



Northern States Power Company

Monticello Nuclear Generating Plant
2807 West Hwy 75
Monticello, Minnesota 55362-9637

November 16, 1995

Bulletin 95-02

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to Bulletin 95-02:
Unexpected Clogging Of A Residual Heat Removal (RHR)
Pump Strainer While Operating In Suppression Pool Cooling Mode

Bulletin 95-02 was issued to obtain information needed to assess compliance with requirements and commitments regarding suppression pool cleanliness in view of certain concerns raised in the staff's review of the unexpected clogging of a RHR pump strainer for the Limerick Unit 1 Nuclear Power Station. The Bulletin contained the following required response:

All addressees are required to submit the following written reports:

- (1) *Within 30 days of the date of this bulletin, a report indicating to what extent the licensee intends to comply with the requested actions in this bulletin. In the report, licensees that intend to comply should provide a detailed description of their actions, the results of their evaluations, any corrective actions they have taken, and a description of the licensee's planned test(s) and inspection(s) for confirming their operability evaluation. In addition, licensees should include their schedule for pool cleaning, the basis for the cleaning schedule, and a summary of any additional measures taken to detect and prevent clogging of the ECCS strainers.*
- (2) *If not addressed in the report discussed above by licensees that intend to comply with the requested actions, within 10 days of the completion of confirmatory tests and inspections or completion of proposed alternative actions, a second report confirming the completion of all pump operability testing and inspection and providing a description of the test/inspection results.*

Our response to the 30 day report request of Bulletin 95-02, "Unexpected Clogging Of A Residual Heat Removal (RHR) Pump Strainer While Operating In Suppression Pool Cooling Mode" is provided in Attachment 1 of this submittal.

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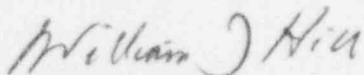
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This letter contains the following new NRC commitments:

1. Prior to February 14, 1996 (i.e. within 120 days of the Bulletin date) one or more ECCS pumps, as deemed appropriate, will be run for approximately 6 hours and pump inlet pressure will be observed to see if there is any drop due to strainer plugging. Final results will be reported within 10 days of completion of all confirmatory testing.
2. During the April 1996 outage the strainers and suppression chamber will be visually inspected and samples of the suppression chamber water and sediment will be analyzed for fibers or other material that could contribute to ECCS strainer plugging. If the inspection indicates suppression chamber cleaning is required, the suppression chamber will be cleaned. Final results will be reported within 10 days of completion of all confirmatory testing.
3. Trending of Core Spray Pump inlet pressure will be established to monitor the performance of the ECCS suction strainers that are common to both the RHR and Core Spray systems. This action will be implemented for the remainder of the current operating cycle and for the subsequent operating cycle (cycle 18), or until resolution of the ECCS suction strainer/LOCA generated debris concern.

Please contact Mel Opstad, Sr Licensing Engineer, at (612) 295-1653 if you require further information.



William J Hill
Plant Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr Resident Inspector, NRC
State of Minnesota, Attn: Kris Sanda

Attachments: Affidavit to the US Nuclear Regulatory Commission

(1) Response to Bulletin 95-02, 30 Day Request

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

Response to Bulletin 95-02:
Unexpected Clogging Of A Residual Heat Removal (RHR)
Pump Strainer While Operating In Suppression Pool Cooling Mode

Northern States Power Company, a Minnesota corporation, by this letter dated November 16, 1995 hereby submits information required by Bulletin 95-02 for the Monticello Nuclear Generating Plant.

