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JUN 0 6 2011

10CFR50.73

LR-N11-0172

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington DC 20555-001

LER 311/2011-003
Salem Nuclear Generating Station Unit 2
Facility Operating License No. DPR-75
NRC Docket No. 50-311

SUBJECT: Technical Specification Maximum Airflow in the Fuel Handling Building Exceeded

This Licensee Event Report, "Technical Specification Maximum Airflow in the Fuel Handling Building Exceeded," is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(i)(B), "any operation or condition which was prohibited by the plant's Technical Specifications."

The attached LER contains no commitments. Should you have any questions or comments regarding this submittal, please contact Mr. Brian Thomas at 856-339-2022.

Sincerely,

Carl J. Fricker
Site Vice President – Salem

Attachments (1)

IE22
NRR

JUN 0 6 2011

cc Mr. W. Dean, Administrator, Region I, NRC
Mr. R. Ennis, Licensing Project Manager – Salem, NRC
Mr. D. Schroeder, USNRC Senior Resident Inspector, Salem (X24)
Mr. P. Mulligan, Manager IV, NJBNE
L. Marabella, Corporate Commitment Tracking Coordinator
H. Berrick, Salem Commitment Tracking Coordinator

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@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 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 collection.

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4. TITLE

Technical Specification Maximum Airflow in the Fuel Handling Building Exceeded

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	05	2011	2011	0 0 3	0	06	06	2011		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)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Brian Thomas, Senior Compliance Engineer	(856) 339 -2022

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
-	-	-	-	-					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

This report is being made in accordance with 10CFR50.73(a)(2)(i)(B), "any operation or condition which was prohibited by the plant's Technical Specifications." At approximately 0100 hours on April 8, 2011, a test of the Unit 2 Fuel Handling Building Ventilation System (FHV) was performed following the replacement of the high efficiency particulate air (HEPA) filter on the 21 FHV filtration train. The fuel handling building exhaust flow was measured at 24,627 cfm with the 21 FHV filtration train in service. Technical Specification (TS) 4.9.12.c requires a system flow rate of 19,490 cfm +/- 10% during system operation. Movement of irradiated fuel in the Fuel Handling Building (FHB) is to be suspended in accordance with TS 3.9.12 Action 'a' when the FHB ventilation system is inoperable. The measured flow rate was approximately 26% above the TS flow rate of 19,490 cfm. On April 5, 2011, irradiated fuel was moved in the Unit 2 FHB with the air flow rate exceeding the requirements of TS 3.9.12.

The cause of the high air flow rate in the Unit 2 FHB is attributed to the air supply balancing damper being out of position; the air pressure regulator on the FHB roll up door was incorrectly set not allowing the door seal to inflate and the FHB exhaust fan inlet guide vanes operating in a degraded condition. Corrective actions consisted of setting the supply damper in the correct position, restoring the FHB roll up door air regulator to the proper setting, repairing the FHB exhaust fans, and revising the procedure for control of fuel movement in the fuel handling building.

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NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

Westinghouse – Pressurized Water Reactor (PWR/4)

Fuel Handling Building Ventilation {VG/-}

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

IDENTIFICATION OF OCCURRENCE

Event Date: April 5, 2011

Discovery Date: April 8, 2011

CONDITIONS PRIOR TO OCCURRENCE

Salem Unit 2 was in Mode 1. No additional structures, systems or components were inoperable at the time of the discovery that contributed to the event.

DESCRIPTION OF OCCURRENCE

At approximately 0100 hours on April 8, 2011, a test of the Unit 2 Fuel Handling Building Ventilation System (FHV) {VG} was performed following the replacement of the high efficiency particulate air (HEPA) filter on the 21 FHV filtration train. The fuel handling building exhaust flow was measured at 24,627 cfm with the 21 FHV filtration train in service. Technical Specification (TS) 4.9.12.c requires a system flow rate of 19,490 cfm +/- 10% during system operation. Movement of irradiated fuel in the Fuel Handling Building (FHB) is to be suspended in accordance with TS 3.9.12 Action 'a' when the FHB ventilation system is inoperable. The measured flow rate was approximately 26% above the TS flow rate of 19,490 cfm. The FHB ventilation system consists of the No. 2 supply fan, the 21 & 22 exhaust filtration units and the 21 & 22 exhaust fans. Both exhaust fans and the one supply fan are required to be operable with air flow within the requirements of TS 3.9.12 for the movement of irradiated fuel within the FHB. On April 5, 2011, irradiated fuel was moved in the Unit 2 FHB with the air flow rate exceeding the requirements of TS 3.9.12.

