

SALP 3

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Northern States Power Company

MONTICELLO NUCLEAR GENERATING PLANT

Docket No. 50-263

Report No. 50-263/82-18

Assessment Period

July 1, 1981 through June 30, 1982

CONTENTS

	<u>Page</u>
Letter to Licensee from SALP Board Chairman	iii
Licensee Comments	vi
I. Introduction	1
II. Criteria	2
III. Summary of Results	3
IV. Performance Analyses	4
V. Supporting Data and Summaries	16

I. INTRODUCTION

The NRC has established a program for the Systematic Assessment of Licensee Performance (SALP). The SALP is an integrated NRC Staff effort to collect available observations and data on a periodic basis and evaluate licensee performance based upon those observations. SALP is supplemental to normal regulatory processes used to insure compliance to the rules and regulations. SALP is intended primarily from a historical point to be sufficiently diagnostic to provide a rational basis for allocating future NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

A NRC SALP Board, composed of the staff members listed below, met on September 29, 1982, to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance. A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee safety performance at Monticello Nuclear Generating Plant from July 1, 1981 through June 30, 1982.

The results of the SALP Board assessments in the selected functional areas were presented to the licensee at a meeting held on November 10, 1982.

SALP Board for Monticello Nuclear Generating Plant:

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II. CRITERIA

The licensee performance is assessed in selected functional areas depending whether the facility is in a construction, pre-operational or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment, and are normal programmatic areas. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observation.

One or more of the following evaluation criteria were used to assess each functional area.

1. Management involvement in assuring quality
2. Approach to resolution of technical issues from safety standpoint
3. Responsiveness to NRC initiatives
4. Enforcement history
5. Reporting and analysis of reportable events
6. Staffing (including management)
7. Training effectiveness and qualification.

However, the SALP Board is not limited to these criteria and others may have been used where appropriate.

Based upon the SALP Board assessment each functional area evaluated is classified into one of three performance categories. The definition of these performance categories is:

Category 1. Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved.

Category 2. NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

III. SUMMARY OF RESULTS

<u>Functional Area Assessment</u>	<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>
1. Plant Operations	X		
2. Radiological Controls		X	
3. Confirmatory Measurements and Environmental Monitoring		X	
4. Maintenance		X	
5. Surveillance and Inservice Testing	X		
6. Fire Protection and Housekeeping		X	
7. Emergency Preparedness	X		
8. Security and Safeguards	X		
9. Refueling Activities	X		
10. Licensing Activities	X		

IV. Performance Analyses

1. Plant Operations

a. Analysis

During the assessment period, portions of twelve monthly inspections were performed in the area of operational safety to evaluate compliance with Technical Specifications and plant procedures. Significant improvement in plant operations was noted by the reduction in total number of LERs and particularly LERs attributed to personnel error which were reduced from five in SALP 2 to only one. Also, only one unplanned trip occurred during this assessment period. No operational weaknesses were evident in the response to the trip. Following the trip, an unplanned outage occurred due to inadequate maintenance on the relief valve by a contractor.

While compliance with the conditions of the license and regulation in this area has been good, there was one noncompliance and one deviation identified. They were as follows:

- (1) Severity Level IV - Failure to perform the required operational surveillance on fire pumps (IR 81-26).
- (2) Deviation - Operator error resulted in failure to maintain low pressure piping protection during operation of the Residual Heat Removal (IR 81-02).

These are considered isolated incidents and are not indicative of the overall effective management control being used by the licensee.

b. Conclusion

The licensee is rated Category 1 in this area. This is the same rating as the previous assessment period and is based upon the fact that there were no significant identified regulatory issues, and there appears to be a positive attitude toward nuclear safety and plant performance. Also, there has been a significant reduction of personnel errors in this area.

c. Board Recommendations

Reduction in inspection effort in this area should be considered.

