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AUG 0 9 2016

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

Serial No. 16-321
MPS Lic/AVM R0
Docket No. 50-423
License No. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
LICENSEE EVENT REPORT 2016-005-00
TECHNICAL SPECIFICATION REQUIRED SHUTDOWN AND MANUAL REACTOR TRIP DUE TO STEAM GENERATOR LEVEL OSCILLATION

This letter forwards Licensee Event Report (LER) 2016-005-00 documenting an event at Millstone Power Station Unit 3, on June 12, 2016. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B). Additionally, the plant shutdown is being reported in accordance with 10 CFR 50.73(a)(2)(i)(A) as the completion of any nuclear plant shutdown required by the plant's Technical Specifications.

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

Sincerely,

John R. Daugherty
Site Vice President – Millstone

Attachments: 1

Commitments made in this letter: None

IE22

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
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NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT

LICENSEE EVENT REPORT 2016-005-00
TECHNICAL SPECIFICATION REQUIRED SHUTDOWN AND MANUAL REACTOR TRIP DUE TO STEAM GENERATOR LEVEL OSCILLATION

MILLSTONE POWER STATION UNIT 3
DOMINION NUCLEAR CONNECTICUT, INC.

NRC FORM 366 (11-2015) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018

LICENSEE EVENT REPORT (LER)

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, Privacy and Information Collections Branch (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.

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Millstone Power Station Unit 3	05000423	1 OF 3

4. TITLE
Technical Specification Required Shutdown and Manual Reactor Trip Due to Steam Generator Level Oscillation

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 05000
06	12	2016	2016	- 005 -	00	08	09	2016	FACILITY NAME	DOCKET NUMBER 05000

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)(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)
10. POWER LEVEL	☐ 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)
020	☐ 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

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	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				

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

On June 12, 2016, with Millstone Power Station Unit 3 operating in MODE 1 at 100% power, operators identified the third stage of the "A" Reactor Coolant Pump (RCP) seal had failed, which resulted in an unidentified Reactor Coolant System leak greater than the Technical Specification (TS) limit of 1 gallon per minute. Operators initiated a plant shutdown as required by TS 3.4.6.2 ACTION Statement b. During the downpower, steam generator levels were not adequately maintained and the Engineered Safety Features Actuation System generated a Turbine Trip and Feed Water Isolation on Steam Generator Water Level – High-High being exceeded on the 'B' steam generator. In response, operators manually tripped the reactor at 23:37 (MODE 1, at approximately 20 % power). The auxiliary feedwater system started as designed. Safety systems functioned as expected. There were no radiological challenges as a result of the event. The plant entered COLD SHUTDOWN on June 14, 2016 at 01:29.

The cause of the unidentified leak was a failed third stage on the "A" RCP seal. The seal was replaced.

The cause of the feedwater transient and resultant manual reactor trip was due to operator performance in controlling steam generator level. This is being addressed in the Corrective Action Program.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B). Additionally, the plant shutdown is being reported in accordance with 10 CFR 50.73 (a)(2)(i)(A) as the completion of any nuclear plant shutdown required by the plant's Technical Specifications.

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, Privacy and Information Collections Branch (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.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
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Millstone Power Station Unit 3	05000423	2016	- 005 -	00	2 OF 3

NARRATIVE

1. EVENT DESCRIPTION:

On June 12, 2016 at approximately 19:55, with Millstone Power Station Unit 3 (MPS3) operating in MODE 1 at 100% power, operators identified the third stage on the "A" Reactor Coolant Pump (RCP) seal had failed, which resulted in an unidentified Reactor Coolant System (RCS) leak greater than the Technical Specification (TS) limit. The leak was going to the containment sump at a leakage rate of approximately 2 gallons per minute (gpm) which exceeded the TS 3.4.6.2.b limit of 1 gpm UNIDENTIFIED LEAKAGE. Operators entered TS 3.4.6.2 ACTION Statement b, "With any RCS operational LEAKAGE not within limits, other than PRESSURE BOUNDARY LEAKAGE, LEAKAGE from Reactor Coolant System Pressure Isolation Valves or primary to secondary LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours", and commenced a downpower at 1% per minute in accordance with station procedures. During the downpower, steam generator levels were not adequately maintained. As a result, the Engineered Safety Features Actuation System generated a Turbine Trip and Feed Water Isolation on Steam Generator Water Level – High-High being exceeded on the 'B' steam generator. In response to the turbine trip and feedwater isolation, operators manually tripped the reactor at 23:37 (MODE 1, at approximately 20 % power). The auxiliary feedwater system started as designed and maintained steam generator levels. Safety systems functioned as expected. There were no radiological challenges as a result of the event. The plant completed the Shutdown required by Technical Specifications and entered COLD SHUTDOWN on June 14, 2016 at 01:29.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B). Additionally, the plant shutdown is being reported in accordance with 10 CFR 50.73 (a)(2)(i)(A) as the completion of any nuclear plant shutdown required by the plant's Technical Specifications.

2. CAUSE:

The cause of the UNIDENTIFIED LEAKAGE exceeding plant technical specification requirements was a failed third stage on the "A" RCP seal. Failure of the "A" RCP seal stage was caused by gradual pitting and degradation of the seal stationary faces.

The cause of the Engineered Safety Features Actuation System generated turbine trip and feedwater isolation was inadequate control of feedwater flow by the feedwater station operator which resulted in all four steam generator levels increasing and the "B" SG reaching the 80% Hi-Hi trip setpoint.

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, Privacy and Information Collections Branch (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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NARRATIVE

3. ASSESSMENT OF SAFETY CONSEQUENCES:

The failure of the third stage of the 'A' RCP seal followed by an excess feedwater flow transient and manual reactor trip during the rapid downpower, was bounded by the analysis presented in Final Safety Analysis Report Chapter 15.1.2, "Feedwater System Malfunctions that Result in an Increase in Feedwater Flow". Therefore, the event had a very low safety significance.

The leak resulted from failure of only the upper third stage of the three stage Flowserve RCP seal design. Pressure breakdown and flow restriction from the first two seal stages continued. The resultant leak rate from the "A" RCP seal, approximately 2 gpm, was within the capability of the charging system to maintain pressurizer level. The leakage from the seal was collected in the containment sump with no releases to the environment.

4. CORRECTIVE ACTION:

The 'A' RCP seal was replaced. Additional corrective actions will be taken in accordance with the corrective action program.

Operator performance issues for the impacted positions are being addressed in the 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:

- Reactor Coolant System – AB
- Containment- NH
- Feedwater System – JB
- Isolation Valve – ISV
- Pump – P
- Solid State Protection System – JG
- Steam Generator- SG