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Big Rock Point Nuclear Plant, 10269 US-31 North, Charlevoix, MI 49720

Patrick M Donnelly
Plant Manager

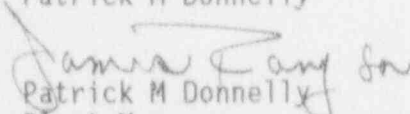
March 8, 1994

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 - BIG ROCK POINT PLANT - LICENSEE EVENT REPORT 94-001; CONTAINMENT SUMP ISOLATION VALVE STROKE TIMES FAILED TO MEET ASME CODE TIMING CRITERIA.

LICENSEE EVENT REPORT 94-001; CONTAINMENT SUMP ISOLATION VALVE STROKE TIMES FAILED TO MEET ASME CODE TIMING CRITERIA, is attached. This event is reportable to the Nuclear Regulatory Commission pursuant to 10 CFR 50.72(b)(2)(iii) and 10 CFR 50.73(a)(2)(v).

Patrick M Donnelly


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Plant Manager

CC: Administrator, Region III, USNRC
NRC Resident Inspector - Big Rock Point

ATTACHMENT

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9403160129 940308
PDR ADOCK 05000155
S PDR

A CMS ENERGY COMPANY

JEZ

LICENSEE EVENT REPORT (LER)

| | | |
|----------------------|-------------------|----------|
| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
| BIG ROCK POINT PLANT | 0 5 0 0 0 1 5 5 | 1 of 0 5 |

TITLE (4) CONTAINMENT SUMP ISOLATION VALVE STROKE TIMES FAILED TO MEET ASME CODE TIMING CRITERIA

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (8) | | | OTHER FACILITIES INVOLVED (9) | | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|--|--|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | | |
| 0 2 | 1 0 | 9 4 | 9 4 | 0 0 1 | 0 0 | 0 3 | 0 8 | 9 4 | N/A | | |
| | | | | | | | | | 0 8 0 0 0 | | |
| | | | | | | | | | N/A | | |
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|--------------------|----------------|--|----------------|---------------------|---|--|--|--|--|--|--|
| OPERATING MODE (9) | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 3: Check one or more of the following (11) | | | | | | | | | |
| POWER LEVEL (10) | 0 9 7 | 20.402(a) | 20.404(d) | 60.73(a)(2)(iv) | 73.71(b) | | | | | | |
| | | 20.408(a)(1)(B) | 60.38(a)(1) | 60.73(a)(2)(v) | 73.71(c) | | | | | | |
| | | 20.406(a)(1)(B) | 60.38(a)(2) | 60.73(a)(2)(vi) | OTHER (Specify in Abstract below and in Text) | | | | | | |
| | | 20.406(a)(1)(B) | 60.73(a)(2)(B) | 60.73(a)(2)(vii)(A) | HRC Form 388A | | | | | | |
| | | 20.406(a)(1)(B) | 60.73(a)(2)(B) | 60.73(a)(2)(vii)(B) | | | | | | | |
| 20.406(a)(1)(B) | 60.73(a)(2)(B) | 60.73(a)(2)(viii) | | | | | | | | | |
| 20.406(a)(1)(B) | 60.73(a)(2)(B) | 60.73(a)(2)(ix) | | | | | | | | | |

| LICENSEE CONTACT FOR THIS LER (12) | | TELEPHONE NUMBER | |
|---|-----------|------------------|-----------|
| NAME | AREA CODE | | |
| Michael D Bourassa, Senior Licensing Engineer | 8 1 6 | 5 4 7 | - 6 5 3 7 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC |
|-------|--------|-----------|--------------|-------------------|-------|--------|-----------|--------------|-------------------|
| B | W D | F S V A | 4 9 9 | N | | | | | |
| | | | | | | | | | |

| | | | | | | |
|---|--|--|-------------------------------|-------|-----|------|
| SUPPLEMENTAL REPORT EXPECTED (14) | | | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
| YES If yes, complete EXPECTED SUBMISSION DATE | <input checked="" type="checkbox"/> NO | | | | | |

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

On February 10, 1994, three containment isolation valves failed to meet the stroke timing acceptance criteria required during the execution of a ninety day surveillance test. Two of the valves are in the enclosure dirty sump discharge line, and the other is in the enclosure clean sump discharge line. Both clean and dirty sump valves were immediately closed, and are only being operated to pump down their respective sumps.

The most probable root cause involves a foreign, grease-like substance discovered in one of the enclosure dirty sump solenoid valves by the vendor. This observation has not been confirmed to be the root cause, however actions are in progress to verify this conclusion.

The affected solenoid valves have been replaced and returned to the vendor for evaluation. The containment isolation clean and dirty sump valves will be positioned in the closed position (open is normal) until the root cause is confirmed.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 2054's) (17)

IDENTIFICATION OF EVENT

I. Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shutdown the reactor and maintain it in a safe shutdown condition,
- (B) Remove residual heat,
- (C) Control the release of radioactive material, or
- (D) Mitigate the consequences of an accident.

References

- a. 10 CFR 50.72(b)(2)(iii), and
- b. 10 CFR 50.73(a)(2)(v).

CONDITIONS PRIOR TO THE EVENT

Power operation - Reactor Power 97% - Unit load - 71.9 MWe.

