



Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-3093
Tel 504-739-6028

John D. Lewis
Manager – Regulatory Assurance
Waterford Steam Electric Station, Unit 3

10 CFR 50.73

W3F1-2021-0070

December 16, 2021

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

Subject: Licensee Event Report 50-382/2021-003-00, Non-Compliance with Technical Specifications due to Failed Ambient Pressure Input

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

Entergy Operations, Inc. (Entergy) submits the enclosed Licensee Event Report (LER) 50-382/2021-003-00 for Waterford Steam Electric Station, Unit 3 (WF3). This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as any operation or condition that was prohibited by the plant's technical specifications. The LER describes a non-compliance with Technical Specifications 3.6.6.1 and 3.7.7 due to a failed ambient pressure input.

There are no new commitments contained in this submittal.

Should you have any questions concerning this issue, please contact John D. Lewis, Manager, Regulatory Assurance, at 504-739-6028.

Respectfully,

**John D.
Lewis** Digitally signed
by John D Lewis
Date: 2021.12.16
12:00:56 -06'00'

John D. Lewis

JDL/dbb/jkb


Enclosure: Licensee Event Report 50-382/2021-003-00

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

Enclosure to

W3F1-2021-0070

Licensee Event Report 50-382/2021-003-00

NRC FORM 366 (08-2020)					APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2023 <small>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 FOIA, Library, and Information Collection Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.</small>						
 LICENSEE EVENT REPORT (LER) <small>(See Page 3 for required number of digits/characters for each block)</small> <small>(See NUREG-1022, R.3 for instruction and guidance for completing this form https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)</small>											
1. Facility Name Waterford Steam Electric Station, Unit 3					2. Docket Number 05000 - 0382		3. Page 1 OF 3				
4. Title Non-Compliance with Technical Specifications due to Failed Ambient Pressure Input											
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	
10	18	2021	2021	- 003 -	00	12	16	2021	N/A	N/A	
									N/A	N/A	
9. Operating Mode <div style="text-align: center;">1</div>						10. Power Level <div style="text-align: center;">100</div>					
11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)											
10 CFR Part 20		<input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)			
<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		10 CFR Part 73			
<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.69(g)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(4)			
<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 73.71(a)(5)			
<input type="checkbox"/> 20.2203(a)(2)(i)		10 CFR Part 21		<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 73.77(a)(1)(i)			
<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 21.2(c)		<input type="checkbox"/> 50.73(a)(2)(i)(C)		<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 73.77(a)(2)(i)			
<input type="checkbox"/> 20.2203(a)(2)(iii)		10 CFR Part 50		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)		<input type="checkbox"/> 73.77(a)(2)(ii)			
<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)					
<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)					
<input type="checkbox"/> Other (Specify here, in Abstract, or in NRC 366A).											
12. Licensee Contact for this LER											
Licensee Contact John D. Lewis / Manager, Regulatory Assurance								Phone Number (Include Area Code) (504) 739-6028			
13. Complete One Line for each Component Failure Described in this Report											
Cause	System	Component	Manufacturer	Reportable To IRIS	Cause	System	Component	Manufacturer	Reportable To IRIS		
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
14. Supplemental Report Expected						15. Expected Submission Date			Month	Day	Year
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date)									N/A	N/A	N/A
16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)											
<p>On October 18, 2021, at 1911 Central Time with Waterford Steam Electric Station, Unit 3 operating in Mode 1 at 100 % power, it was discovered that an ambient pressure sensing line failed to provide proper input to differential pressure transmitters Shield Building Ventilation Instrument SBVIDPT5054B and Reactor Auxiliary Building Ventilation Instrument HVRIDPT5272B. This resulted in Shield Building Ventilation (SBV) Unit "B" and Controlled Ventilation Areas (CVAS) Unit "B" being inoperable. Further investigation revealed the ambient pressure input likely began to fail when exposed to the high winds from Hurricane Ida on August 29, 2021 which resulted in rainwater entering the ambient pressure sensing line. With failure assumed on or near August 29, 2021 at 1200 CT, the 7-day Technical Specification (TS) allowed outage time associated with inoperable SBV and CVAS trains (TSs 3.6.6.1 and 3.7.7, respectively) was exceeded, resulting in a violation of the TSs. The cause of the event was determined to be inadequate design of the ambient pressure sensing line. Completed corrective action includes completion of purging the ambient sensing line of water. Planned corrective actions include modification of the subject sensing line to eliminate the potential for water intrusion and a twice per week comparison of SBVIDPT5054A and SBVIDPT5054B to ensure both are reasonably close until a new computer point is created to perform the comparison.</p>											



U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 08/31/2023

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 FOIA, Library, and Information Collection Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
Waterford Steam Electric Station, Unit 3	05000-0382	YEAR	SEQUENTIAL NUMBER	REV NO.
		2021	003	00

NARRATIVE

PLANT STATUS

On August 29, 2021 at 1200 CT, Waterford Steam Electric Station, Unit 3 (Waterford) was operating at 0% power in Mode 3. There were no other structures, systems, or components that were inoperable at the time that contributed to the event.