2. Radiological Controls

a. Analysis

Two inspections, one outage radiation protection and one operational radiation protection and radwaste, were performed

during the assessment period by regional specialists. The resident inspectors also inspected in this area. Three items of noncompliance were identified as follows:

- (1) Severity Level III - Failure to control licensed material in an unrestricted area and excessive radiation levels in an unrestricted area (IR 81-22).
- (2) Severity Level IV - Failure to expeditiously correct a radiological hazard in accordance with procedures (IR 81-22).
- (3) Severity Level V - Failure to adhere to radiation protection key control procedure (IR 81-15).

The first two noncompliances concerned an unauthorized removal of radioactive material from the plant site for which a Civil Penalty of \$20,000 was imposed. This event is considered isolated and not indicative of deterioration of the licensee's radiation protection management controls. The licensee's corrective actions for the noncompliances were prompt and effective.

There is consistent evidence of management's support of the radiation protection program and commitment to ALARA principles. Although a considerable amount of torus modification and sparger work was performed during this assessment period, personal exposures remained below average for boiling water reactors.

Solid radioactive waste volume and activity, and airborne and liquid radioactive effluent releases were lower than average for boiling water reactors during this period. No planned liquid releases were made; two minor unplanned liquid releases occurred. One unplanned - unmonitored release occurred from the condensate storage tank due to an improperly reviewed modification. The other unplanned release occurred from a residual heat exchanger tube leak; this release was monitored.

b. Conclusion

The licensee is rated Category 2 in this area. This is based on generally satisfactory performance in this area. The licensee's poor performance concerning unauthorized removal of radioactive material from the site, for which a Civil Penalty was issued, appeared to be an isolated breakdown in an otherwise good radiological control program.

c. Board Recommendations

None.

3. Confirmatory Measurements and Environmental Monitoring

a. Analysis

One inspection was conducted in this area by regional specialists. No items of noncompliance or deviations were identified.

Confirmatory measurements comparisons were made on four collected samples (condensate storage tank, charcoal adsorber, offgas, and air particulate filter). Of the 27 gamma emitting isotopes compared, the licensee achieved 21 agreements, 3 partial agreements, and 3 disagreements. Two of the disagreements and one partial agreement involved the charcoal adsorber where differences in desposition between collected samples and standards may be at fault. The licensee agreed to recalibrate this geometry. The remaining disagreement involved yttrium-91m on a particulate filter identified by the NRC but not by the licensee since it was not included in his nuclide library. The licensee also initially missed cerium-144 using system software that did not resolve doublets but achieved agreement upon re-analysis using different software. The licensee agreed to add yttrium-91m to the library and to analyze routinely for multiplets in the future.

Quality control in the licensee laboratory appears improved with better records management. Followup of audit findings and recommendations has improved although not all recommendations from the December 1979 QA audit had been fully implemented. Other than records review, there had been no audit of the radiochemistry program since December 1979.

The Radiological Environmental Monitoring Program (REMP) appears to be well managed and implemented. Samples are collected by licensee personnel and sent to a contractor, Hazleton Environmental Science Corporation, for analyses. The REMP manager maintains close contact with both sample collectors and the contractor. Sample recovery is good and problems are handled promptly. The program includes audits of sample collection and of the contractor.

b. Conclusion

The licensee is rated Category 2 in this area.

c. Board Recommendations

None.

4. Maintenance

a. Analysis

During the assessment period, portions of nine monthly inspections were performed to evaluate the licensee performance in routine maintenance activities, major modifications, facility changes, and maintenance during outages. Five items of non-compliance were identified:

- (1) Severity Level IV - failure to perform the required design change review prior to installation of a plant modification (this was a repeat occurrence) (IR 81-16).
- (2) Severity Level V - performance of work beyond the scope of the Work Request Authorization (IR 81-16).
- (3) Severity Level V - failure to properly store material (IR 82-01).
- (4) Severity Level V - failure to follow procedures in completion of work control documents (IR 82-01).
- (5) Severity Level V - failure to perform inspections of the warehouse (IR 82-01).

