

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



DominionSM

JUL - 3 2001

Docket No. 50-336
B18431

RE: 10 CFR 50.73(a)(2)(iv)

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

Millstone Nuclear Power Station, Unit No. 2
Licensee Event Report 2001-004-00
Manual Reactor Trip Following "B" Circulating Water Pump Trip

This letter forwards Licensee Event Report (LER) 2001-004-00, documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 2 on May 7, 2001. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A).

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 2001-004-00

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

IE22

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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

LER 2001-004-00

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.

LICENSEE EVENT REPORT (LER)

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

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

TITLE (4)
Manual Reactor Trip Following "B" Circulating Water Pump Trip

| 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 |
| 05 | 07 | 2001 | 2001 | - 004 - | 00 | 07 | 03 | 2001 | FACILITY NAME | DOCKET NUMBER |
| | | | | | | | | | | 05000 |
| | | | | | | | | | | 05000 |

| | | | | | | |
|---------------------------|-----|---|--|--------------------|----------------------|---|
| OPERATING MODE (9) | 1 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11) | | | | |
| | | 20.2201(b) | | 20.2203(a)(3)(ii) | 50.73(a)(2)(ii)(B) | 50.73(a)(2)(ix)(A) |
| POWER LEVEL (10) | 096 | 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) | X 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 in NRC Form 366A |
| | | 20.2203(a)(2)(iv) | | 50.73(a)(2)(i)(A) | 50.73(a)(2)(v)(D) | |
| | | 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 David W. Dodson, Team Lead - Compliance | TELEPHONE NUMBER (Include Area Code) 860-447-1791 |
|--|---|

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
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|--|--|--|--|--------------------------------------|-------|-----|------|
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | EXPECTED SUBMISSION DATE (15) | | | |
| <input type="checkbox"/> | YES (If yes, complete EXPECTED SUBMISSION DATE). | | | <input checked="" type="checkbox"/> | NO | | |
| | | | | | MONTH | DAY | YEAR |

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

On Monday May 7, 2001, with the plant at 96 percent power, preventive maintenance work was being performed in the Unit 2 "A" Circulating Water bay. The "A" Circulating pump, "A" travelling screen, and travelling screen in the adjacent "B" bay were tagged off for diver protection which allowed an accumulation of seaweed on the "B" screen over a period of several hours. When the "B" screen differential pressure reached its setpoint of 30 inches, the "B" Circulating Water pump automatically tripped. The reactor was then manually tripped per procedure at approximately 1433 hours due to the loss of two Circulating Water pumps in one condenser. There were no significant complications following the trip and all safety systems functioned as designed.

The root cause of this event was determined to be that the risks and consequences of non-safety related work management decisions are not completely identified or assessed.

To prevent recurrence a risk assessment process is being developed that utilizes the collective knowledge of plant personnel to identify those activities having the potential to jeopardize the safe and continuous operation of the plant. Additional corrective actions are being addressed via the Millstone Corrective Action Program.

LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET (2) | LER NUMBER (6) | | | PAGE (3) |
|--|------------|----------------|-------------------|-----------------|----------|
| Millstone Nuclear Power Station Unit No. 2 | 05000336 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 2 OF 3 |
| | | 2001 | -- 004 -- | 00 | |

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

1. Event Description

On May 7, 2001, with the plant at 96 percent power, preventive maintenance (PM) work was being performed in the Unit 2 "A" Circulating Water Bay [NN]. The "A" Circulating pump [P], "A" travelling screen [SCN], and travelling screen in the adjacent "B" bay were tagged off for diver protection which allowed an accumulation of seaweed on the "B" screen over a period of several hours. When the "B" screen differential pressure reached its setpoint of 30 inches, the "B" Circulating Water pump automatically tripped. The reactor [RCT] was then manually tripped per procedure at approximately 1433 hours due to the loss of two Circulating Water pumps in one condenser [COND] [SG]. There were no significant complications following the trip and all safety related systems functioned as designed.

Preventive Maintenance work was scheduled to be completed on all four of the Unit 2 intake bays in late December, 2000, and early January, 2001. Due to the scheduling and planning of activities for the Unit 3 refueling outage this PM work was deferred until April, 2001. The schedule for the work allowed for one week on each of the four bays with work being completed in the "C" bay, followed by the "D" bay, the "A" bay, and finally the "B" bay. Once work commenced, it was determined that the "C" and "D" bays would need additional maintenance and the work scope increased for those two bays. This expanded work scope further delayed the start of the work on the "A" and "B" bays and extended the start dates into the high seaweed season of late April and through May. The work on the "A" bay was then scheduled to start on May 7, 2001.

