

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

A. IE Inspection Report No. 050-263/75-01

Transmittal Date : February 12, 1975

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DR Central Files
Regulatory Standards (3)
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B. IE Inquiry Report No. _____

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C. Incident Notification From: _____
(Licensee & Docket No. (or License No.))

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

FEB 12 1975

Northern States Power Company
ATTN: Mr. Leo Wachter
Vice President
Power Production and
System Operation
414 Nicollet Mall
Minneapolis, Minnesota 55401

Docket No. 50-263

Gentlemen:

This refers to the inspection conducted by Messrs. H. C. Dance and Joel E. Kohler of this office on January 15-17, 1975, of activities at Monticello Nuclear Generating Plant authorized by NRC Operating License No. DPR-22 and to the discussion of our findings with Messr. Larson and others of your staff.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspectors.

During this inspection, it was found that certain of your activities appear to be in noncompliance with NRC requirements. The item and reference to the pertinent requirements are listed under Enforcement Action in the Summary of Findings Section of the enclosed inspection report.

This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office within twenty days of your receipt of this notice, a written statement or explanation in reply, including: (1) corrective steps which have been taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved.



FEB 12 1975

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this notice, the enclosed inspection report, and your response to this notice will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this notice, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Gaston Fiorelli, Chief
Reactor Operations Branch

Enclosure:

IE Inspection Report
No. 050-263/75-01

bcc: IE Chief, FS&EB
IE:HQ (4)
Licensing (4)
DR Central Files
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OGC, Beth, P-506A
A. Roisman

U. S. NUCLEAR REGULATORY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-263/75-01

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401

Monticello Nuclear Generating Plant
Monticello, Minnesota

License No. DPR-22
Category: C

Type of Licensee: BWR (GE) 575 Mwe

Type of Inspection: Routine, Announced

Dates of Inspection: January 15 - January 17, 1975

Dates of Previous Inspection: December 26-27, 1974 (REP)

Principal Inspector: *J. E. Kohler*
J. E. Kohler

2/11/75
(Date)

Accompanying Inspector: H. C. Dance

Other Accompanying Personnel: None

Reviewed By: *H. C. Dance*
H. C. Dance
Senior Reactor Inspector
Reactor Operations Branch

2/11/75
(Date)

SUMMARY OF FINDINGS

Enforcement Action

The following noncompliance item was noted during the inspection.

Violations: None.

Infractions

Technical Specification 6.5.C. states that detailed written procedures, including the applicable check-off and instructions, shall be prepared and followed for preventive or corrective maintenance of plant equipment and systems that could have an effect on nuclear safety.

Contrary to the above, detailed written procedures had not been prepared for the inspection and repair of the "A" Loop Residual Heat Removal Heat Exchanger in progress on January 17, 1975.

This infraction was identified by the inspector and had the potential for causing or contributing to an occurrence with safety significance.

Deficiencies: None.

Licensee Action on Previously Identified Enforcement Items: Not applicable.

Unusual Occurrences: None.

Other Significant Findings: None.

Management Interview

At the conclusion of the inspection the inspectors met with Messrs. C. Larson, Plant Manager; M. Clarity, Superintendent Plant Engineering and Radiation Protection; W. Anderson, Superintendent Operations and Maintenance; and D. Antony, Plant Engineer, Operations; and discussed the following:

1. The inspector stated that the failure to have a procedure detailing repair plans of the No. 11 RHR Heat Exchanger was considered an infraction to Technical Specifications 6.5.C. The licensee indicated corrective action would be taken.
2. The inspector stated that review of the May 1974 startup check-sheets did not indicate if identified abnormalities had been corrected, such as locking required valves or by issuance of WRA's. The review also indicated revisions may be in order for several checksheets. The licensee stated that data sheets are

completed and reviewed within the guidelines provided in Operations Manual Volume C.1. The licensee indicated a review would be made of the checksheets in view of the above comments.

3. The inspectors discussed with the licensee preliminary comments pertaining to the proposed standardized technical specifications for engineered safety feature filtration systems. The licensee plans to submit his comments to the Directorate of Licensing.

