UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2660

REGULATORY OPERATIONS, REGION III

A. RO Inspection Report No. 050-263/73-02

Transmittal Date : April 16, 1973

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DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
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TELEPHONE
(312) 858-2660

April 16, 1973

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. Johnson and Fisher of this office on February 20-22, 1973, of operations at the Monticello plant authorized by AEC Operating License No. DPR-22, and to the discussion of our findings held by the inspectors with Messrs. Larson and Eliason of your staff at the conclusion of the inspection. A copy of our report of this inspection is enclosed.

Areas examined during the inspection are described in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with plant personnel, and observations by the inspector.

No items of noncompliance with AEC requirements were identified within the scope of this inspection.

This inspection included an examination of the corrective actions associated with items 9h, 10 and 11 as described in your letter of November 10, 1972, in reply to a letter from Regulatory Operations Headquarters dated October 19, 1972. We have no further questions on these matters at this time.

Based on discussions with your representatives at the site, we understand that the Bureau of Mines approval status will be determined for all respiratory protective equipment for which allowance is made in determining exposure of individuals to concentrations of radioactive materials in restricted areas. We will examine your action on this matter during future inspections.

In accordance with Section 2.790 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the AEC'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 within 20 days to this office to withhold such information from public disclosure. If such an application is submitted, it must identify the basis for which information is claimed to be proprietary. The application should be prepared so that proprietary information identified is contained in a separate part of the document, since the application will also be placed in the Public Document Room. If we do not receive an application to withhold information, or are not otherwise contacted within the specified period, the report will be placed in the Public Document Room with a copy of this letter.

Unless you wish to make application to withhold information, no reply to this letter is necessary; however, should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Boyce H. Grier
Regional Director

Enclosure:
RO Inspection Rpt No. 050-263/73-02

bcc: RO Chief, OB
RO:HQ (4)
Licensing (4)
DR Central Files
Regions I & II
PDR
Local PDR
NSIC
DTIE
OGC, Beth, P-506A

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

RO Inspection Report No. 050-263/73-02

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) 545 Mwe

Type of Inspection: Routine, Unannounced

Dates of Inspection: February 20 - 22, 1973

Dates of Previous Inspection: January 30 - February 1, 1973

Principal Inspector: P. H. Johnson — 4/12/73 (Date)

Accompanying Inspector: W. L. Fisher
Radiation Specialist — 4/12/73 (Date)

Other Accompanying Personnel: None

Reviewed By: H. C. Dance, Senior Reactor Inspector
Reactor Operations Branch — 4/13/73 (Date)

SUMMARY OF FINDINGS

Enforcement Action: None

Licensee Action on Previously Identified Enforcement Matters

The licensee has completed corrective actions related to noncompliance items 9h, 10, and 11 as noted during the May 1972, management inspection[1/]. (Paragraphs 4, 10, and 17) Corrective actions related to items 9a, 9e, 9i, and 12 are continuing (Paragraphs 5, 6, and 11). Corrective actions on remaining items were not reviewed during this inspection.

Unusual Occurrences

A low condenser vacuum scram switch was discovered during a January 1973, surveillance test to have a small diaphragm leak. (Paragraph 8)

Other Significant Findings

A. Current Findings

Unresolved Item

The Bureau of Mines approval status will be determined for all respiratory equipment for which allowance is made in determining exposure of individuals to concentrations of radioactive materials in restricted areas. (Paragraph 18)

B. Status of Previously Reported Unresolved Items:[2/] No change

Management Interview

The inspectors conducted a management interview at the conclusion of the inspection with Messrs. Larson (Plant Manager) and Eliason (Radiation Protection Engineer) in attendance. The following matters were discussed:

A. Management Inspection Items

1. The inspector stated that revised instructions covering review and issue of surveillance test procedures and handling of related work request authorizations appeared to meet the intent of the licensee's response, and that corrective actions on items 9e and 12 would be considered complete after the instructions were more formally incorporated into the facility's administrative procedures. (Paragraphs 5 and 6)

1/ Letter, RO:HQ to NSP dated 10/19/72.
2/ RO Inspection Report No. 050-263/72-06.

