

Dominion Nuclear Connecticut, Inc.  
Millstone Power Station  
Rope Ferry Road  
Waterford, CT 06385



**Dominion**<sup>SM</sup>

DEC 04 2009

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

Serial No. 09-672  
MPS Lic/TGC R0  
Docket No. 50-336  
License No. DPR-65

**DOMINION NUCLEAR CONNECTICUT, INC.**  
**MILLSTONE POWER STATION UNIT 2**  
**LICENSEE EVENT REPORT 2009-003-00**

This letter forwards Licensee Event Report (LER) 2009-003-00 documenting a condition discovered at Millstone Power Station Unit 2, on October 7, 2009. This LER is being submitted pursuant to 10CFR50.73(a)(2)(vii) as a common cause inoperability of independent trains in a single system designed to mitigate the consequences of an accident, and 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

If you have any questions or require additional information, please contact Mr. William D. Bartron at (860) 444-4301.

Sincerely,

A. J. Jordan  
Site Vice President – Millstone

Attachments: 1

Commitments made in this letter: None

1E22  
NRR

cc: U.S. Nuclear Regulatory Commission  
Region I  
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King of Prussia, PA 19406-1415

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NRC Senior Resident Inspector  
Millstone Power Station

**ATTACHMENT**

**LICENSEE EVENT REPORT 2009-003-00**

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

**LICENSEE EVENT REPORT (LER)**

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

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 Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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.

<b>1. FACILITY NAME</b> Millstone Power Station - Unit 2	<b>2. DOCKET NUMBER</b> 05000336	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Two Independent Diesel Generators Rendered Inoperable Due to Common Cause

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	07	2009	2009 - 003 - 00			12	04	2009	FACILITY NAME	DOCKET NUMBER 05000

<b>9. OPERATING MODE</b>  5	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)																																	
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input checked="" type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(a)(4)	<input type="checkbox"/> 73.71(a)(5)
<b>10. POWER LEVEL</b>  000	Specify in Abstract below or in NRC Form 366A																																	

**12. LICENSEE CONTACT FOR THIS LER**

<b>FACILITY NAME</b> William D. Bartron, Supervisor, Nuclear Station Licensing	<b>TELEPHONE NUMBER (Include Area Code)</b> 860-444-4301
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b> MONTH:      DAY:      YEAR:
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 7, 2009, while Millstone Power Station Unit 2 was in Mode 5 at 0% power, operators conducting a control board walk-down at turnover noted that the "inhibit" keys for under voltage protection were in place and the sensor channels for both vital buses were bypassed. It was determined that the channels were bypassed earlier in the day while Millstone Power Station Unit 2 was in Mode 4. This condition existed for approximately seven hours and rendered both emergency diesel generators inoperable, however the emergency diesel generators were available to be remotely started.

The cause of the event was less than adequate written instructions for performing the task by instrument and controls technicians.

Upon discovery, the channels were taken out of "inhibit", restoring under voltage protection and operability of the emergency diesel generators. A new procedure will be written to govern bypassing/inhibiting protective system sensor channels.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(vii) as a common cause inoperability of independent trains in a single system designed to mitigate the consequences of an accident, and 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

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**NARRATIVE**

**1. Event Description**

On October 7, 2009, while Millstone Power Station Unit 2 (MPS2) was in Mode 5 at 0% power, operators conducting a control board walk-down at turnover noted that the "inhibit" keys for under voltage (UV) protection were in place and the sensor channels for both vital buses were bypassed. This condition existed for approximately seven hours and rendered both emergency diesel generators (EDGs) [EK] inoperable, however the EDGs were available to be remotely started. Upon discovery, the channels were taken out of "inhibit" restoring UV protection and operability of the EDGs.

Upon investigation it was determined that the channels were bypassed under a work order earlier in the day while MPS2 was in Mode 4. The I&C technicians bypassed all of the Engineered Safety Feature Actuation System (ESFAS) [JE] sensor inputs including the UV protection. The UV protection should not have been bypassed until the plant was in Mode 5. The plant Technical Specification (TS) 3.8.1.1 for Modes 1, 2, 3, and 4, requires two separate and independent EDGs, and invokes various surveillance requirements that must be met to meet the operability requirements for them. SR 4.8.1.1.2.c.2, c.5, c.7 and c.8 all invoke auto-start requirements for the EDGs. Since the auto-start feature for both EDGs was inhibited in Mode 4, these surveillance acceptance criteria could not be met. Therefore, both EDGs were rendered inoperable while in Mode 4.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(vii) as a common cause inoperability of independent trains in a single system designed to mitigate the consequences of an accident and 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS.

