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10 CFR 50.73

W3F1-2019-0010

February 11, 2019

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Licensee Event Report (LER) 2019-001-00
Past Inoperability of Effluent Accident Monitor Exceeds Allowed Outage Time Resulting in Condition Prohibited by Technical Specifications

Waterford Steam Electric Station, Unit 3 (Waterford 3)
NRC Docket No. 50-382
Renewed Facility Operating License No. NPF-38

The attached report is being sent pursuant to 10 CFR 50.73. A supplemental report to LER 2019-001-00 is expected to be submitted by April 30, 2019 to provide the safety significance determination that is not yet complete.

There are no regulatory commitments contained in this correspondence.

If you have any questions or require additional information, please contact the Acting Regulatory Assurance Manager, John V. Signorelli, at (504) 739-6032.

Respectfully,

John V. Signorelli

JVS/rd

Enclosure: Waterford 3 Licensee Event Report 2019-001-00

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector – Waterford Steam Electric Station, Unit 3
NRR Project Manager

ENCLOSURE

W3F1-2019-0010

Entergy Operations, Inc.

Waterford 3 Licensee Event Report 2019-001-00

NRC FORM 366 (04-2018) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by 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.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc/gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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4. TITLE

Past Inoperability of Effluent Accident Monitor Exceeds Allowed Outage Time Resulting in Condition Prohibited by Technical Specifications

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
12	13	2018	2019	- 001 -	00	02	11	2019	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
100	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(5)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ OTHER (Specify in Abstract below or in NRC Form 366A)	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
John Signorelli - Manager, Regulatory Assurance	(504) 739-6032

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	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☒ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☐ NO		04	30	2019

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

On December 13, 2018, a past operability evaluation determined that the Fuel Handling Building (FHB) Wide Range Gas Monitor (WRGM) had been inoperable from January 16, 2017 to November 30, 2018. The FHB WRGM had been inoperable due to a calibration error that was identified during the most recent surveillance calibration. Operability was restored after the calibration error was corrected on November 30, 2018. The FHB WRGM is credited as the FHB exhaust effluent monitor in Technical Specification (TS) 3.3.3.1. The TS allowed outage time is 72 hours before an alternative method of monitoring is required and 7 days before a special report to the Commission is required to be submitted.

This condition resulted from an error in the model work order for performing the FHB WRGM surveillance that uses an air flow calculation to calibrate the FHB WRGM air flow meter. The air flow calculation contained an incorrect value for orifice area due to a design change that re-sized orifice plates in the FHB Ventilation system. The calibration error resulted in the FHB WRGM measuring lower than actual effluent air flow through the FHB ventilation system. The orifice area value was corrected during performance of the last surveillance calibration. Long term corrective actions are to move these steps into a mechanical maintenance procedure and add a note to verify orifice areas in the field. There are no actual consequences as a result of this condition prohibited by Technical Specifications.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc/gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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Waterford Steam Electric Station, Unit 3	05000382	2019	- 001 -	00

NARRATIVE

EVENT DESCRIPTION

A. Plant Status

During the time that the Fuel Handling Building (FHB) Wide Range Gas Monitor (WRGM) was inoperable, Waterford 3 was in Mode 1 at 100% reactor power with the exception of the time during refueling outage 21 (April 15, 2017 to June 1, 2017), and during a forced outage (July 17, 2017 to July 29, 2017). There were no other structures, systems, or components out of service that contributed to this event.

B. Event Description

On August 31, 2008, the orifice plate for make-up damper HVF201A was resized. This was performed when implementing the 'A' Train portion of Engineering Change ER-W3-2004-0518, Orifice Resizing for the Fuel Handling Building Emergency Filtration Unit Make-Up Dampers. Damper HVF201A opens and closes automatically to maintain the differential pressure between the FHB and ambient at the setpoint.

On September 29, 2009, the orifice size calculation for the 'A' Train air flows was incorrect due to the change in orifice area; however, an alternative method was used for the calibration that did not require use of orifice area in the air flow calculation. The FHB WRGM was accurately calibrated during this surveillance calibration.

From September 29, 2009 through January 16, 2017, the orifice size calculation for the 'A' Train air flows was incorrect due to the change in orifice area; however, damper HVF201A was consistently in the closed position during air flow measurements. There was no effect on the FHB WRGM calibration with HVF201A closed.