2. The inspector stated that review of records during the inspection indicated that the Safety Audit Committee was now reviewing Operations Committee minutes, and that Management Inspection item 9h was considered to have been resolved. (Paragraph 4)

3. The inspector stated that item 11, related to residual heat removal service water system instrument calibration procedures, was considered to have been resolved. (Paragraph 10)

4. Corrective actions related to drywell leak rate monitoring, items 9a and 9i, were noted by the inspector to be continuing. (Paragraph 11)

B. The inspector noted that current refueling procedures do not specifically require a senior operator to supervise fueling operations, and that a recent technical specification change request discussed the use of administrative controls when more than one rod is removed from the core. Licensee management stated that both of these items would be included in the detailed refueling procedure to be approved by the Operations Committee. (Paragraph 13)

C. The inspector stated that the procedure for high drywell pressure had been noted to permit venting of the drywell prior to notification of management under some conditions, and asked whether this were the intended action. The licensee indicated that the sequence of steps would be re-evaluated. (Paragraph 7)

D. The inspector stated that the licensee's action in response to a previous item of noncompliance concerning procedures for respiratory protection appears to be adequate. (Paragraph 17)

E. The inspector stated that there is a question whether certain respiratory protection equipment has been approved by the Bureau of Mines and, therefore, whether allowance for such equipment can be made in determining exposure of individuals to concentrations of radioactive materials in restricted areas. The licensee stated that respiratory protective equipment will be used in accordance with Technical Specification 6.2.B. and that the approval status of such equipment will be determined. (Paragraph 18)

F. The inspectors stated that the inspection had included a tour, in company with a licensee representative, of the off-gas system modification being completed, and that future inspections would include an examination of the testing program associated with placing the system into operation.

REPORT DETAILS

PART I

Prepared by P. H. Johnson

1. Persons Contacted

Monticello Plant Staff

C. Larson, Plant Manager
M. Clarity, Superintendent - Plant Engineering and Radiation Protection
W. Anderson, Superintendent - Operations and Maintenance
G. Jacobson, Plant Engineer, Technical
M. Dinville, Plant Engineer, Operations
D. Nevinski, Nuclear Engineer
W. Shamla, Instrument Engineer
W. Hill, Controls Engineer
M. Hammer, Engineer
J. Pasch, Engineer
L. Nolan, Engineer
H. Kendall, Chief Clerk

Northern States Power Corporate Office

J. Tacheny, Superintendent, Projects
T. Krumpos, Quality Assurance Engineer
D. Musolf, Administrator, Nuclear Support Services

2. General

The Monticello plant has been operating continuously since a brief outage in December. A refueling outage is scheduled to commence in early March 1973.

3. Record Reviews

The following records were reviewed without comment during the inspection:

a. Operations Committee minutes, December 1972-January 1973.

b. Safety Audit Committee minutes, January 17-19, 1973. The minutes indicated that the committee had reviewed the following occurrences discussed in the previous inspection report[3/]: (1) torus-to-drywell vacuum breaker leakage, (2) primary containment isolation valve leakage, (3) residual heat removal pump motor failures, and (4) lapse of stack monitoring. A licensee representative also stated that the Safety Audit Committee meeting of the week of February 19 had included a review of the May 1973 average power range monitor decalibration, although minutes of this meeting have not yet been issued.

c. Reactor scram logs (no scrams since July 1973).

4. Safety Audit Committee Review of Operations Committee Minutes

Item 9, Part h, of the RO:HQ enforcement letter[4/] following the management inspection stated that minutes of the Safety Audit Committee (SAC) did not indicate a review of Operations Committee (OC) minutes as required by Procedure A.5. The licensee's response[5/] stated that steps had been taken "to delineate more clearly in the SAC minutes the conclusions reached after discussion of each agenda item...." Review of SAC minutes and other correspondence and discussions with licensee representatives indicated that review by the SAC of OC minutes, licensee correspondence with the AEC, abnormal occurrences, and other matters of safety interest are being documented in the SAC minutes. During a telephone conversation on February 28, 1973, a representative of licensee management stated that although the extent or format of review documentation could change after receipt of the revised Administrative Controls section of the Technical Specifications, the Safety Audit Committee minutes would continue to document that no unreviewed safety questions had been discovered by the SAC members during their review of OC minutes. Corrective actions by the licensee on this item of noncompliance are considered to have been completed.