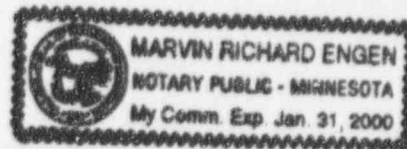
This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By William J Hill
William J Hill
Plant Manager
Monticello Nuclear Generating Plant

On this 16th day of November 1995 before me a notary public in and for said County, personally appeared, William J Hill, Plant Manager, Monticello Nuclear Generating Plant, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

Marvin R Engen
Marvin R Engen
Notary Public - Minnesota
Sherburne County
My Commission Expires January 31, 2000



Attachment 1

Response to Bulletin 95-02 30 Day Response Request

Response to Requested Actions:

- 1) *Verify the operability of all pumps which draw suction from the suppression pool when performing their safety functions (e.g., ECCS, containment spray, etc.), based on an evaluation of suppression pool and suction strainer cleanliness conditions. This evaluation should be based on the pool and strainer conditions during the last inspection or cleaning and an assessment of the potential for the introduction of debris or other materials that could clog the strainers since the pool was last cleaned.*

Response

During the 1993 outage, and several prior outages, the suppression chamber was completely drained and cleaned as part of a program to inspect and repair the interior coating.

Since the suppression chamber internal coating repair was completed during the 1993 outage, the suppression chamber was not completely drained during the 1994 outage. The water level was lowered to the top of the ECCS suction strainers for an inspection of the strainers. A moss-like slime was observed below the water level which would dry out when exposed to the atmosphere. This slime was easily brushed off and it was concluded that it would not contribute to strainer plugging. In addition the inspector noted that no materials capable of plugging the strainers were observed. Thus in the approximately 18 month period between the 1993 and 1994 outages there was no build up of any material on the strainers that would contribute to plugging. Inspections by the Monticello NRC Resident Inspector in accordance with NRC Inspection Manual Temporary Instruction (TI) 2515/125 confirmed these results as documented in Inspection Report No. 50-263/94011.

A light surface film of iron oxide (sediment) accumulates during normal operation on the wetted suppression chamber surfaces. In order for this sediment to contribute to strainer plugging, a fibrous material must first cover the strainers. No fibrous materials were observed in the above mentioned inspections. Prior to commencing operation following the 1994 outage a final inspection of the suppression chamber was performed to verify no foreign materials were left inside. Since Monticello has a Mark I containment which is closed and inerted during operation, no foreign materials can be introduced after containment is closed. Sources of water addition to the suppression chamber are of high purity, consistent with reactor coolant system water quality. No entries have been made into the suppression chamber subsequent to the final inspection and closure of the suppression chamber hatches. Additionally, a sample of suppression chamber water/sediment was taken in November 1995 and only a few isolated fibers were observed. These fibers were of such a small quantity and size, i.e.;

most being microscopic, that they are not considered to represent fibrous material capable of contributing to plugging of the one-eighth inch (1/8") diameter openings in the ECCS suction strainers. The fibers contained in the sample were of insufficient quantity for performance of analyses to determine the source. We believe they may be residual fibers from Chem-Wipes used during wipe down of the internal surface at the past suppression chamber cleaning.

A review of Core Spray pump inlet pressure data from 1993, following suppression chamber cleaning, to date does not indicate any degradation that would be indicative of strainer plugging. No inlet pressure data is available for the Residual Heat Removal (RHR) pumps. However, since the Core Spray and RHR pumps take suction from a common ring header the suction strainers utilized for either set of pumps are common. An additional assurance that the strainers are not plugged, is provided by the fact that quarterly ASME Section XI tests of the ECCS pumps have been completed satisfactorily since the beginning of this cycle.

Based on the above it is concluded that the ECCS pumps are operable and will not be compromised by suction strainer cleanliness concerns.

- 2) *The operability evaluation in requested action 1 above should be confirmed through appropriate test(s) and strainer inspection(s) within 120 days of the date of this bulletin.*

Response

Prior to February 14, 1996 (i.e. within 120 days of the Bulletin date) one or more ECCS pumps, as deemed appropriate, will be run for approximately 6 hours and pump inlet pressure will be observed to see if there is any drop due to strainer plugging. Final results will be reported within 10 days of completion of all confirmatory testing.

The confirmatory strainer inspection will be conducted during the next refueling outage which is scheduled for April 1996.