EVENT DESCRIPTION

On October 18, 2021 at 1911 CT, during planned maintenance on Shield Building Ventilation (SBV) [VC] Unit "B", it was discovered that an ambient pressure sensing line failed to provide proper input to differential pressure transmitters [DPT] SBVIDPT5054B and HVRIDPT5272B. This resulted in SBV Unit "B" and Controlled Ventilation Areas (CVAS) [VF] Unit "B" being inoperable. Waterford Technical Specification (TS) 3.6.6.1 requires two SBV trains to be operable in Modes 1, 2, 3, and 4. Waterford TS 3.7.7 requires two CVAS trains to be operable in Modes 1, 2, 3, and 4. These TSs permit 7-days to restore an inoperable SBV and/or CVAS train to operable status; otherwise, the unit must be placed in Mode 3 within 6 hours and Mode 5 within the following 30 hours.

The SBV System is an engineered safety feature charcoal filtration system and is not normally in operation. It is designed to maintain the Shield Building to Reactor Building annulus in a -8.0 INWC (inches water column) vacuum and preclude any contaminated air leakage through the Shield Building during a design basis accident (DBA). The SBV system air is filtered through High Efficiency Particulate Air (HEPA) filters and charcoal beds to reduce the radiological dose to the general public.

The CVAS System is an engineered safety feature charcoal filtration system and is not normally in operation. It is designed to maintain select rooms in the plant in a vacuum. The CVAS system air is filtered through HEPA filters and charcoal beds to reduce the radiological dose to the general public during a DBA. The condition described herein prevents the affected SBV and CVAS trains from functioning properly.

On August 29, 2021, Hurricane Ida passed over Waterford and the site experienced driving rain with winds of more than 100 mph. No post-hurricane damage or issues were noted with either the SBV or CVAS. At this time, however, Plant Monitoring Computer (PMC) historical data for the SBV Annulus to Ambient and -4 Reactor Auxiliary Building Pipe Penetration to Ambient Differential Pressure began to exhibit unstable indication. These data points are not observed on a regular basis; each is recorded by the PMC and historical data can be reviewed. The erratic ambient pressure input condition was discovered on October 18, 2021 at 1911 CT. The erratic ambient pressure input, which began on August 29, 2021, resulted in the inoperability of one train of SBV and one train of CVAS. The 7-day allowed outage time of associated TSs 3.6.6.1 and 3.7.7 were exceeded prior to repair and restoration of the ambient pressure input.

The ambient pressure input was repaired and CVAS Unit "B" declared operable on October 19, 2021. SBV Unit "B" remained out of service for unrelated maintenance until October 21, 2021, when the SBV unit was declared operable.

This event is being reported under 10 CFR 50.73(a)(2)(i)(B) which requires submittal of a Licensee Event Report within 60 days after the discovery for any operation or condition that was prohibited by the plant's technical specifications.



U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 08/31/2023

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 FOIA, Library, and Information Collection Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
Waterford Steam Electric Station, Unit 3	05000-0382	YEAR	SEQUENTIAL NUMBER	REV NO.
		2021	003	00

SAFETY ASSESSMENT

Failure to comply with the requirements of Waterford TSs 3.6.6.1 and 3.7.7 did not result in any consequences to the safety of the general public, nuclear safety, industrial safety, or radiological safety. The redundant SBV and CVAS trains remained operable during the time period of August 29, 2021 through October 21, 2021. The safety significance of this event is determined to be low.

EVENT CAUSE(S)

The cause for the improper ambient pressure in the sensing line was found to be a historical design issue. The ambient sensing line has a vertical drop and rise of approximately one foot (creating a "P-Trap"). This tubing arrangement is located within five feet of the end of the sensing line, where the rain/wind cap is located. Any rainwater that may enter through the rain/wind cap would drain to and be captured by this P-trap, resulting in an incorrect ambient pressure in the ambient sensing line and erratic transmitter indication. The six-inch riser ending at the rain/wind cap adds to the likelihood of water intrusion with high winds and rain experienced during Hurricane Ida.

CORRECTIVE ACTIONS

The water has been removed from the sensing line and the transmitters restored. Waterford plans to implement the following additional corrective actions.

- Modification of the subject sensing line to eliminate the potential for water intrusion.
- Generate a new calculated computer point that compares sister differential pressure transmitter SBVIDPT5054A with SBVIDPT5054B values which will alarm in the control room when the error between these two points exceeds a reasonable value continuously for a selected period of time.
- Revise preventative maintenance work orders to include draining the wet leg (ambient sensing line) for HVRIDPT5272B.
- Replace the rain/wind cap associated with SBVIDPT5054B.
- Review the configuration drawings for SBVIDPT5054A ambient sensing line to ensure there are no low points that could collect condensate/water.

PREVIOUS SIMILAR EVENTS

None