5. Surveillance Test Procedure Approval and Issue

Item 12 of the RO:HQ enforcement letter[6/] following the May 1972, management inspection stated that surveillance test procedure No. 0004 and subsequent changes had not been reviewed by the

3/ RO Inspection Report No. 050-263/73-01.
4/ Ltr, RO:HQ to NSP, dtd 10-19-72.
5/ Ltr, NSP to RO:HQ, dtd 11-10-72.
6/ Ltr, RO:HQ to NSP, dtd 10-19-72.

Operations Committee. The licensee's response[7] stated that surveillance test procedure No. 0004 had been approved by the Operations Committee as part of Operations Manual Section B.5.6, but stated that subsequent revisions had not been reviewed and approved by the committee. The licensee's letter also provided a summary of revised instructions which had been issued to provide more effective approval and handling of surveillance procedures.

The inspector verified by review of Operations Committee minutes and previous surveillance test procedures that surveillance test procedure No. 0004 was approved by the Operations Committee on September 23, 1970, as part of Operations Manual Section B.5.6. Revised procedures for the writing, approval, and handling of surveillance test procedures were also examined. The revised instructions require all surveillance test procedures to be approved by the Operations Committee. Temporary use approval may be granted by specific members of plant management, although Operations Committee approval must follow within 30 days. An index of procedures having temporary approval is maintained by the Chief Clerk, although none are presently in effect. The master copy of each surveillance test procedure is maintained in the plant's central files, and a central file of blank procedures is maintained for use by operating personnel.

The inspector noted that while the revised procedures appear to satisfy the intent of the licensee's response[8], they presently exist only in the form of internal plant memoranda. He stated that the licensee's corrective actions related to this item of noncompliance would be considered complete when the revised instructions were incorporated into the Administrative Controls Manual presently being drafted or in some other appropriate formal document.

6. Work Request Authorization (WRA) Filing

Item 9, Part e, of the RO:HQ enforcement letter[9] stated that copies of completed WRA's were not attached to pertinent surveillance tests as required by Section C.5 of the Operations Manual. The licensee's response[10] stated that this manner of

7/ Ltr, NSP to RO:HQ, dtd 11-10-72.
8/ Ibid.
9/ Ltr, RO:HQ to NSP, dtd 10-19-72.
10/ Ltr, NSP to RO:HQ, dtd 11-10-72.

filing was being replaced by the use of cross references on related WRA's and completed surveillance test procedures where appropriate, with both documents maintained in separate files at the plant. The inspector examined an internal memorandum which effected this change in filing method. WRA's and completed test procedures examined during this inspection were noted to conform to the revised procedures. The inspector stated during the interview at the conclusion of the inspection that licensee action on this item of noncompliance would be considered complete after the revised instructions were more formally incorporated into the Operations Manual or other appropriate document.

7. Procedures for Abnormal Safety/Relief Valve Performance

The licensee's operating procedures were examined during the inspection to determine whether procedures were available to provide guidance to operating personnel in the event of a relief or safety valve malfunction. Procedures were available in Section C.4 of the Operations Manual for several relief valve failures, including failing open and bellows leakage. This section also contained a procedure for "Drywell High Pressure," which would apply in the event of a safety valve actuation. The inspector noted that this procedure would not require the notification of plant management prior to venting of the primary containment (through the standby gas treatment system) in the event of high drywell pressure not caused by a system break. A plant representative indicated that the sequence of steps would be re-evaluated.