The evening just prior to the start date for the work there was a full moon causing extremely high tides which stirred up more debris in the bay. This coupled with the high seaweed season resulted in May 7, 2001, being a very high seaweed day. Intake bay work on Unit No. 3 was scheduled for the same day but was postponed due to the high seaweed conditions and was reported in the morning meeting. Due to calm conditions in the bay, low winds, and the historical Unit 3 intake bay problems when Unit 2 has had no problems, the decision was made to continue with the Unit 2 work.

At approximately 0730 hours the Unit 2 Shift Manager was notified that Unit 3 was experiencing seaweed problems and observed the calm bay conditions. Based on the calm conditions and historical Unit 3 problems the determination was made that there were no immediate intake structure concerns at Unit 2.

At approximately 1130 hours the "A" Circulating Water bay was taken out of service for the PM work to commence. For diver's safety the "B" travelling screen was placed in the "OFF" position and tagged as opposed to inserting the thermal barriers/stop logs. At 1423 hours the control room received an alarm for a high differential pressure across the trash rack [RK] and an increasing differential pressure across the travelling screen. A plant equipment operator (PEO) was called to inspect the intake bay. The PEO, was aware of the tag but did not know the "B" screen was turned off. He reported that the "B" screen was in the "OFF" position and noted the tag to the control room. The owner of the tag was notified and worked with the PEO to clear the divers from the intake bay and start the "B" screen in slow. The differential pressure continued increasing and approximately three minutes later the "B" screen was started in the fast position. About 30 seconds later the screen differential pressure setpoint of 30 inches was reached and the "B" Circulating Water pump tripped at 1433:02 hours. The reactor was then manually tripped by the control room at 1433:06 hours without significant complications.

Had the operators not taken action an automatic signal would have tripped the reactor. With the "A" CWP out for PM work and the trip of the "B" CWP, condenser vacuum would have been lost in the 1A condenser which would have then tripped the main turbine [TRB] [TA]. The turbine trip would automatically trip the reactor. The operators manually tripped the reactor in anticipation of an automatic reactor scram.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(iv) as an event that resulted in the manual actuation of the reactor protection system (RPS) including a reactor scram or reactor trip.

LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET (2) | LER NUMBER (6) | | | PAGE (3) |
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| Millstone Nuclear Power Station Unit No. 2 | 05000336 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 3 OF 3 |
| | | 2001 | -- 004 -- | 00 | |

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

2. Cause

The root cause of this event was determined to be that the risks and consequences of non-safety related work management decisions are not completely identified or assessed. Had the "B" travelling screen been in operation this event would not have occurred, yet procedurally tagging the screen to the "OFF" position was acceptable. Additionally, during the planning and scheduling of the work the decision was made to tag the screens out as opposed to inserting the thermal barriers/stop logs which would have allowed the screens to continue running.

3. Assessment of Safety Consequences

The CWP's provide water flow through the steam condenser that allows steam exiting the turbine to be condensed into water. In the normal plant configuration the "A" and "B" CWP's provide water flow through the "A" and "B" waterboxes in parallel. In the event that one pump is not running, the remaining pump provides flow through both waterboxes through a cross-tie valve. Loss of the remaining pump results in a complete loss of water flow through both waterboxes.

This event was of low safety significance. The reactor trip was uncomplicated and all safety functions were accomplished per design without complications.

4. Corrective Action

Immediate corrective actions following the plant trip included stopping all circulating water bay work until an event review team had convened and investigated the event. Once the review team authorized the resumption of work in the bay an additional operator was stationed to monitor the differential pressure across both the trash racks and the travelling screens as well as to monitor the fish return and ensure the proper operation of the screenwash and traveling screen system.

To prevent recurrence a risk assessment process is being developed that utilizes the collective knowledge of plant personnel to identify those activities having the potential to jeopardize the safe and continuous operation of the plant. Results of the evaluation may conclude that some work is not suitable to be performed while the unit is operating or may require changes in plant configuration or compensatory actions to successfully perform the work activity.

Additional corrective actions are being addressed via the Millstone Corrective Action Program.

5. Previous Occurrences

On April 29, 2001, while at 97 percent power, an automatic reactor trip occurred due to a loss of condenser vacuum. Following a maintenance overhaul of the "D" circulation water pump motor, preparations were being made to perform an uncoupled run. In order to run the motor uncoupled, electrical jumpers were required to be installed to bypass circulation valve/ pump start interlocks. During installation of the jumpers in the "D" circulating water pump breaker cubicle, the "C" circulating water pump tripped. With both the "C" and "D" circulating water pumps not operating, condenser vacuum decreased resulting in a reactor trip.

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