The first two violations contributed to a minor unplanned release of slightly contaminated storage tank water on July 31, 1981. The remaining three were results of an inspection on procurement, storage, and handling of equipment and replacement parts in the warehouse. Storage and procurement of equipment and replacement parts continues to be a problem as similar item of non-compliance was identified during SALP 2.

The large increase in noncompliances during this period as compared to SALP 2, including a repeat occurrence, may be attributed to the loss of experienced personnel and a reduction of management overview. The personnel lost were replaced by promotion, depleting the overall experience level. This loss of experience combined with increased regulatory measures, increased maintenance activity and lack of qualified and experienced administrative and supervisory help have apparently led to the overall decrease in performance level of the maintenance groups.

The licensee does exhibit a positive attitude toward safety in the maintenance area. The Maintenance Supervisor and technicians conduct themselves in a professional manner and plan and schedule their work to minimize exposure of personnel, contributing significantly to the ALARA program.

One special inspection was conducted during this assessment period in the area of the licensee's evaluation of site piping inspections per IEB 79-14 requirements. The inspection was a final followup to resolve open items initially identified during a Region III inspection at NUTECH in October 1979 (IR 79-16). (An interim followup inspection on these items had been performed in January 1980 (IR 80-01) and several items had been closed.) The licensee's efforts in resolving the remaining questions on piping suspension system design basis and control was extensive and effective. No items of noncompliance or deviations were identified.

An unplanned outage resulted from inadequate maintenance performed by a contractor on a relief valve. The relief valve had stuck open following a reactor scram. Subsequent to a plant startup the relief valve continued to leak which necessitated a three day outage to correct it.

b. Conclusion

The licensee is rated Category 2 in this area. This is a decrease from the Category 1 rating received in SALP 2. This is due primarily to the increase in noncompliances and the occurrence of a repeat noncompliance indicating a lack of effective corrective action.

c. Board Recommendations

The licensee should place increased attention on providing qualified experienced personnel for support of the maintenance department. The licensee should also concentrate attention on improving warehouse conditions and procurement procedures.

5. Surveillance and Inservice Testing

a. Analysis

(1) Surveillance

During the assessment period, the resident inspectors routinely monitored the licensee's Surveillance and Inservice Testing Program. The inspectors verified proper scheduling and timely correction of identified problems. The inspectors also observed the performance of surveillance and inservice testing. No significant problems or noncompliances were identified. No LERs were assigned to this area. The licensee has established a comprehensive program to oversee the surveillance and Inservice Testing Program. Management personnel responsible for its implementation provide effective oversight and followup.

(2) Inservice Inspection and Modifications

One regional inspection was conducted in this area during the assessment period. Inservice inspection, torus structural modifications, and core spray system safe-end replacement activities were examined. The work activities observed, the management controls used, and the records and record control systems in place met requirements. No items of noncompliance or deviations were identified.

The overall effectiveness and attitudes of licensee personnel in complying with requirements are considered excellent. Licensee personnel are conscientious, and cooperative.

(3) Calibration

One regional calibration inspection was conducted during the assessment period. No noncompliances were identified. No significant or programmatic weaknesses were identified.

b. Conclusion

The licensee is rated Category 1 in this area. The licensee's attentiveness to schedules and technical adequacy of tests have resulted in an efficient and effective surveillance program. This is the same rating as the previous assessment period.

c. Board Recommendations

A reduction in inspection frequency should be considered.

6. Fire Protection and Housekeeping

a. Analysis

Throughout the assessment period, the resident inspectors and other NRC inspectors have observed the implementation of the licensee's Housekeeping Program.

For the first six months, deterioration in plant cleanliness was noted. Due to the heavy amount of ongoing construction work, this was not unexpected. Recently, the Plant Manager has begun to perform plant walkthroughs on a regular basis. The marked improvement in housekeeping is believed to be the result of this action.

The inspectors also noted that routine fire prevention is practiced at the facility. The routine fire drills were performed.