8. Low Condenser Vacuum Scram Switch Diaphragm Leak

A recent licensee report[11/] discussed the discovery during surveillance testing of a small leak in a condenser vacuum scram switch. Discussion with a plant staff representative and review of records during the inspection indicated the occurrence to have been as described in the referenced report. The event was reviewed by the Operations Committee on January 24, 1973. As noted in the licensee's report, the leak was not of sufficient size to change the instrument setpoint and, had the leak been larger, the setpoint change would have been in a conservative direction.

11/ Ltr, NSP to Directorate of Licensing, dtd 1-23-73.

9. Wide Range Drywell Pressure Recorder

The inspector noted from a review of Operations Committee minutes during the inspection that a wide range pressure recorder has been installed in the plant. The new recorder, which was tested on January 15, 1973, indicates over a range of 0-100 psig. It is wired to a selector switch which permits either the narrow range (13-17 psia) or the new wide range instrument to be read on the existing recorder. The modification was approved by the Operations Committee as required by 10 CFR 50.59. The intent of the modification is to permit monitoring of drywell pressure from the control room in the event of an accident.

10. Instrument Calibration Program

Item No. 11 of the RO:HQ enforcement letter[12/] following the Monticello management audit identified a lack of test procedures for calibration and preventive maintenance of installed instruments in the residual heat removal service water (RHRSW) system. The licensee's response[13/] stated in part that test procedures for calibration and preventive maintenance were available at the time of the management inspection. The inspector verified during this inspection that procedures suitable for the calibration of the RHRSW instruments were available in equipment manuals supplied by the instrument manufacturers. A licensee representative stated during the previous inspection that specific plant procedures to establish plant conditions and related system requirements for calibration of the RHRSW instruments were also being developed to supplement the manufacturer's calibration procedures. These procedures identify the instruments by component number as installed in the plant and give detailed steps for removing the related equipment from service and restoring it to operation following calibration. These procedures were noted during the current inspection to have been submitted to the Operations Committee for review. Additional actions taken by the licensee to improve the instrument calibration program are discussed in the report[14/] of the previous inspection. The licensee's actions on noncompliance item No. 11 of the RO:HQ enforcement letter[15/] are considered to have been completed.

12/ Ltr, RO:HQ to NSP, dtd 10-19-72.
13/ Ltr, NSP to RO:HQ, dtd 11-10-72.
14/ RO Inspection Report No. 050-263/73-01.
15/ Ltr, RO:HQ to NSP, dtd 10-19-72.

11. Drywell Leak Rate Monitoring

Item 9, Part a, of the RO:HQ enforcement letter[16] following the management inspection stated that "devices used to detect leakage within the drywell were not set to detect a trend as required by Procedure C.4." The licensee's response[17] stated that a new timer, capable of detecting lower fill rates had been installed and set as close as practical above existing fill rates, while maintaining sufficient margin to avoid unnecessary alarms. Part i of item 9 referred to the unavailability of alarm procedures for the floor and equipment drain leak rate annunciators and the lack of instructions for localization of leaks within containment. The licensee's response stated that more detailed procedures were being written.

A facility representative stated during the inspection that recent difficulties have been experienced with operation of the float switches which start and stop the pumps associated with the equipment and floor drain sumps. The switches were said to be starting the pumps at the prescribed sump level but were not stopping the pumps consistently after the sump was pumped down. An opportunity to investigate the operation of the float switches was not expected until the drywell is de-inerted for the refueling outage. Operation of the timer alarm monitoring system was stated not to be feasible until correction of the float switch difficulties. As an interim measure, the licensee has provided an alarm in the control room which actuates upon the starting of either drain pump. This alerts the operator, who records pump run interval and volume pumped on a special data sheet, and manually computes the leak rate. A data sheet was noted to have been completed for each day since the temporary operating procedure was issued. A new 300 minute timer was observed to have been installed for the floor drain sump, replacing a 150 minute timer. With a normal volume of 185 gallons between pump stop and pump start levels, this represents a minimum detectable leak rate to the floor drain sump of approximately 0.6 gpm.

