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

Dominion

DEC 17 2001

Docket No. 50-336
B18533

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

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

Millstone Nuclear Power Station, Unit No. 2
Licensee Event Report 2001-007-00
Movement of Heavy Loads Not Addressed In Procedure

This letter forwards Licensee Event Report (LER) 2001-007-00, which related to a condition that was discovered at Millstone Nuclear Power Station, Unit No. 2, on October 22, 2001. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii) and 10 CFR 50.73(a)(2)(v).

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.

C. J. Schwarz
Master Process Owner - Operate the Asset

Attachment (1): LER 2001-007-00

cc: H. J. Miller, Region 1 Administrator
J. T. Harrison, NRC Project Manager, Millstone Unit No. 2
NRC Senior Resident Inspector, Millstone Unit No. 2

IE22

Docket No. 50-336
B18533

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

LER 2001-007-00

NRC FORM 366 (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2001

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Millstone Nuclear Power Station - Unit 2	05000336	1 OF 3

TITLE (4)
Movement of Heavy Loads not Addressed in Procedure

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
10	22	2001	2001	– 007 –	00	12	17	2001	FACILITY NAME	DOCKET NUMBER
										05000

		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)							
OPERATING MODE (9)	1		20.2201(b)		20.2203(a)(3)(ii)	X	50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
POWER LEVEL (10)	100		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)	X	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 W. Dodson, Team Lead - Compliance	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)

It has been identified that no safe load path exists for lifts of new fuel shipping containers and spent resin casks at Millstone Unit No. 2 in the area of the cask washdown pit and the associated lifting device is not single failure proof. Safety related commodities are located both in the pipe trench below the cask pit floor and on the west wall of the railroad access bay. Load lifts on the order of 24 feet are required to bring material into and out of the spent fuel pool area via this load path. Previously it was identified that a 50 ton reactor coolant pump motor was stored in the cask washdown pit and that the drop of this motor would result in failure of the floor and potential damage to safety related components in the pipe trench.

The root cause for the failure to identify heavy load paths is inadequate work practices in the Millstone engineering department in the area of programs.

Remedial corrective actions taken to date include marking the location of the pipe trench on the railroad access bay floor and removal of the reactor coolant pump motor from the cask washdown pit using a NUREG-0612 compliant lift. Additional corrective actions are being addressed in accordance with the Millstone Corrective Action Program.

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

1. Event Description

On October 22, 2001, with the plant in mode one at one hundred percent power, it was discovered that heavy loads have been historically moved at Millstone Unit No. 2 without appropriate procedural guidance. In order to support plant operation and refueling activites, various items need to be lifted and transported to locations within the power block and yard. These lifts and movements are controlled by procedures which take into consideration safety related structures, systems, components, and fuel which may be adversely effected by a load drop. Historically this issue has been addressed via the guidance provided in NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." Commitments were established for procedural controls, conduct of operations for cranes, and safe load paths.

The Millstone Unit No. 2 Spent Fuel Pool Area, 38'-6" elevation of the Auxillary Building [NF], as well as the cask washdown pit, is addressed by procedure MP 2712B1, "Control of Heavy Loads." The procedure shows the Spent Fuel Pool as a restricted area for lifts, with a safe load path adjacent to the pool. Historically, loads such as new fuel, spent resin casks, and other items have been lifted from the railroad access bay at the 14'-6" elevation, to and from the 38'-6" elevation, over a safety related pipe trench. Most recently, a spare reactor coolant pump [P] motor [MO] was lifted into the cask washdown pit. However, these loads have been lifted over the safety related pipe trench using a crane [CRN] that is not "single failure proof" as described in NUREG-0612.

The safety related pipe trench lies below the cask washdown pit and the railroad access bay floor. The trench contains conduit [CND], cable raceways [TRLY] and safety related piping, including redundant refueling water storage tank [TK] (RWST) suction headers and redundant emergency diesel Service Water [LB] headers. The drop of a heavy load in the area of the cask washdown pit could cause failure of the floor slab resulting in damage to the safety related pipe trench. In addition, the end wall of the railroad access bay supports various safety related items that could be damaged while performing heavy load lifts in the area.

The cask crane is not "single failure proof" as described in NUREG-0612. The crane is a conventional 100 ton beam crane. The factor of safety requirements for rigging, presented in NUREG-0612, can be extended to the hook and other load bearing components where the stress distributions do not change as the load is being either lifted or transported horizontally, however, it cannot be extended to the other parts such as the cable, sheaves, etc. where the stress distribution does change while the load is being lifted/transported. Thus a failure of one of these parts must be considered even though the probability of such a failure is very low. If one of these parts does fail, the load will not necessarily fall straight down. If a sheave were to fail or if the cable somehow rides up over the edge of a sheave, and then fails, the block will tilt prior to releasing the load. The center of gravity of the load will move to remain directly beneath the location of the support force. This support force location will be constantly changing as the cable unloads. Hence, an initial angle and/or slight tendency to tumble cannot be precluded.

Should a load drop have occurred, the floor of the cask pit could have failed and the resulting impact to the safety related structures below the floor may have resulted in a loss of safety function for the RWST and Service Water system. The ability to safely shutdown the plant under these circumstances would have been a significant challenge and is not an analyzed condition for the facility.

On the basis of the above, this condition is considered to be reportable under 10 CFR 50.73(a)(2)(ii) as an unanalyzed condition which could significantly degrade plant safety, and 50.73(a)(2)(v) as a condition that could have prevented the fulfillment of the safety function.

2. Cause

The root cause for the failure to identify heavy load paths is inadequate engineering work practices in the Millstone engineering department in the area of programs.

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

3. Assessment of Safety Consequences

There were no actual consequences experienced as a result of this condition and the safety significance of this condition is judged to be low. Although a portion of the floor of the cask washdown pit is directly above the safety related pipe trench containing the redundant refueling water storage tank suction headers and redundant emergency diesel service water headers, movement of a heavy load, such as the spare reactor coolant pump, would be minimal in terms of risk. This is a result of the high reliability of those systems as well as the high load capacity of the cask crane. The cask crane capacity has never been challenged in that the most frequently lifted loads are well below the 100 ton crane capacity. The cask crane is subject to testing and preventative maintenance, and is operated by qualified personnel. Thus, these cranes exhibit high reliability.

4. Corrective Action

Remedial corrective actions taken to date include marking the location of the pipe trench on the railroad access bay floor and removal of the reactor coolant pump motor from the cask washdown pit using a NUREG-0612 compliant lift. Additional corrective actions are being addressed in accordance with the Millstone Corrective Action Program.

5. Previous Occurrences

No similar events/conditions were identified during the 24 months preceding this condition.

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