter products, then settled at approximately 3830 cpm. However, it initiated the ESF actuation of the containment ventilation isolation. All containment ventilation isolation valves {IK/V} were already closed prior to the isolation signal generation; therefore, no equipment repositioned as a result of this isolation signal.

Control room operators entered the appropriate abnormal operating procedure for containment high radiation signals, and at 2308 hours, the containment ventilation isolation signal was reset with 2R11A radiation monitor reading approximately 3730 cpm.

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ANALYSIS OF OCCURRENCE(cont'd)

At 2311, 2R11A spiked back into alarm reading 3960 cpm, and at 2348 hours, the cavity draindown was terminated.

On October 28, 2000, at 0026 hours, PSEG maintenance personnel commenced a 2R11A setpoint change in accordance with appropriate plant procedures (S2.IC-IP.RM- 0001) to preclude additional isolations. At 0100 hours, the 2R11A was reading 3500 cpm and slowly dropping.

At the time of the event, the Containment Pressure Vacuum Relief System {BF} (CPVRS) was out of service because of maintenance being performed on one of the CPVRS valves. Although the CPVRS did not contribute to the event as an initiator, had it been in service at the time the isolation may not have occurred since the radon gas would have been removed by the system.

CAUSE OF OCCURRENCE

The apparent cause of this event is attributed to naturally occurring radon and radon daughter products that were released from the concrete structures in containment. It is suspected that the draining of the reactor cavity coupled with the opening of the containment airlocks to begin containment demobilization created a rapid change in containment pressure resulting in the release of the naturally occurring radon gas.

Air samples taken by health physics personnel were analyzed and showed concentrations less than 1% of the DAC values in 10CFR20 for known licensed materials. The low DAC value for known licensed material in conjunction with the relatively high DAC value for non-license material and the presence/indication of some of the radon daughter products support the apparent cause determination.

PRIOR SIMILAR OCCURRENCES

A review of 1998 and 1999 LERs for both Salem and Hope Creek identified no similar occurrences.

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences or implications associated with this event.

During Mode 6 operation, the Containment Particulate Activity Monitor 2R11A serves to monitor the particulate activity concentration in the containment atmosphere, and provides an alarm and isolation of the Containment Purge and Pressure Relief system in response to high particulate activity that would result from a fuel handling accident inside containment.

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SAFETY CONSEQUENCES AND IMPLICATIONS(cont'd)

The purpose of this isolation function is to ensure that the limits of 10CFR100 are not exceeded. The setpoint (contained in Tech Spec 3/4.3.3) is less than or equal to two times background.

During refueling operations, containment particulate activity background levels are normally low but can vary due to activity released during routine outage activities that breach the reactor coolant boundary. Because containment particulate activity concentrations can vary during refueling operations, alarms and Containment Purge and Pressure Relief system isolations occur that are caused by the release of particulate activity during routine refueling outage activities. These routine activities include evolutions such as Reactor Coolant System venting or removal of the Reactor Vessel head. Although the isolations that result from routine refueling activities provide no safety benefit, they are still reportable under the provisions of 10CFR50.72(a)(2)(ii) and 10CFR50.73(a)(2)(iv) since they are ESF actuations.

A review of this event determined that a Safety System Functional Failure (SSFF) as defined in NEI 99-02 did not occur.

CORRECTIVE ACTIONS

1. Air samples taken by health physics personnel were analyzed and showed concentrations less than 1% of the DAC values in 10CFR20.

2. Based on the results of the air sample analysis, the 2R11A setpoint was changed in accordance with procedures to account for the higher background.

3. Management was notified of the event and a notification was issued in accordance with the corrective action plan.

4. The circumstances surrounding this event will be included in the lessons learned plan for future outages.

COMMITMENTS

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