**2. Background**

The ESFAS panel consists of 4 channels, each with sensor inputs (e.g., containment pressure, containment radiation levels, and steam generator level) for generation of the following protection/actuation signals: containment isolation (CIAS), safety injection (SIAS), enclosure building filtration (EBFS), main steam isolation (MSI), sump recirculation (SRAS), and UV. The UV signal load sheds the vital bus and starts the EDG and sequences the loads on in the event of a loss of normal power. The CIAS, SIAS, EBFS, MSI, and SRAS signals are not required below Mode 3 per TS 3.3.2.1 and table 3.3-3, and can be bypassed (placed in "inhibit") in Mode 4. The UV protection is not required below Mode 4 per TS 3.3.2.1 and table 3.3-3, and can be bypassed (placed in "inhibit") in Mode 5.

**3. Cause**

The cause of the event was less than adequate written instructions for performing the task performed by instrument and controls technicians. There is no I&C procedure for bypassing the following MPS 2 systems in Mode 4: ESFAS, Reactor Protection System (RPS), Anticipated Transient Without Scram (ATWS) and Automatic Auxiliary Feedwater Initiation Signal (AAFWS).

**4. Assessment of Safety Consequences**

This event is considered to be of low safety significance. The plant was in Mode 4 approximately 18 hours after an orderly reactor shutdown when the ESFAS UV channels were inadvertently placed in "inhibit". In this condition, the EDGs would not have automatically started and/or loaded in the event of a loss of power. There was no actual loss of offsite power during the timeframe the under voltage channels were in "inhibit". During the time these channels were in inhibit, core and Reactor Coolant System (RCS) heat removal transitioned from the reactor coolant pumps and steam generators to the

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**NARRATIVE**

low pressure safety injection pumps and the shutdown cooling heat exchangers.

In the event of a loss of offsite power with RCS heat removal via the steam generators, continued core and RCS heat removal would have been assured by natural circulation and continued steam generator heat removal via the atmospheric dump valves. If the loss of offsite power had occurred with shutdown cooling established, the EDGs would not have automatically started. However, that condition is readily apparent to the operator, and existing procedural guidance would direct starting and loading of the EDG. Adequate time would have been available to reestablish shutdown cooling flow by manually starting a low pressure safety injection pump and adjusting flow through the shutdown cooling heat exchangers as necessary.

In the event that a loss of offsite power occurred along with a loss of RCS inventory with the automatic diesel generator start inhibited, the RCS inventory and pressure control safety functions would have been capable of being maintained. Based on operator training and procedural guidance, it is judged that there would have been adequate time to restore power to a vital bus and manually start a high pressure safety injection pump to reestablish RCS inventory control. Based on the above discussion, all plant safety functions were capable of being satisfied and there was no adverse effect on the health and safety of the public.

**5. Corrective Action**

Upon discovery, the channels were taken out of "inhibit" restoring UV protection and operability of the emergency diesel generators. An extent of condition review concluded that no other trains or channels that were required to be operable were inappropriately "inhibited" for the ESFAS and the RPS.

The operations crew and I&C technicians were briefed the next day to review the event. The briefs included a discussion on bypassing undervoltage and how it affects emergency power availability. A statement was added to I&C's standard brief for this task to ensure that undervoltage protection is NOT bypassed. Additionally work control documents have been modified to provide guidance as to the ESFAS sensor inputs which could be bypassed, so that the development of future work orders will capture the lessons learned from this event. Improved procedure guidance will be developed governing bypassing/inhibiting ESFAS, RPS, ATWS and AAFWIS by 1/29/2010.

Additional corrective actions will be evaluated in accordance with the station's corrective action program.

**6. Previous Occurrences**

No previous similar events/conditions were identified.

Energy Industry Identification System (EIS) codes are identified in the text as [XX].