Following the air flow test failure, a walk down identified that the manual supply air damper was in a near full open position and bypass leakage existed across the FHB truck bay door. Since the ventilation system is designed to maintain a negative pressure in the FHB, the increase in supply flow and bypass flow across the FHB truck bay would cause exhaust flow to increase to maintain the required negative pressure. The manual air supply damper was re-positioned.

Troubleshooting identified that the FHB truck bay door inflatable seal air regulator was incorrectly set allowing the door seal to partially deflate. After correcting these conditions, the air flow test was re-

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NARRATIVE

DESCRIPTION OF OCCURRENCE (cont'd)

performed on April 8, 2011 at approximately 1700 hours with a measured flow of approximately +15% still above the TS required flow rate. During this testing, binding of the inlet guide vane for the 22 FHBexhaust fan was identified. The 22 FHB exhaust fan inlet guide vanes were repaired. On April 9, 2011, air flow was measured flow at approximately +9%. On April 10, 2011, additional boundary controls were set in place and the air flow surveillance test was re-performed with satisfactory results for both filtration trains.

CAUSE OF OCCURRENCE

The cause of the high air flow rate in the Unit 2 FHB is attributed to the air supply balancing damper being out of position; the air pressure regulator on the FHB truck bay roll up door being incorrectly set not allowing the door seal to inflate, and the FHB exhaust fan inlet guide vanes operating in a degraded condition. The cause of the supply air damper being in the near full open position could not be determined. Maintenance was performed on the FHB truck bay door but did not perform any work in the panel that contained the air regulator. The most likely cause is that the air regulator was not properly set prior to maintenance on the FHB truck bay door but was not identified when the door was restored following the recent maintenance. The FHB exhaust fan inlet guide vanes were found to be binding. Periodic lubrication and exercising of the guide vanes is recommended by the vendor; however, no preventive maintenance activities exist.

PREVIOUS OCCURRENCES

A review of LERs at Salem Station dating back to 2008 did not identify any prior similar occurrences.

SAFETY CONSEQUENCES AND IMPLICATIONS

The high air flow rate of the FHB ventilation system during movement of irradiated fuel did not result in any safety consequences. The fuel handling accident (FHA) analysis for a dropped fuel assembly does not credit the FHB filtration system to remove any radioactivity from the building effluent prior to release. For radioactive effluent release following a postulated FHA, the analysis credits the building ventilation to maintain a negative pressure and for release of the effluents from the plant vent which was unaffected by the high air flow rate. The amount of radioactivity released from a postulated FHA is unchanged by the increased air flow rate. A puff release, entire volume of FHB released in one-minute (which exceeds the as-found flow rate) was previously evaluated and determined that the release to the control room, exclusion area boundary, and low population zone were well below regulatory limits.

A review of this event determined that a Safety System Functional Failure (SSFF) as defined in NEI 99-02, Regulatory Assessment Performance Indicator Guidelines, did not occur. This event did not result in a condition that would have prevented the fulfillment of a safety function of a system needed to shutdown the reactor and maintain it in a safe shutdown condition, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident.

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NARRATIVE

CORRECTIVE ACTIONS

1. The FHB truck bay door air regulator was restored to the proper setting and the door seal inflated properly.
2. The FHB air supply balancing damper was placed in the correct position.
3. The 22 FHB exhaust fan inlet guide fan dampers were repaired.
4. Procedure S2.OP-IO.ZZ-0010, Spent Fuel Manipulations, was revised to verify that the FHB truck bay door seal is operating properly and the supply damper is in the proper position prior to movement of irradiated fuel.
5. Maintenance and Operations to reinforce standards for identification of retest requirements and retest ownership.
6. Engineering to evaluate the necessity of creating a preventive maintenance activity to lubricate and/or exercise the FHB exhaust fan inlet guide vanes.

COMMITMENTS

No commitments are made in this LER.