No items of noncompliance or LERs have been issued in the area of plant housekeeping.

b. Conclusion

The licensee is rated Category 2 in this area. Management's attention and workers' cooperative attitude have resulted in a very effective housekeeping and fire protection program. Although this is the same rating as the previous assessment period, continued licensee attention to housekeeping could result in an improved rating.

c. Board Recommendations

None.

7. Emergency Preparedness

a. Analysis

Emergency Preparedness activities at the Monticello Nuclear Generating Plant were observed during the licensee's emergency preparedness exercise and during the Emergency Preparedness Implementation Appraisal (EPIA). There were no significant deficiencies identified in the EPIA report. The licensee responded quickly and efficiently in correcting items as they were identified. Corrective actions taken involved felling trees near the meteorological tower which could perturb ground level wind flow patterns; modifying the computer program for dose assessment to make outputs more meaningful to the shift supervisor; and initiating expanded training for shift personnel on dose assessment.

Monticello was one of only four facilities in the country which did not have any significant emergency preparedness findings identified during the EPIA. It was the only facility in Region III to accomplish this.

The licensee has made commitments to fully comply with guidance regarding minimum shift staffing and augmentation by February 1983. Timely shift augmentation, as per NUREG-0654, Table B-1, has been demonstrated through a drill using a telephone call system. The time required for personnel to reach the site has been documented.

A full scale emergency preparedness exercise was conducted. Areas identified for improvement, minor in nature, were being corrected or had been corrected during the EPIA which was conducted two weeks after the exercise. Emergency exercise performance of personnel in the TSC, EOF, and OSC, as monitored by Region III, were considered to be effective and efficient. Offsite survey teams performed adequately. This full scale

exercise demonstrated exceptional superior capability and knowledge for both corporate and licensee personnel. Monticello's exercise performance was rated as the most prepared nuclear facility in Region III for dealing with significant nuclear accidents.

The NRC staff has received FEMA's findings regarding the off-site performance of state and local officials. Although some deficiencies were identified, FEMA concluded that the State of Minnesota and Sherburne and Wright Counties demonstrated an overall adequate level of emergency preparedness.

b. Conclusion

The licensee is rated as Category 1 in this area. This is a significant improvement from the previous assesement period.

c. Board Recommendations

Normal followup inspections on findings of EPIA and emergency preparedness exercise; reduced inspection frequency should be considered.

8. Security and Safeguards

a. Analysis

One routine security inspection, one special security inspection, and one Material Control and Accountability (MCA) inspection were conducted during the first half of the assessment period. The special security inspection was conducted due to an allegation about some security force members being inattentive to their duties on one occasion. The resident inspectors also conducted routine observations of security activities.

The routine security inspection conducted in September 1981 addressed: security plans and implementing procedures; records and reports; testing and maintenance; physical barriers and detection aids for protected and vital areas; lighting; and access control procedures for personnel. No items of noncompliance were noted during this inspection. This represents a significant improvement in compliance with NRC requirements since the previous assessment period.

The special inspection conducted in December 1981 was a result of a finding by the resident inspector during one of his frequent back shift tours that two guards appeared to be sleeping while on duty. The inspection confirmed that two guards were found to be inattentive. Although the guards were inattentive, they had no other guard duties which would have required a response from their assigned posts and there appeared to be no compromise of security. The licensee's corrective actions

were considered adequate to resolve concerns noted in the inspection and no items of noncompliance were identified. This appears to have been an isolated case and is not indicative of the licensee's overall performance.

The Material Control and Accountability inspection conducted in October 1981 addressed: measurements and controls; shipping and receiving; storage and internal controls; inventory; records and reports; management of material control systems; and facility organization and operations. One minor item of noncompliance was identified:

Severity Level V - failure to report to the Commission receipt of a two curie plutonium/beryllium source received in July 1981 (IR 81-20).