- 3) *Schedule a suppression pool cleaning. The schedule for cleaning the pool should be consistent with the operability evaluation in requested action 1 above. In addition, a program for periodic cleaning of the suppression pool should be established, including procedures for the cleaning of the pool, criteria for determining the appropriate cleaning frequency, and criteria for evaluating the adequacy of the pool cleanliness.*

Response

Monticello has scheduled a suppression chamber cleaning for the 1998 refueling outage. Monticello drains and cleans the suppression chamber every third refueling outage for coating inspection. The last suppression chamber cleaning was performed in 1993. During the April 1996 outage the strainers and suppression chamber will be visually inspected and samples of the suppression chamber water and sediment will be analyzed for fibers or other material that could contribute to ECCS strainer plugging. If

the inspection indicates suppression chamber cleaning is required, the suppression chamber will be cleaned. Final results will be reported within 10 days of completion of all confirmatory testing.

Monticello's suppression chamber cleaning program will be evaluated when the on-going Boiling Reactor Owners' Group (BRWOG) and NRC staff investigations on ECCS suction strainer plugging due to LOCA generated debris are complete.

- 4) *Review FME procedures and their implementation to determine whether adequate control of materials in the drywell, suppression pool, and systems that interface with the suppression pool exists. This review should determine if comprehensive FME controls have been established to prevent materials that could potentially impact ECCS operation from being introduced into the suppression pool, and whether workers are sufficiently aware of their responsibilities regarding FME. Any identified weaknesses should be corrected. In addition, the effectiveness of the FME controls since the last time the suppression pool was cleaned and the ECCS strainers inspected, and the impact that any weaknesses noted may have on the operability of the ECCS should be assessed.*

Response

Foreign Material Exclusion (FME) is controlled by site work instructions and procedures. The following documents cover general plant housekeeping and cleanliness control for the drywell, suppression chamber, and open systems:

4AWI-4.2.1, Housekeeping, establishes general housekeeping practices for the Monticello plant.

4AWI-4.5.9, Foreign Material Exclusion/Cleanliness Control, establishes open system cleanliness and inspection requirements for work on plant systems opened for maintenance, modification or repair; and new systems during installation. This includes opening of the suppression chamber and systems which communicate with the suppression chamber.

Procedure 1371, Drywell Prestart Inspection, provides general instructions for inspecting the drywell to ensure all temporary outage materials and debris are removed from the drywell and vent system prior to reactor startup.

Procedure 1132, Pressure-Suppression Chamber Internal Structural Visual Inspection, provides for a thorough visual inspection of the internal structural members of the suppression chamber. This procedure includes verification of the integrity and cleanliness of the ECCS suction strainers.

Procedure 8080, Primary Containment Hatch Closure Procedure, includes verification that prior to the last hatch closure that all foreign material has been removed from the suppression chamber.

Site personnel are maintained aware of FME controls through periodic training. The procedures listed above were satisfactorily completed and/or implemented during the last (1994) refueling outage. A review by the Monticello NRC Resident Inspector in accordance with NRC Inspection Manual Temporary Instruction (TI) 2515/125 determined that existing procedures adequately addressed foreign material control as documented in Inspection Report 50-263/94011.

- 5) *Consider additional measures such as suppression pool water sampling and trending of pump suction pressure to detect clogging of ECCS suction strainers.*

Response

In accordance with ASME Section XI, quarterly operability tests are conducted on the RHR and Core Spray pumps. These tests currently measure flow and pump differential pressure. The results of these tests are currently being trended. The test for the Core Spray pumps records pump inlet pressure, but no trending is performed. Trending of Core Spray Pump inlet pressure will be established to monitor the performance of the ECCS suction strainers that are common to both the RHR and Core Spray systems. This action will be implemented for the remainder of the current operating cycle and for the subsequent operating cycle (cycle 18), or until resolution of the ECCS suction strainer/LOCA generated debris concern.