The inspector examined the draft of the revised procedure giving more specific guidance for "FLOOR DRAIN LEAK RATE CHANGE HIGH" alarm action. This procedure also included additional guidance for leak localization checks and actions in the event of abnormal leak rates. A licensee representative stated that a more comprehensive procedure would also be written to describe "EQUIPMENT DRAIN LEAK RATE CHANGE HIGH" alarm action.

16/ Ltr, RO:HQ to NSP, dtd 10-19-72.
17/ Ltr, NSP to RO:HQ, dtd 11-10-72.

A recent letter[18/] to the Directorate of Licensing summarized a review by the licensee of drywell leak detection equipment. The letter stated that "in an effort to attain the maximum speed and sensitivity of leak detection..." an additional instrumentation system had been developed and was undergoing technical evaluation. A licensee representative stated during the inspection that the evaluation had been completed and that a decision had been made to install the new monitoring system. The system will use a Foxboro electronic buoyancy level transmitter to monitor the level in each drywell sump. As stated in the licensee's letter, each level transmitter will provide indication on a recorder in the control room and will supply an input to the plant process computer. The process computer will in turn calculate leak rates and provide an alarm after a delay of one minute if unidentified or total leakage in excess of technical specifications limits is encountered. Licensee actions on this matter are continuing.

12. Torus Suction Ring Header

A recent letter[19/] from the licensee stated that restoration of the torus ring header support system to original design had been completed. Examination of the quality assurance documentation of the corrective action indicated no discrepancies. The work was performed by a four-man crew from outside the licensee's organization, with an NSP engineer present for all work. The quality assurance documentation was noted to have included:

a. Final vertical support loads after adjustments

b. Certification of new material used (bolts, nuts, washers, hanger straps)

c. Photographs of as-found conditions

d. Results of satisfactory nondestructive (magnetic particle) tests of all welds in the support system plus qualifications of individuals performing the testing

e. Qualification of welders and welding procedures (for filling of bolts holes where necessary)

18/ Ltr, NSP to Directorate of Licensing, dtd 12-28-72.
19/ Ltr, NSP to RO:III, dtd 12-6-72.

13. Fueling Preparations

Discussion with licensee representatives during the inspection indicated that plans for the outage include in-place sipping of all fuel bundles. Bundles with apparent fuel failures will be removed from the core for on-site replacement of failed fuel rods by General Electric personnel. Twenty replacement fuel bundles were on site at the time of the inspection, and eight additional bundles were expected in the near future, although the licensee plans to reconstitute and reinstall the original fuel to the extent possible. The licensee had completed an inspection of the 20 bundles received to date with no deficiencies noted. The completed procedures for transfer of the new fuel to the vault and subsequent inspection were reviewed by the inspector. The procedures were noted to have been properly approved, completed, and documented with the exception of the omission of a signature to indicate technical review of completion. This omission was corrected by the responsible individual. A procedure for moving the new fuel to the fuel storage pool was being typed, and the procedure for the in-core handling of fuel during the outage was still in the preparation stage. Licensee representatives stated that the in-core fuel handling procedure would include:

a. Administrative controls to prevent the insertion of a fuel bundle into a unit cell not containing a control rod, as discussed in a recent request[20/] for a change in technical specifications to allow the removal of any number of control rods from the core after the associated fuel bundles had been removed.

b. Staffing requirements for fuel handling, including a requirement that all in-core fuel handling be directly supervised by a licensed senior operator with no concurrent duties.