Physical security safeguards event reports submitted by the licensee in accordance with 10 CFR 73.71(c) indicated several security computer unplanned outages during the early part of the assessment period. The problems appear to have been resolved and few reports of computer system unplanned outages have been received during the latter half of the assessment period.

The adequacy of some compensatory measures for security equipment outages remains an unresolved item. The issue is being evaluated by NRC Headquarters.

Supervision of the security force appears effective and close liaison between site and corporate security managers is evident. The licensee's management response to security concerns is positive and timely. Security staffing appears adequate.

The major safeguards tasks confronting the licensee include: (1) continued implementation of their Security Force Training and Qualification Plan and (2) full implementation of the Safeguards Information Protection Program required by 10 CFR 73.21. The licensee requested specific exemptions from certain provisions and implementation schedules of 10 CFR 73.21. The exemption request is being evaluated by NRC Headquarters.

b. Conclusion

The licensee is rated Category 1 in this area. This is an improvement from the previous assessment period.

c. Board Recommendations

Reduced inspection frequency should be considered.

9. Refueling Activities

a. Analysis

No refueling activities were performed during the assessment period although a three month maintenance outage was completed during this time. New fuel bundles were received and inspected with no discrepancies noted. The licensee demonstrated consistent evidence of prior planning and assignment of priorities throughout the three month extended maintenance outage. The implementation of the planning and the followup indicated effective management controls. There were no significant problems identified during this maintenance outage, and a similar performance is expected during the upcoming refueling.

b. Conclusion

The licensee is rated Category 1 in this area. This is the same rating as the previous assessment period.

c. Board Recommendations

Reduced inspection frequency should be considered.

10. Licensing Activities

a. Analysis

The assesement of licensee performance was based on the following licensing activities:

- Responses to NUREG-0737
- Core reload analysis
- Adequacy of station electric distribution system voltages
- Environmental qualification of electrical equipment.
- Request for relief from NUREG-0654 staffing requirements
- Masonry walls
- Appendix I (Radiological Assessment Branch and Effluent Treatment System Branch)
- Inservice Testing
- Appendix R
- Containment purge and vent

(1) Management Involvement and Staffing

Since early 1982, the licensee has been reorganizing its corporate structure. Continuity has been preserved in licensing and key positions have been filled within a reasonable time. The difficulties that have been encountered may be considered normal under the circumstances. There is evidence of systematic planning whereby management strives to anticipate problems and to schedule priorities in an organized manner.

The efforts of the technical staff have been well coordinated with key personnel possessing a good working knowledge and history of the plant. Occasional difficulties with backlog have been experienced.

(2) Approach to Resolution of Technical Issues

When resolving technical issues, the licensee has generally expressed conservatism from the safety standpoint. Submittals have been concise, well written and thoroughly researched. The licensee considers deadlines seriously and when they cannot be met, usually notifies NRR ahead of time. Specifically, licensee performance can be summarized in the following four categories of licensing actions.

(a) Responses to Generic Letters

When responding to generic letters, licensee has presented the answers and information in a clear format, with substantial technical content.

(b) Applications for License Amendments

The licensee usually submits license amendment applications on a timely basis allowing adequate time for NRR review. The need for emergency changes to the Technical Specifications has rarely existed with the licensee because the licensee schedules major projects, trying to anticipate problems and minimize crises.

(c) Response to Generic Letters which Request Additional Information on Multiplant Action Items (Generic Issues and NUREG-0737).

The licensee has responded to generic requests for additional information on time with submittals well written; usually proposing feasible and generally sound and thorough approaches.

(d) Meetings

NRR has held one meeting with the licensee during this review period to resolve approximately one hundred open items. Although there was no management participation during the meeting, the technical staff had the authority to make decisions and commitments. Plant personnel were also available to answer detailed questions associated with the plant. The licensee was well prepared, responsive and made a concerted effort to resolve the issues.

