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

Dominion

MAR 1 3 2003

Docket No. 50-423
B18845

RE: 10 CFR 50.73(a)(2)(ii)(B)

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

Millstone Power Station, Unit No. 3
Licensee Event Report 2003-002-00
Fire Safe Shutdown Strategy May Not Be Adequate for Fire Scenarios Which Assume Loss of All AC Power

This letter forwards Licensee Event Report (LER) 2003-002-00, documenting a condition that was discovered at Millstone Unit No. 3, on January 16, 2003. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B).

There are no regulatory commitments contained within this letter.

Should you have any questions regarding this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

Stephen P. Sarver, Director
Nuclear Station Operations and Maintenance

Attachment (1): LER 2003-002-00

cc: H. J. Miller, Region I Administrator
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
NRC Senior Resident Inspector, Millstone

IE22

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Attachment 1

Millstone Power Station, Unit No. 3

LER 2003-002-00

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Millstone Power Station – Unit No. 3	05000423	1 OF 3

TITLE (4)

Fire Safe Shutdown Strategy May Not Be Adequate For Fire Scenarios Which Assume Loss of All AC Power

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
01	16	2003	2003	– 002 –	00	03	13	2003	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)

	20.2201(b)		20.2203(a)(3)(ii)	x	50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
	20.2201(d)		20 2203(a)(4)		50.73(a)(2)(iii)		50 73(a)(2)(x)
	20 2203(a)(1)		50 36(c)(1)(i)(A)		50 73(a)(2)(iv)(A)		73 71(a)(4)
	20 2203(a)(2)(i)		50 36(c)(1)(ii)(A)		50 73(a)(2)(v)(A)		73 71(a)(5)
	20.2203(a)(2)(ii)		50 36(c)(2)		50.73(a)(2)(v)(B)		OTHER
	20 2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		in NRC Form 366A
	20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
	20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)		
	20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
David Dodson, Manager - Licensing	860-447-1791

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
☐ YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, I e., approximately 15 single-spaced typewritten lines) (16)

On January 16, 2003, while operating in Mode 1 at 100% power, an engineering evaluation concluded that the fire safe shutdown strategy may not be adequate for fire scenarios which assume the loss of all AC power. For these fire scenarios, both offsite and onsite AC power are assumed lost. The fire safe shutdown strategy assumes that power is manually restored 30 minutes later. As part of an engineering evaluation, it was concluded that this loss of offsite power with delayed emergency diesel generator availability could result in a pressure/temperature transient to the reactor coolant pump (RCP) seal return lines resulting in their failure. This failure would cause increased flow from the reactor coolant system beyond the make-up strategy established in the fire safe shutdown procedures and would also challenge the boration strategies. Since the fire safe shutdown strategy has been determined to be inadequate, this constitutes an unanalyzed condition that could significantly degrade plant safety and is being reported in accordance with 10CFR50.73(a)(2)(ii)(B).

This condition is historical in nature dating to the original design of the RCP seal return lines and the development of the fire safe shutdown strategies. The apparent cause is a failure to recognize that a pressure/temperature transient at the RCP seal return lines could occur as part of the fire safe shutdown strategy. Upon discovery of this condition, compensatory actions to minimize risk of fire in the areas of concern were implemented. These compensatory measures will remain until needed Emergency Operating Procedure revisions, plant modifications, or further analysis are made to address this condition.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Millstone Power Station - Unit No. 3	05000423	2003	-- 002 --	00	2 OF 3

NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

1. Event Description

On January 16, 2003, while operating in Mode 1 at 100% power, an engineering evaluation concluded that the fire safe shutdown strategy may not be adequate for fire scenarios which assume the loss of all AC power. Specifically, certain postulated fires in the control room, cable spreading room or instrument rack room require that operators control the plant from the auxiliary shutdown panel and other remote locations. For these fire scenarios, both offsite and onsite AC power are assumed lost. The fire safe shutdown strategy assumes that power is manually restored 30 minutes later. As part of an engineering evaluation, it was concluded that this loss of offsite power with delayed emergency diesel generator (EDG) [DG] availability could result in a pressure/temperature transient to the reactor coolant pump (RCP) [P] seal [SEAL] return lines resulting in their failure. This failure would cause increased flow from the reactor coolant system [AB] beyond the make-up strategy established in the fire safe shutdown procedures and would also challenge the boration strategies. Since the fire safe shutdown strategy has been determined to be inadequate, this constitutes an unanalyzed condition that could significantly degrade plant safety and is being reported in accordance with 10CFR50.73(a)(2)(ii)(B). It is noted that a station blackout (SBO) scenario could also produce this pressure/temperature transient. However, the SBO event is bounded by previous analysis.

2. Cause

This condition is historical in nature dating to the original design of the RCP seal return lines and the development of the fire safe shutdown strategies. The apparent cause is a failure to recognize that a pressure/temperature transient at the RCP seal return lines could occur as part of the fire safe shutdown strategy.

3. Assessment of Safety Consequences

Fires in the control room, cable spreading room or instrument rack room have the potential to degrade shutdown capability from the control room. If control room functions became substantially degraded, the control room would be abandoned and plant shutdown would be accomplished at designated alternate shutdown locations. The limited set of plant indications that are available at these alternate locations may not support timely diagnosis and mitigation of the event. Additionally, procedures for shutdown from these alternate control locations do not currently anticipate and address the significant challenges associated with the failure of the RCP seal return lines.

The safety significance of this condition is considered low. It should be noted that the assumptions for mitigating these conditions are judged to be acceptable for slowly developing fires where the event continues to be managed from the control room for an extended period of time. The fire scenario of concern in this case is a rapidly developing fire of significant magnitude which forces an evacuation of the control room shortly after detection and commencement of safe shutdown from alternate plant locations. Based on the very low probability of occurrence of this type of fire and based on the availability of fire detection systems and suppression capability in the specified areas, the safety significance of this condition is considered low.

4. Corrective Action

Upon discovery of this condition, compensatory actions to minimize risk of fire in the areas of concern were implemented. These compensatory measures will remain until needed Emergency Operating Procedure revisions, plant modifications, or further analysis are made to address this condition.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Resolution options are under development and are being addressed in accordance with the Millstone Corrective Action Program.

5. Previous Occurrences

No previous similar events/conditions were identified.

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