14. Outage Plans

During this inspection, discussions were held with various members of the facility staff concerning work planned during the refueling outage to commence in early March, 1973. A summary of plans related to some items in which Regulatory Operations has shown recent interest is as follows:

20/ Ltr, NSP to Directorate of Licensing, dtd 2-2-73.

a. Vane Type Flow Switches.[21] The licensee plans to replace the four vane type flow switches in the residual heat removal (RHR) system with an Annubar flow sensor (uses a pitot tube) with an associated differential pressure switch. The vane type flow switch in the high pressure coolant injection system cooling water line has been removed since it was redundant to other indications. One of the two vane type flow switches for low flow protection of the two reactor water cleanup system pumps has been removed. The second will be removed during the outage. Further plans for this system are still under consideration. An Annubar flow instrument has been ordered for the standby liquid control system, although delivery was stated to be uncertain.

b. Diesel Generator Air Motors.[22] The licensee plans to inspect all air motors during the outage, and will include them in the surveillance testing program with a six-month inspection frequency. The air supply line to the No. 1 starting system of No. 12 diesel will be cleaned to the extent practicable.

c. MSIV Spool Valves.[23] The licensee plans to replace all MSIV spool valves during the outage with a different valve manufactured by Automatic Valve Company. The new valve was stated to be of the type being installed in more recent BWR's, and uses the same general scheme of operation as the presently installed Numatics spool valves. The licensee also plans to replace the carbon steel air cylinders associated with the MSIV's with new stainless steel ones in an effort to minimize the introduction of corrosion products into the MSIV air system.

d. Torus-Drywell Vacuum Breakers.[24] The licensee plans to relocate the "valve closed" position indicators to make them more sensitive (expected to indicate when a vacuum breaker is 1/8" or less off its seat). Improvements in valve operation are also expected to result from relocation of and addition of weights to the manual actuating arms.

e. Primary Containment Isolation Valves. As previously stated,[25] the licensee plans to inspect at least three of the primary containment isolation valves which use boot seals.

21/ RO Inspection Report No. 050-263/72-06, p.11.
22/ RO Inspection Report No. 050-263/73-01, p.15.
23/ RO Inspection Report No. 050-263/73-01, p.8.
24/ RO Inspection Report No. 050-263/73-01, p.13.
25/ RO Inspection Report No. 050-263/73-01, p.14.

f. Relief Valves.[26] Disassembly and inspection of all four relief valves is planned. New monel pilot valve stems will replace the present stainless steel stems. New air operator stem seals and main piston rings will also be installed.

g. Safety Valves.[27] Two safety valves will be replaced with factory set valves. Blowdown ring adjustment will be checked on the two remaining safety valves. The two safety valves removed from the plant will be overhauled and steam tested on site.

h. Control Rod Drives. Fifteen selected rod drives will be replaced as part of the routine rod drive maintenance program. Drive No. 22-31[28] will be included.

i. Diesel Generator Back-Up Start Relays.[29] Testing of back-up relays is planned, to include individual relay timing checks and back-up starting system logic functional checks. The inspector examined a test procedure which has been written and is currently being reviewed for approval.

j. MSIV Leak Tests.[30] MSIV leak tests will be conducted during the outage.

k. HPCI Auto Isolation.[31] The licensee plans to replace the elbow tap presently used for HPCI steam line rupture indication with a Venturi flow indicator.

l. Drywell Instrument Air Supply.[32] A licensee representative stated that outage plans had included installation of a recirculating compressor system as a normal drywell instrument air supply, but that this work might be postponed until after the outage because of more pressing commitments. He stated that an interim modification had been completed during the December outage which provides a supply of pressurized nitrogen from the nitrogen makeup system to the drywell instrument air piping, and that this was operating satisfactorily and had significantly reduced the drywell nitrogen makeup requirements.

26/ RO Inspection Report No. 050-263/72-06, p.6.
27/ RO Inspection Report No. 050-263/72-06, p.7.
28 RO Inspection Report No. 050-263/72-06, p.8.
29/ RO Inspection Report No. 050-263/72-06, p.19.
30/ Ltr, NSP to DRL, dtd 2-18-72.
31/ RO Inspection Report No. 050-263/72-06, p.15.
32/ RO Inspection Report No. 050-263/72-06, p.13.

m. Reactor Vessel Closure Studs.[33] A licensee representative stated that four reactor vessel closure studs would be removed to provide a fuel passage, and that these would be ultrasonically tested. Remaining closure studs will be left in the reactor vessel flange in accordance with recommendations of the reactor supplier. The representative stated that these would be closely monitored following drain down and would be air dried if necessary.