REPORT DETAILS

1. Persons Contacted

C. Larson, Plant Manager
M. Clarity, Superintendent, Plant Engineering and Radiation Protection
W. Anderson, Superintendent, Operation and Maintenance
W. Sparrow, Operations Supervisor
W. Shamla, Plant Engineer, Technical
D. Nevinski, Engineer
J. Henage, Engineer
D. Antony, Plant Engineer, Operations
B. Day, Engineer
J. Pasch, Engineer
L. Eliason, Radiation Protection Engineer
P. Krumpus, Quality Assurance Engineer
D. Shea, NUS Corporation
L. Lieber, General Electric Company
J. Zilinski, General Electric Company

2. Present Plant Status

The Monticello Generating Station is presently shutdown for refueling and inspection of Jet Pumps, 4 inch recirculation piping, and feedwater spargers. This refueling outage was earlier than had been anticipated, because fuel performance, as indicated by higher than normal off-gas release rates, required lower power operation to minimize fuel deterioration. Presently the core consists of three types of fuel assemblies. They are the original 7 x 7 fuel, improved 7 x 7 fuel with champhored pellet design, and the new 8 x 8 matrix fuel. The core contained 116 8 x 8 fuel assemblies prior to the present refueling outage, and 80 additional 8 x 8 fuel assemblies are scheduled to be inserted in the core to replace leaking or original fuel. Burnup on the lead assembly as of January 9, 1975, was about 15,000 mwd/t, while the average burnup was about 13,897 mwd/t.

Detection of leaking fuel assemblies was done in the fuel storage pool by sipping and analyzing the coolant for Xe-136. Because the fuel sipping investigation was not completed at the end of the inspection, the following information was obtained from the licensee by telephone on January 24, 1975:

- a. A total of 54 fuel assemblies (all 7 x 7) were identified as leaking. Of these 54 assemblies, 42 were positively identified as leaking, giving a full scale reading on radiation monitoring equipment, and 12 assemblies were suspected of leaking.

- b. The configuration of the core at the end of the present refueling outage, January, 1975, will be 268 of the original 7 x 7 fuel assemblies, 20 of the improved 7 x 7 fuel, and 196 of the 8 x 8 fuel assemblies.
- c. The earliest date at which the entire core will be composed of 8 x 8 fuel is scheduled to be September, 1975.

3. Reactor Refueling Activities

- a. The inspector verified that Technical Specifications 3.10 and 4.10 were incorporated in the detailed procedures in use for the refueling outage.
- b. The Shift Supervisor's Log and Control Room Log was reviewed from January 9 to January 15, 1975. No deficiencies were noted. Drywell deinerting was noted to have been initiated as permitted by technical specifications prior to the reactor shutdown. On January 13, 1975, the fuel handling gripper was noted to have been successfully tested with a simulated 1,500 lb. load.
- c. The normal ventilation system was maintaining secondary containment in the reactor building by drawing a vacuum of at least .25 inches water gauge differential pressure. The standby-gas treatment system was successfully tested on January 10, 1975, prior to the present outage, as called for in Technical Specification 4.7.C.1.d.
- d. Procedures were reviewed confirming that the refueling interlocks were successfully tested on January 13, 1975.
- e. The inspector confirmed that the control room was in constant communication with personnel performing the refueling operations through telephone and FM radio.
- f. The inspector reviewed the licensee's method of programming fuel assembly moves during the refueling. The fuel moves planned were determined by members of the nuclear technical staff. The fuel movement procedure was then checked by a computer program that verified the configuration of fuel in the core and the fuel storage pool. The program was able to detect any logic errors. This was demonstrated during the inspection. Once the logic for a particular fuel move was accepted by the computer, it was printed out in copies of four, and became the master procedure used on the refueling bridge, defining the sequence of fuel assembly moves to take place. Logic of the sequence of fuel moves was independently verified by two members of the nuclear technical staff prior to approval.