On January 16, 2017, the FHB WRGM was calibrated using incorrect air flow data on the 'A' Train because air flow data was taken while damper HVF201A was in the open position during air flow measurements. Unknowingly, the calibration at this point was out of tolerance leading to the WRGM being inoperable.

On August 23, 2017, the FHB ventilation system 'B' Train orifice plate was resized. This was performed when implementing the 'B' Train portion of Engineering Change ER-W3-2004-0518.

On October 1, 2018, the system engineer documented a condition report that air flows were above expected values in the FHB ventilation system while performing the air flow measurement in support of the FHB WRGM calibration. The system engineer previously identified that the model work order used incorrect areas for the orifice plates and the work order was revised to correct the issue. The measured air flows were higher than expected because of the change to the airflow calculation that used the correct orifice plate areas. At the time, only the FHB Emergency Filtration System was recognized to be affected by the greater than expected air flow values.

On November 27, 2018, the FHB WRGM was declared inoperable to perform the surveillance calibration using the revised work order. Difficulties in calibrating the WRGM resulted in condition report CR-WF3-2018-06684. A past operability evaluation was assigned on November 28, 2018 to determine if the calibration error identified on October 1, 2018 was reportable.

On November 30, 2018, the surveillance was performed satisfactorily after the FHB WRGM flow meter placement was adjusted to match the actual flow in the FHB ventilation system and the FHB WRGM was declared operable.

On December 13, 2018, the past operability evaluation assigned on November 28, 2018 was completed. It determined that the WRGM was out of tolerance from January 16, 2017 until the last surveillance calibration on November 30, 2018.

C. Event Causes

On April 3, 2006, the model work order was created to perform a traverse air flow measurement of the FHB ventilation system in support of the FHB WRM surveillance calibration. In this work order are formulas and instructions for measuring

NARRATIVE

the actual air flow of the FHB ventilation system. These formulas for the traverse air flow measurement contain the area of the orifice plates that are bypass inlets into the FHB ventilation system.

The change to the orifice plate area that was made via engineering change ER-W3-2004-0518 did not get incorporated into the work order for measuring the FHB ventilation system traverse air flow. The engineering change was approved February 25, 2005; the 'A' Train orifice plate was re-sized on August 31, 2008 and the 'B' Train orifice plate was re-sized on August 23, 2017.

The engineering change was implemented for Train A on August 31, 2008, however, use of the incorrect orifice size was not discovered until October 1, 2018. Upon researching the past operability, it was determined this error did not affect the WRGM calibration until January 16, 2017, as the prior calibrations and air flow measurements were either performed using an alternative method or with HVF201A damper closed; thus the error affected operability of the FHB WRGM from January 16, 2017 to November 30, 2018 exceeding the allowed outage time per Technical Specification 3.3.3.1. This condition is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).

CORRECTIVE ACTIONS

The model work order for performing the air flow measurement was revised to correct the air flow calculation by using the actual orifice area.

The model work order will be revised to remove the steps for taking FHB ventilation system air flows and include these instructions in mechanical maintenance procedure MM-003-047, which will include a note to verify orifice plate sizes in the field.

SAFETY SIGNIFICANCE

There were no actual consequences due to this condition prohibited by TS. If during the period that the FHB WRGM was inoperable a radiological event had occurred in the Fuel Handling Building and the FHB emergency filtration units were initiated, the magnitude of the release would be underestimated by the FHB WRGM. There were no other actual consequences to safety of the general public, nuclear safety, industrial safety and radiological safety for this event.

The significance of the effect on the emergency classification if there had been an event is being evaluated and will be reported in a planned follow up LER.

BASIS FOR REPORTABILITY

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B):

Any operation or condition which was prohibited by the plant's Technical Specifications except when:

(1) The Technical Specification is administrative in nature;
(2) The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or
(3) The Technical Specification was revised prior to discovery of the event such that the operation or condition no longer prohibited at the time of the discovery of the event."

ADDITIONAL INFORMATION

10 CFR 50.73(b)(5) states that this report shall contain reference to "any previous similar events at the same plant that are known to the licensee." NUREG 1022 reporting guidance states that term "previous occurrences" should include previous events or conditions that involved the same underlying concern or reason as this event, such as the same root cause, failure, or sequence of events.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2019

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A review of the Waterford Steam Electric Station corrective action program and LERs for the previous three years was performed and no similar events were found to be applicable.