n. Steam Line Testing Instrumentation. The licensee plans to install additional instrumentation during the outage to determine whether main steam system transient behavior is related to unexpected main steam line isolation valve and safety valve actuation following a turbine trip (as experienced on July 10, 1972[34]). The instrumentation will include seven accelerometers to be mounted on the "A" safety valve, plus pressure transducers to monitor system pressure through existing connections at several points on the "A" steam line, turbine stop valve, turbine bypass valve header, reactor vessel, and at one comparison point on the other three steam lines. Test procedures are being written to provide for measurement of the response of these transducers to relief valve operation, MSIV closure, and turbine bypass valve operation after the refueling outage.

15. Minnesota Pollution Control Agency Relationships

A licensee representative stated during the inspection that an alarm system has been installed which will provide an indication at a location remote from the plant of abnormal activity level associated with (1) stack activity release rate, (2) the liquid radwaste effluent monitor, or (3) the discharge canal monitor. The representative stated that the alarm system had not yet been activated, pending an agreement between NSP and MPCA related to the use of and response to the system.

33/ RO Inspection Report No. 050-263/72-06, p.8.
34/ Ltr, NSP to Directorate of Licensing, dtd 7-20-72.

REPORT DETAILS

PART II - Prepared by: W. L. Fisher

Reviewed by: J. M. Allan

16. Persons Contacted

C. Larson, Plant Manager
L. Eliason, Radiation Protection Engineer

17. Respiratory Protection Program Procedures

In response to a noncompliance item No. 11 noted during the Management Inspection performed on May 23-26, 1972[35/], the licensee has prepared written procedures on the subject of respiratory protection. These procedures were issued as Volume F Temporary Memo 294 on August 7, 1972, and will be included in Operations Manual Section E.1.5, presently being revised. This action satisfactorily resolves the referenced item of noncompliance.

18. Respiratory Protective Equipment

The inspector questioned whether respiratory protective equipment in use had been approved by the Bureau of Mines or had been shown to be equivalent to or better than approved equipment, as specified in Technical Specification 6.2.B.d.5. Available information was not sufficient to determine this at the time of the inspection. The matter will be pursued further during a future inspection.

19. Radiation Protection Training

In January 1973, a four-session (two hours each) training course was given for plant personnel. Fifty-seven nonoperating personnel and operating personnel who had not received a Reactor Operator License within the last year took the course, which included, among other topics, the session on respiratory protection mentioned in earlier correspondence.[36/]

35/ Ltr, Director of RO to NSP, dtd 10/19/72.
36/ Ltr, NSP to Director of RO, dtd 11/10/72.

The licensee also stated that, prior to the forthcoming outage, additional training in respiratory protection and other aspects of radiation protection would be given to persons who would be welding or grinding during the outage. A list of all persons (NSP employees and others) qualified (by training and respirator fitting) to use respiratory protection will be kept at Access Control. Persons not so qualified will not be permitted to perform work requiring respiratory protection.

20. Whole Body Counting

In September 1970, baseline whole body counts were performed on six employees. Since that time, approximately 230 whole body counts have been performed by the whole body counting contractor. The largest burdens reported have been:

^{137}Cs - 46 nCi

^{60}Co - 28 nCi

^{58}Co - 84 nCi

The contractor has generally concluded that very little radioactivity of plant origin has been detected in those counted.

21. Exposure Reports

a. The annual personnel exposure and monitoring report for 1971 was reviewed and found to be adequate. The licensee stated that a similar report would be submitted for 1972 in accordance with 10 CFR Section 20.407.

b. Exposure reports sent during 1971 and 1972 to former employees in accordance with 10 CFR 20, Section 20.408 were found to be adequate but not maintained in an orderly file.

22. Procedures Review

The inspector reviewed and discussed with the licensee recent (November 11, 1972) revisions (E.1.1, E.1.2, and E.1.3) to Volume E of the operations manual. Several minor errors were pointed out to the licensee.