- g. The inspectors verified that the core was accurately identified by schematic diagrams located on the refueling floor, and in the nuclear staff office. All fuel movement done on the refueling bridge was followed in the control room with an identical fuel movement procedure list.
 - h. Fuel inspections of designated assemblies were performed by members of the General Electric Company. Visual inspection of individual fuel rods as well as eddy current and ultrasonic testing of selected fuel rods was being performed.
 - i. The inspectors verified that fuel sipping activities, to determine leaking fuel assemblies, was performed in accordance with approved fuel sipping procedures No. 9008a. However, no acceptance criteria was set to establish the lower limit of marginal leaking fuel assemblies.
 - j. The licensee had prescheduled all activities expected during the outage and was updating daily the activities for the next three days. Review of the major maintenance activities established that procedures existed for the bulk of activities, such as required surveillance tests, safety/relief valve pilot and in-place leakage tests, and control rod drive overhaul. An exception was noted in the case of the No. 11 RHR Heat Exchanger inspection to determine cause of internal leakage. No procedure existed describing the proposed plan of inspection or repair. Discussion with supervisory personnel established that a vendor's manual and drawing were available and a verbal plan of approach was established. The heat exchanger is manufactured by Perflex and is of a two pass floating head design. The Work Request Authorization listed the valve positioning and tag requirements, but no other requirement such as testing. The absence of a maintenance procedure is contrary to Technical Specification 6.5.C which requires detailed written procedures to be prepared and followed for prevention or corrective maintenance of plant equipment and systems that could have an effect on nuclear safety.
4. The inspectors confirmed the following activities during refueling:
- a. Core monitoring in the control room during refueling operations in accordance with Technical Specification 3.10(b) and 4.10(b).
 - b. Containment integrity was maintained in accordance with Technical Specification 3.8.C defining the requirements for maintaining secondary containment integrity.

- c. Fuel movement of at least two fuel bundles was conducted in accordance with established procedures specified by the computer printed fuel movement sequence list.
- d. Core internals, leads, and vessel studs were stored to protect against damage.
- e. Housekeeping on the refueling deck and bridge as well as radiation protection requirements were acceptable.
- f. In accordance with Technical Specification 6.1.C the composition of the crew on the refueling deck and in the control room was acceptable.
- g. In accordance with Technical Specification 3.10.C fuel pool storage water level was maintained at a level of at least 33 feet.
- h. As required by Technical Specification 3.10.A the reactor mode switch was locked in the refuel position during the refueling.
- i. Control blade removal checks were confirmed to be included on the fuel movement sequence sheets.

5. Startup Procedures

The inspector confirmed that selected startup procedures were completed in mid May 1974, the previous refueling outage. The systems confirmed were the recirculation, nuclear instrumentation, condensate and feedwater, control rod drive, and the core spray. Several notations of specific plant status were noted on the procedures and check lists reviewed, but no method was available to confirm that the anomalies had been corrected or revisions to the data sheets made. The licensee indicated this area would be reviewed. The licensee also indicated that similar system checks are performed during refueling outages, currently in progress, to establish that system lineups are proper. In addition, the inspector confirmed that the system check lists had been completed and that both control rod drive sequences with a predicted critical rod position were available prior to the startup.

6. Vessel Internals

The inspectors witnessed a portion of the jet pump inspection being performed with the aid of an underwater television camera and being recorded on tapes. Resolution was good. GE personnel responsible

for the inspection stated no abnormal conditions were noted on either the jet pumps or the feedwater spargers.

7. Safety/Relief Valves (S/RV)

The inspector reviewed the licensee's increased^{1/} surveillance as a result of the S/RV premature of extended operation. Temperature plots (approximately 4 per week) are being maintained by the engineer responsible for the S/RV effluent lines. To improve sensitivity, the licensee plans to relocate four thermocouples presently located 6-12 inches from the valve discharge flange, to a 22 5/8" location, common to the four newly installed (5/74) effluent lines. A temperature range of about 120° - 250°F has been experienced on the 600°F recorder. A common alarm point is in use. Procedures had been prepared and work scheduled for the in-place testing of the first stage pilots on the S/RV's this outage.

8. Control Rod Drives

The inspector confirmed that procedures existed for replacement of 25 CRD's during the outage. Included in the CRD replacement will be the last four drives, with one mil inner screens (other CRD's have ten mil screen size.) Review of records indicated scram times for 90% insertion on three of the drives with one mil screen were 3.63 to 4.45 seconds compared to an average of 2.60 seconds for the 50% sampling of other CRD's taken in November 1974. All of the above scram times are within requirements of Technical Specification 3.3.C. Two of the core's 121 CRD's have modified inner screens mounted on the stop piston. The licensee stated no problems have been experienced with these drives, and that current plans do not include such modification on other drives.

9. Standby Gas Treatment System (SGTS)

In accordance with Surveillance Requirement 4.8.b, the inspector confirmed that the SGTS was tested on January 1975, May 1974 November 1974 and found that the filters were freon tested at > 99% removal efficiency and the HEPA filters were DOP tested at > 99% removal efficiency.

The inspector also reviewed with the utility their preliminary comments on the proposed standardized technical specifications for engineered safety features filtration systems to be submitted to Licensing for review.

1/ Ltr Mager to O'Leary, dtd 11/25/74 (AO 263/74-24).