



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
739 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

CENTRAL FILES

Docket No. 50-263

JUL 6 1977

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

Gentlemen:

This refers to the inspection conducted by Messrs. D. E. Miller and J. W. Hiatt of this office on June 13-16, 1977, of activities at Monticello Nuclear Generating Plant authorized by NRC Operating License No. DPR-22 and to the discussion of our findings with Mr. Clarity and other members of the plant staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in noncompliance with NRC requirements, as described in the enclosed Appendix A.

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 for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved.

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JUL 6 1977

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 letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room, except as follows. If the enclosures contain information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

James M. Allan, Chief
Fuel Facility and
Materials Safety Branch

Enclosures:

1. Appendix A, Notice
of Violation
2. IE Inspection Report
No. 50-263/77-10

cc w/encl:

Mr. L. R. Eliason, Plant
Manager
Central Files
Reproduction Unit NRC 20b
PDR
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TIC
Anthony Roisman, Esq.,
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OFFICE	RIII <i>1/1/77</i>	RIII <i>1/1/77</i>	RIII <i>1/1/77</i>	RIII <i>1/1/77</i>	RIII	
SURNAME	Miller/jb	Hiatt	Fisher	Allan	<i>RIII for Charles</i>	
DATE	6/30/77				7/5/77	

Appendix A

NOTICE OF VIOLATION

Northern States Power Company

Docket No. 50-263

Based on the inspection conducted on June 13-16, 1977, certain of your activities appear to have been in noncompliance with NRC requirements. The item listed below is an infraction.

Contrary to Technical Specification 6.5 and section E.1.4.III.C.1 of the Operations Manual, portable dose rate survey instruments were being calibrated annually.

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No.: 50-263/77-10

Docket No.: 50-263

License No. DPR-22

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

Facility Name: Monticello Nuclear Generating Plant

Inspection at: Monticello, MN

Inspection Conducted: June 13-16, 1977

Inspectors: D. E. Miller

W. L. Fisher for

7/1/77
(date signed)

J. W. Hiatt

W. L. Fisher for

7/1/77
(date signed)

Approved by: W. L. Fisher, Chief
Fuel Facility Projects and
Radiation Support Section

W. L. Fisher

7/1/77
(date signed)

Inspection Summary

Inspection on June 13-16, 1977 (Report No. 50-263/77-10)

Areas Inspected: Routine, unannounced inspection of radiation protection program, including: qualifications; audits; training; radiation protection procedures; instruments and equipment; exposure control; posting, labeling, and control; surveys; notifications and reports; previous item of noncompliance; and previous commitments. The inspection involved 47 inspector-hours on site by two NRC inspectors.

Results: Of the eleven areas inspected, no items of noncompliance or deviations were identified in ten areas; one apparent item of noncompliance was identified in one area (infraction - failure to follow a procedure concerning portable survey instrument calibration - Paragraph 12.a).

DETAILS

1. Persons Contacted

*M. Clarity, Plant Engineering and Radiation Protection Superintendent
F. Fey, Radiation Protection Engineer
*L. Nolan, Engineer
R. Jacobson, Chemist
R. Scheinost, Plant Quality Engineer
J. Pasch, Training Supervisor
*P. Yurczyk, Radiation Protection Coordinator
J. Peterson, Chemistry Coordinator
G. Mathiasen, Radiation Protection Specialist

The inspectors also contacted five other radiation protection specialists during the course of the inspection.

*denotes those present at the exit interview.

2. General

This inspection, which began with a facility tour and visual observation of facilities and equipment, postings, labeling, and access controls at 11:00 a.m. on June 13, 1977, was conducted to examine the radiation protection aspects of routine plant operations, a previous item of noncompliance, and previous commitments made by the licensee.

No abnormalities were noted during the visual observations.

3. Organization

The radiation protection complement consists of the Radiation Protection Engineer, Engineer, Chemist, Radiation Protection Coordinator, Chemistry Coordinator, and six Radiation Protection Specialists. The licensee stated that a recent masters degree graduate in radiological health may be hired in the near future.

4. Licensee Action on Previous Inspection Findings

(Closed) Infraction (50-263/76-07): High Radiation Area found unlocked and unattended. The inspector reviewed the licensee's response dated June 8, 1976. The corrective actions appear to be adequate.