Limiting Conditions of Operation:

- a. Technical Specification 4.1.2.b - One loop (#2) of the Emergency Condenser was operable in a degraded condition. Motor operated outlet valve, MO 7053, would not close. This condition was allowed because the redundant loop (#1) was operable.
- b. Canal sample pump lost prime. Effluent releases via this pathway may continue provided that, at least once per 24 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a lower limit of detection of at least 1E-7 microcurie/ml.

DESCRIPTION OF THE EVENT

On February 10, 1993, (3) three containment isolation valves (NH;ISV) failed to meet the stroke timing acceptance criteria required during the execution of a ninety day surveillance test. The valves are designated as follows:

- CV-4102; Enclosure Clean Sump Outer Isolation Valve (WD;ISV)
- CV-4103; Enclosure Dirty Sump Outer Isolation Valve (WD;ISV)
- CV-4025; Enclosure Dirty Sump Inboard Isolation Valve.(WD;ISV)

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TEXT (if more space is required, use additional NRC Form 2654 (1/17))

At 0621, CV-4102 was documented as requiring 31.7 seconds to close. (The acceptance criteria is less than or equal to 10 seconds). CV-4102 was then tested two more times, and only required 6.0 and 5.5 seconds respectively to close. CV-4031, the Enclosure Clean Inboard Isolation Valve, met the acceptance criteria.

At 0630, CV-4103 and CV-4025 were documented as not closing after 1.5 minutes had elapsed. (The acceptance criteria for these valves are 10 seconds and 3.4 seconds respectively). The valves were restroked, and CV-4025 closed in about 25 seconds, and CV-4103 closed after approximately 6 minutes.

At 0638, both CV-4103 and CV-4025 indicated closed, and containment integrity was declared for the Enclosure Dirty Sump line (WD).

By 0704, the Clean Sumps had been pumped down, and as an added precaution, CV-4102 and CV-4031 were closed to ensure containment integrity.

ROOT CAUSE ANALYSIS OF THE EVENT

SV-4896 (FSV), an ASCO (A499) solenoid valve that serves CV-4103, was removed and taken to the vendor for evaluation. A foreign, grease-like substance was discovered in the solenoid valve and could be the most probable cause for the failures of CV-4102 and CV-4025, serviced by ASCO SV-4895 and SV-4891 respectively (all three are newer model solenoid valves, model 206-380-3RF, that were installed during the last refueling outage). Even though the foreign material is the prime suspect, the Big Rock Point staff is unable to make an informed conclusion based on the available evidence, without further evaluation of SV-4895, SV-4891 and the control valves.

CORRECTIVE ACTION TO PREVENT RECURRENCE

Immediate Corrective Action

- 1) Since February 10, 1994, the clean and dirty enclosure sump isolation valves have been maintained in the closed position (normal position is open) to ensure that containment integrity is maintained. However, the valves require operation on a periodic basis to pump down the sumps. This evolution is controlled by an Operations Daily Order that describes the operator actions necessary should the valves fail to close within the procedural stroke time acceptance criteria. As of the date of this letter, the valves have operated within the acceptable limits.
- 2) SV-4896 was removed and replaced on February 10, 1994, with a spare solenoid valve that was in stock. As described above, this solenoid valve was taken to the vendor for evaluation.

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TEXT (if more space is required, use additional NRC Form 266A (1) (1))

Long Term Corrective Action

SV-4895 and SV-4891 have been removed and sent to the vendor for evaluation to assist in determining the failure mechanism. Spare ASCO valves have been installed. *A revised LER will be submitted when the evaluation is complete.*

SAFETY SIGNIFICANCE

SYSTEM DESCRIPTION

The liquid waste management system consists of collection sumps, receiver tanks, hold-up tanks, tank mixing eductors, strainers, filters, a demineralizer, pumps, interconnecting piping and instrumentation. The system is designed to be capable (all pumps operating continuously), to process approximately 70,000 gallons per day.

Liquids to be processed are segregated based upon total solids content. Waste water which normally has a low solids content is collected in a "clean" sump in the containment building and routed to one or both of the 5000 gallon clean waste receiver tanks. Clean waste is almost always processed for reuse in the plant although provisions exist to mix, sample, analyze and discharge the collected liquids. Waste water arising from sources in the containment which potentially has a high solids content is collected in a "dirty" sump. Provision exists to route water collected by these two sumps to either the "dirty" or "clean" waste receiver tanks. Normally, the liquids are of sufficiently high purity so that they can be routed to the clean waste receiver tanks.

Significance

The stroke times of these valves are trended to determine degradation and to identify when corrective action is required to ensure component operability. These are ASME code requirements, and are not directly related to the mitigation of nuclear accidents and transients. The safety function of these containment isolation valves is to close when required.

During this event, CV-4031, the clean sump isolation valve inside containment, did meet the procedural acceptance criteria to close, therefore the enclosure clean sump discharge line would have isolated quickly if required to do so. Even though CV-4102, the clean sump isolation valve outside containment closed 20 seconds greater than the code criteria, the required redundant safety function was performed within a reasonable time. The additional time for CV-4102 is of low safety significance since the inside valve had already closed.

CV-4025, the dirty sump isolation valve inside containment, closed in several minutes. This situation is not desirable, however the enclosure dirty sump

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TEXT (If more space is required, use additional NRC Form 308A's) (17)

discharge line would have isolated if required to do so, mitigating the consequences of a potential effluent release. CV-4103, the dirty sump isolation valve outside containment, closed after six minutes performing the required redundant safety function. Again, the additional time for CV-4103 is of low safety significance since the inside valve had already closed.