(3) Responsiveness to NRC Initiatives

The licensee has shown restrained response to NRC's initiatives; often requiring repeated NRC effort to obtain acceptable resolutions. The licensee needs to be more responsive when requested: (a) to submit changes to Technical Specifications, (b) to discuss plant specific issues, and (c) to clarify points presented in submittal.

(4) Training and Qualification

The licensee has been assigning projects according to the individual's expertise. The staff has demonstrated thorough understanding of regulations in regard to translating the general criteria to plant specific requirements. The licensing staff gets on-the-job training with some time spent at the plant to acquire field experience.

c. Conclusion

The licensee is rated Category 1 over all in this area. The licensee has demonstrated sound technical expertise and a thorough understanding of the regulations. There is evidence of programmatic control over major projects with an emphasis on timely, thorough and complete submittals.

d. Board Recommendations

The areas where the licensee should strengthen its performance are in responding to NRC initiatives.

B. Licensee Report Data

Licensee Event Reports (LERs)

<u>Proximate Cause</u>	<u>SALP 1</u> <u>(12 months 10/1/79</u> <u>through 9/1/80)</u>	<u>SALP 2</u> <u>(12 months 7/1/80</u> <u>through 6/30/82)</u>	<u>SALP 3</u> <u>(12 months 7/1/81</u> <u>through 6/30/82)</u>
Personnel Error	3	5	1
Design, Mgf., Construction/ Installation	10	5	1
External Cause	1	0	0
Defective Procedure	2	0	0
Component Failure	16	13	10
Other	2	2	0
TOTALS	44	25	12

LER Evaluations

The licensee showed a significant and continued decrease in the total number of LERs issued from previous SALP periods. Of particular note only one personnel error was issued during this SALP period. This is extremely low and is considered commendable.

C. Licensee Activities

1. October 23, 1981: scheduled shutdown for Fall maintenance outage - was scheduled as 42 days, but LP turbine problems extended it to January 15, 1982. Major items completed were: feedwater sparger modification, core spray lines replacement, LP turbine inspection. A crack in the 11th stage A-rotor wheel hub of the turbine required the removal of the wheel.
2. April 8, 1982: scram from turbine trip. One relief valve stuck open and reduced primary pressure to 580 psig.
3. April 17, 1982: forced outage replacement of a relief valve that was leaking.
4. During the last week of April 1982 a power coastdown was commenced.

D. Inspection Activities

During the assessment period the following significant team inspections were performed:

1. Monticello Emergency Exercise (March 2, 1982).
2. Emergency Preparedness Appraisal (March 15-25, 1982).
3. INPO (second appraisal) (March 24 - April 2, 1982).

E. Investigations and Allegations Reviews

1. Welder qualifications were alleged to have been falsified for a group of welders working at the site. One welder's qualification coupon was found to have had the finished weld pass made by another welder. The group of welders were requalified and procedures were changed to prevent a recurrence (IR 82-08).
2. A special inspection was conducted December 1981 as a result of a report by the resident inspector that two security guards were asleep while on duty. The inspection confirmed that the two guards were inattentive, but there appeared to be no compromise of security (IR 81-25).

F. Escalated Enforcement Actions

A \$20,000 Civil Penalty was imposed for unauthorized removal of radioactive material from the plant site. On November 4, 1981, twenty-eight drums of package radioactive LSA waste was inadvertently placed in a rental company trailer which was subsequently removed from the plant site. The drums were returned to the plant site the following day (IR 81-22).

G. Administrative Actions

1. Confirmatory Action Letters

None.

2. Management Conferences

(a) October 8, 1981: SALP 2 meeting with the licensee (IR 81-27)

(b) November 24, 1981: Enforcement Conference on loss of radwaste drums (IR 81-22).

H. NSP Responses to INPO Evaluation

1. The site is in the process of hiring personnel to implement staffing recommendations. A building addition is under construction to provide office space and consolidate the staff.

2. A new training facility and plant simulator are under construction.
3. The formalization of programs and procedures are proceeding in the areas outlined in INPO Evaluation Report No. EA 80-02.