(Closed) Unresolved Item (50-263/77-05): Inaccuracies in the conversion factor calculation for the offgas stack monitor may have resulted in erroneous determinations of offgas stack noble

gas releases. While investigating this matter, the licensee discovered an error in the computer program used to estimate the quantity of isotopes present in concentrations which are below the detection sensitivity for the GeLi counting system. As a result, the relative abundances of these isotopes changed but the total quantity released remained the same. It now appears that the total quantity of release via the air ejector offgas pathway is less than ten percent of the total release from the offgas stack. The remainder of the release is from the gland seal exhaust. Therefore, the conversion factor in question was relatively accurate and did not result in a large error when quantification of effluent via the offgas stack was determined using the offgas stack monitor readings. The licensee has reissued portions of the semiannual effluent reports for 1976.

5. Licensee Internal Audits

The inspector reviewed the results of audits conducted by a station Quality Engineer during 1977 to date. Two audits concerned chemistry and radiation protection procedures and included adherence to procedures. No significant items requiring corrective action were found.

The inspector reviewed the results of audits conducted by the Safety Audit Committee during 1976. Two audits were conducted concerning radiation protection and radwaste management. No significant items requiring corrective action were found.

No problems concerning the frequency or extent of licensee audits were identified by the inspector.

6. Training

The radiation protection aspects of training and retraining remain as previously reported (50-263/76-07). The licensee currently is developing new orientation training presentations, and plans to use them in the near future. This matter will be examined during a future inspection.

7. Radiation Protection Procedures

The inspectors reviewed changes made to the following procedures since the previous radiation protection inspection:

- E.1.7 Equipment Control
- E.1.3 Radiation Area Control
- E.1.4 Monitoring

The changes examined did not alter the compatibility of the procedures with regulatory requirements. Procedural changes were noted to have been made in accordance with the licensee's technical specifications and Administrative Control Directives.

8. Radiation Surveys

a. Direct Radiation and Surface Contamination

Records of direct radiation and surface contamination surveys conducted during May 1977 were reviewed. The surveys, performed under section E.1.4.II of the Operations Manual, appeared to satisfy regulatory requirements. In addition to routine surveys, the licensee conducted specific area surveys in connection with work in progress.

b. Air Sampling

The licensee routinely collects high volume air particulate and halogen grab samples in plant areas where airborne concentrations of radioactive materials may exist. These samples are analyzed by a GeLi counting system which is programmed to print out results by isotope, activity of each isotope identified, the maximum permissible concentration (MPC) ratio for each isotope, and total MPC ratio for the sample. The program conservatively ties Sr-90 to Cs-137, if present, and gives it the same concentration. The licensee also counts the samples for gross beta, and factors the detected activity into the total MPC ratio when less than seventy-five percent of the beta activity is gamma identified.

These sample results, along with nonroutine sample results, are used to determine posting and respiratory protection requirements. The inspectors noted that the licensee does not perform calibrations on portable air sampler and constant air monitor flowmeters.

c. Source Leak Tests

Licensee records of leak tests performed were being microfilmed and were not available for review. These records will be reviewed during a subsequent inspection.

d. Bioassays and In Vivo Counting

The licensee continues to contract whole body counting services annually and in conjunction with major outages. The

last whole body counts were performed May 3-5, 1976, when 122 scans for mixed fission, corrosion, and activation products were performed on 122 individuals. The maximum internal activity detected, other than potassium, was about two percent of the maximum permissible body burden for Co-60. The licensee stated that plans are in progress to purchase a whole body counter for use onsite.

Urine analysis is conducted in response to suspected internal deposition. Nasal smears are a routine part of the licensee's respiratory protection program. Licensee procedures establish criteria for nasal smear collection and special whole body counting. Since the previous radiation protection inspection (May 1976), urine analyses have been conducted for six persons. Based on the results of urine analyses, no special whole body counting was required. The inspector noted that the extent of airborne contamination within certain areas of the facility has decreased significantly since the refueling outage in 1975, apparently as a result of better fuel cladding. Consequently, the frequency of respiratory protection equipment use and subsequent need for nasal smears and urine analysis has diminished.

The inspectors noted that a discrepancy exists between Operations Manual sections E.1.3.V.E.6.a and E.1.5.V.D.2.b.6 concerning the requirement for collection of nasal smears. The inspectors discussed this matter with the licensee.

