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DEC 19 2018

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

Serial No.	18-444
MPS Lic/GJC	R0
Docket No.	50-336
License No.	DPR-65

DOMINION ENERGY NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
LICENSEE EVENT REPORT 2018-001-00
LOSS OF BOTH TRAINS OF CONTROL ROOM EMERGENCY VENTILATION RESULTING IN THE LOSS OF SAFETY FUNCTION

This letter forwards Licensee Event Report (LER) 2018-001-00 documenting a condition discovered at Millstone Power Station Unit 2, on October 23, 2018. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(v)(D) as a condition that could have prevented the fulfillment of a safety function for systems or structures to mitigate the consequences of an accident.

If you have any questions or require additional information, please contact Mr. Jeffry A. Langan at (860) 444-5544.

Sincerely,

for JRD

John R. Daugherty
Site Vice President – Millstone

Attachments: 1

Commitments made in this letter: None

IE22
NRR

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd.
Suite 100
King of Prussia, PA 19406-2713

R.V. Guzman
NRC Senior Project Manager Millstone Units 2 and 3
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 08 C-2
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT

LICENSEE EVENT REPORT 2018-001-00
LOSS OF BOTH TRAINS OF CONTROL ROOM EMERGENCY VENTILATION RESULTING IN THE LOSS OF SAFETY FUNCTION

MILLSTONE POWER STATION UNIT 2
DOMINION ENERGY NUCLEAR CONNECTICUT, INC.

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

LICENSEE EVENT REPORT (LER)

(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/)

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.

1. Facility Name	2. Docket Number	3. Page
Millstone Power Station Unit 2	05000336	1 OF 3

4. Title

Loss of Both Trains of Control Room Emergency Ventilation Resulting in the Loss of Safety Function

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	23	2018	2018	- 001	- 00	12	19	18		05000
										Docket Number 05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
6	☐ 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)
0	☐ 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)
	☐ 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)(2)(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)
Jeffry A Langan, Manager Nuclear Station Licensing	(860) 444-5544

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No				

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

During surveillance testing on October 23, 2018, with Millstone Power Station Unit 2 in Mode 6 it was discovered that Control Room Envelope (CRE) air in-leakage exceeded the allowable limit of the Control Room Habitability Program. The test results found the air in-leakage for both trains of Control Room Emergency Ventilation did not meet the Control Room Habitability Program requirements rendering the Control Room Envelope inoperable. Technical Specification Action Statement 3.7.6.1.e was entered and the required Limiting Condition for Operation actions were completed. The condition was reported to the NRC pursuant to 10 CFR 50.72(b)(3)(v)(D) via an 8-hour prompt report (NRC Event Notice EN 53688). This is being reported pursuant to 10 CFR 50.73(a)(2)(v)(D) as an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

The direct cause of the inoperability of the CRE was determined to be the air in-leakage through multiple degraded components, including a partially open duct access hatch, degraded door seals and latches, an open loop seal, a degraded area on the bottom of a cooler drain pan, and leaking charcoal filter canisters. Repairs were made to the CRE and subsequent testing indicated the safety function was restored.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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.

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1. FACILITY NAME	2. DOCKET	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Millstone Power Station Unit 2	05000336	2018	001	00

NARRATIVE

1. EVENT DESCRIPTION

During surveillance testing on October 23, 2018, with Millstone Power Station Unit 2 (MPS2) in Mode 6 operators discovered that Control Room Envelope (CRE) air in-leakage exceeded the allowable limit of the Control Room Habitability Program (CRHP). Since the in-leakage did not meet the CRHP requirement as required by the Plant's Technical Specifications (TSs), both trains of Control Room Emergency Ventilation (CREV) were declared inoperable as a result of an inoperable CRE boundary. TS Action Statement (TSAS) 3.7.6.1.e was entered for two inoperable trains of CREV, and the required TS actions were completed. The condition was reported to the NRC pursuant to 10 CFR 50.72(b)(3)(v)(D) via an 8-hour prompt report (NRC Event Notice EN 53688) as an event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. The event was also documented in the station's corrective action system. Repairs were made to the CRE and subsequent testing indicated the CRE boundary was restored. This condition is being reported pursuant to 10 CFR 50.73(a)(2)(v)(D) an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

BACKGROUND:

The safety function of the CRE boundary is to ensure that the in-leakage of unfiltered air into the CRE will not exceed the in-leakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. This ensures that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analysis for DBA, and that CRE occupants are protected from hazardous chemicals and smoke.

SYSTEM DESIGN/CONFIGURATION

The purpose of the CREV system is to remove Iodines from the control room envelope through charcoal filters during design basis accidents to maintain the control room habitable for the operators. The CREV also protects the operators against hazardous chemicals and smoke.

The CRE boundary is the combination of walls, floors, ceiling, ducting, valves, doors, penetrations, and equipment that physically form the CRE. The CREV system consists of two full capacity, completely independent air handling and mechanical refrigeration subsystems with the exception of some common ductwork and dampers. Each control room air conditioning subsystem is a single zone system. The system has the capability of ventilating with outside air while cooling, using mechanical refrigeration.

Outside air is not provided for pressurizing the control room because of the potential radioactivity during the post-accident condition. Outside makeup air is avoided to minimize possibilities of inducing contamination into the control room. Outside air is introduced over the long-term post-accident case only to provide fresh air for personnel safety.

2. CAUSE

The direct cause of the inoperability of the CRE was determined to be the air in-leakage through multiple degraded components, including a partially open duct access hatch, degraded door seals and latches, an open loop seal, a degraded area on the bottom of a cooler drain pan, and leaking charcoal filter canisters that cumulatively exceeded the CRHP limit.

3. ASSESSMENT OF SAFETY CONSEQUENCES

The safety consequences associated with the inoperability of the CREV is low.

The effects of degraded control room in-leakage on calculated dose consequences resulting from a DBA were assessed. The assessment concluded the potential dose to the operators based on actual plant conditions over the last three years, would have been within regulatory limits.

NARRATIVE

The effects of degraded control room in-leakage on the control room habitability as the result of an accidental chemical release and smoke were also assessed. Specifically offsite propane rail car accidental release event and the on-site MPS3 carbon dioxide storage tank accidental release event. The assessment concluded the observed CRE in-leakage did not exceeded the maximum permissible air in-leakage limit for these types of releases and therefore the control room remained habitable.

4. CORRECTIVE ACTION

The degraded conditions that led to the test failure were corrected, and the control room air in-leakage test was re-performed satisfactorily. MPS maintenance, operations and testing procedures are being revised to improve maintenance and testing activities associated with CRE components. Additional corrective actions, including actions to strengthen the periodic assessment, are being taken in accordance with the station's corrective action program.

5. PREVIOUS OCCURRENCES

There are no previous occurrences with the same underlying reason or consequences.

6. Energy Industry Identification System (EIIS) codes

- VI – Control Building/Control
- DR – Door