9. Personal Dosimetry

Self-reading dosimeters and TLD badges are used to measure personal radiation exposures. The TLD badges are processed monthly by an outside contractor. The inspectors reviewed the licensee's personal dosimetry records for April 1976 through May 1977. No quarterly whole body, skin, or extremity exposures exceeding three rems were noted. The highest yearly whole body exposure for 1976 was noted to be 7.4 rems. Forms NRC-4 were selectively reviewed. Two to four TLD badges are spiked quarterly by the licensee and submitted to the contractor. No abnormalities were identified.

Self-reading dosimeters are calibrated semiannually. Records of calibrations performed in January and April 1977 were reviewed by the inspectors. No problems were identified.

11. Radiation Work Permits

Radiation Work Permits (RWP's) are required for posted area entries. The inspectors reviewed RWP's issued in 1977. No discrepancies from procedural requirements were noted. Both extended and special RWP's are utilized. As of June 4, 1977, 173 RWP's had been written during 1977.

The inspectors discussed with the licensee the desirability of including worker names and more detailed job descriptions on radiation work permits.

12. Instrument Calibration

a. Portable Survey Instruments

The inspectors reviewed records of portable survey instrument calibrations and spot checked calibration stickers on instruments located in the control room, secondary containment, and access control. It was noted that several dose rate meters were being calibrated annually. Licensee Operations Manual section E.1.4. III.C.1 indicates a semiannual calibration requirement. This is considered to be an item of noncompliance.

b. Area Radiation Monitors

The licensee uses a portable calibration unit supplied by the manufacturer of the monitors. The licensee has independently verified the dose rate supplied by the calibration unit. The inspectors reviewed records of quarterly calibrations and monthly functional tests performed during 1977 to date. No problems were identified.

c. Constant Air Monitors

The inspectors reviewed records of quarterly calibrations and monthly functional tests performed during 1977 to date. No problems were identified.

13. Respiratory Protection

The inspector verified that the licensee uses NIOSH approved respirators and filters. Qualitative fit testing is done annually, and at first wearing for new employees.

The licensee continues to maintain an MPC-hour log for airborne radioactive material area entries. The MPC-hour log for the period June 1976 to May 1977 was reviewed. No exposure exceeding the regulatory limit or the 40 MPC-hour action level was noted.

14. Reports and Postings

The inspector reviewed the following matters and found no items of noncompliance:

- a. Posting of notices to workers as required by 10 CFR 19.11,
- b. Reports required by 10 CFR 20.407 and 20.408, and
- c. Report required by Technical Specification 6.7.A.2.c concerning personal exposure by type of worker and work performed.

15. ALARA

The inspector asked the licensee what actions are taken to ensure that personal internal and external doses are as low as reasonably achievable. The licensee stated that there is no formal station program, but that station policy and several procedures are directed at this goal. The licensee related the following examples of station attention to the matter:

- a. Extensive use of radiation work permits, which are reviewed by radiation protection supervision to determine if exposures can be reduced,
- b. Conservative use of respiratory protective devices when potential for airborne activity exists,
- c. Personal exposure update memo routed to supervisors either daily or weekly,
- d. Radiation protection participation in outage planning, and
- e. Quarterly maintenance persons training during which radiation protection and radiation occurrences are discussed.

16. IE Circular No. 76-03

Licensee response dated November 2, 1976 identified that the following actions had been taken:

- a. A thorough review of plant areas and operations had been conducted to identify high radiation areas.
- b. The licensee verified that entryways to the above areas were properly posted and locked.
- c. The licensee ensured that radiation protection procedures, training, and retraining specifically address the matter of controlled access to these areas. Retraining on this subject was completed during August and September 1976 for all employees.
- d. Procedures governing individual entry into all actual or potential high radiation areas were reviewed to ensure that such entries are permitted only after appropriate management evaluation. This review resulted in issuance of a Management Memo containing additional instructions relating to surveys, equipment control, and review and approval of entries into areas subject to changes in radiation exposure rates.

17. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on June 16, 1977.

The following matters were discussed:

- a. The purpose and scope of the inspection, and the item of non-compliance.
- b. The apparent conflict between two sections of the Operating Manual concerning the collection of nasal smears. The licensee stated that the matter would be reviewed. (Paragraph 8.d)
- c. The desirability of performing calibrations on portable and continuous air monitor flowmeters. The licensee stated that the matter would be reviewed. (Paragraph 8.b)
- d. The desirability of including worker names and more detailed job descriptions on radiation work permits. The licensee acknowledged the comment. (Paragraph 11)
- e. Previous item of noncompliance and unresolved item. (Paragraph 4).