INITIAL SALP REPORT

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Inspection Report No. 50-263/91001

Northern States Power

Monticello Nuclear Generating Station

July 1, 1990, through November 30, 1991

CONTENTS

1. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated U.S. Nuclear Regulatory Commission (NRC) staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance on the basis of this information. The program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful feedback to the licensee's management regarding the NRC's assessment of the facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on January 15, 1992, to review the observations and data on performance and to assess licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance."

This report is the NRC's assessment of the licensee's safety performance at the Monticello Nuclear Generating Station for the period July 1, 1990, through November 30, 1991.

The SALP Board for the Monticello Nuclear Generating Station was composed of the following individuals:

Board Chairman

H. J. Miller, SALP Board Chairman, Director, Division of Reactor Safety (DRS)

Board Members

E. G. Greenman, Director, Division of Reactor Projects (DRP)
W. L. Axelson, Deputy Director, Division of Radiation Safety and Safeguards (DRSS)
L. B. Marsh, Project Director, Directorate (PD) III-1, Office of Nuclear Reactor Regulation (NRR)
W. D. Shafer, Chief, Reactor Projects Branch 2, DRP
A. S. Masciantonio, Acting Project Manager, PDIII-1, NRR
S. P. Ray, Senior Resident Inspector, DRP

Other Attendees at the SALP Board Meeting

C. J. Paperiello, Deputy Regional Administrator, RIII
T. O. Martin, Deputy Director, DRS
L. R. Greger, Chief, Emergency Preparedness and Radiological Protection Branch, DRSS
R. W. DeFayette, Chief, Reactor Projects Section 2B, DRP
R. A. Hasse, Chief, Technical Support Staff, DRP
W. E. Scott, Acting Chief, Performance Evaluation Branch, NRR
W. O. Long, Project Manager, NRR
H. A. Walker, Reactor Inspector, DRS
F. A. Maura, Reactor Inspector, DRS
J. E. Foster, Emergency Preparedness Specialist, DRSS

M. A. Kunowski, Radiation Specialist, DRSS
J. R. Knicely, Security Specialist, DRSS
R. Mendez, Reactor Engineer, DRP
W. Stearns, Resident Inspector, DRP
D. L. Schrum, Reactor Engineer, DRP
N. Shah, Radiation Specialist, DRSS
D. E. Roth, Intern, DRS

II. SUMMARY OF RESULTS

Overview

Monticello management continued to be highly involved with site activities and maintained a conservative philosophy regarding the safe operation of the plant. Radiological Controls improved from a Category 2 to a Category 2 Improving, and Security improved from a Category 2 to a Category 1. The Radiological Controls improvement was based, in part, on improved ALARA and source term reduction results. The improved rating in Security reflected the continued efforts and good results of the performance improvement program. Maintenance/Surveillance declined from a Category 1 to a Category 2, primarily because of weaknesses such as procedure adequacy, content and adherence; and in tracking and trending of equipment performance information. Examples of items that could be improved were procedures and procedure compliance, equipment tracking and trending, and reducing personnel errors. Repeat Category 1 ratings in Plant Operations, Safety Assessment/Quality Verification, and Emergency Preparedness indicate a continued strong performance in these functional areas. Engineering/Technical Support remained a Category 2.

The performance ratings during the previous assessment period and this assessment period according to functional areas are given below.

Functional Area	Rating Last Period	Rating This Period	Trend
Plant Operations	1	1	
Radiological Controls	2	2	Improving
Maintenance/Surveillance	1	2	
Emergency Preparedness	1	1	
Security	2	1	
Engineering/Technical Support	2	2	
Safety Assessment/Quality Verification	1	1	

III. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

Evaluation of this functional area was based on the results of 12 routine resident inspections and 1 special inspection to follow up an event.

Enforcement history was excellent with no significant violations identified.

Overall management effectively ensured good operational performance. Management was proactive and decisions on operability questions with regard to technical specifications (TS), reporting requirements, plant shutdowns, and operational risk reduction were well founded, conservative, and timely. For example, management made the decision to maintain two sources of offsite power and one emergency diesel generator (EDG) available during the refueling outage although this was not required by the TS and necessitated lengthening the outage schedule. The decision was excellent from a risk reduction standpoint, which was evident when one of the sources of offsite power was lost twice during the outage. On four occasions during the assessment period, management proactively shut down the plant to repair equipment before it degraded to the point where it could constitute a significant safety concern.

Excellent communications, between all levels of the operations staff and other groups, contributed substantially to rapid and effective resolution of technical issues. The operators worked closely with the system engineers to suggest methods of improving performance; even slight anomalies in system performance were brought to systems engineers' attention for resolution. Examples of good operational issues resolution included improved procedures for and analysis of flux redistribution effects resulting from control rod movements, modifications to overcome mode switch design problems, lengthening the condensate demineralizer beds' service life and video monitoring of the cooling water intake bay to monitor for ice blockage.

Operator performance generally was excellent. The only exception was one event that involved the inattention of a licensed operator and inadequate supervision of control room activities. The event (an unplanned return to criticality) resulted in a reactor trip from low power during a controlled reactor shutdown. A contributing factor to the event was the operators' perception of plant management's sense of urgency for a plant shutdown. Corrective actions for the event were extensive and resulted in a noticeable improvement in monitoring and controlling the plant during planned evolutions.

The response to and evaluation of operational events were excellent. The analyses focused on safety significance. Operators responded well to events as demonstrated by their response to three reactor trips from full power and to other engineered safeguards and protective system actuations. On two occasions, operator's quick actions prevented reactor scrams. Procedures were followed, conservative and timely actions were taken for abnormal conditions, and required records and reports were written. Control room decorum was nearly always professional and distractions were minimized.

Plant housekeeping was excellent. The licensee continued its ongoing painting and equipment preservation efforts. Leaks and other minor equipment problems were promptly identified and rapidly repaired. Combustible materials control was improved, including instituting new policies for fire retardant wood control. The control room maintained a "black board" with few alarms illuminated for most of the assessment period. Equipment was well maintained and surveillances were conducted so that entry into TS limiting conditions for operation (LCOs) were rare while the plant was at power.

The number of licensed operators and operations' department personnel was more than sufficient to maintain six shift crews and still allow opportunities for rotational assignments. The operations department use of overtime was adequately controlled. Operator turnover remained very low and the experience level of the crews was high. A college degree program for senior operators continued to enhance qualifications for advancement opportunities. Three experienced reactor operators, two of which had senior reactor operator licenses, were designated as shift supervisors during the assessment period. The operations staff was involved in several plant improvement projects, including a plant labeling program, a new computerized out-of-service card system, and a modern computerized log taking and trending system.

Operator performance with regard to license examinations was good although it declined slightly from the previous assessment period. The pass rate decreased from 100 percent to 86 percent (12 of 14 examinees) for the requalification examination and from 100 percent to 83 percent (10 of 12 examinees) for the initial examinations. Neither of the two initial examination failures were plant operators.

2. Performance Rating

Performance is rated Category 1. Performance was rated Category 1 in the previous assessment period.

3. Recommendations

None.

B. Radiological Controls

1. Analysis

Evaluation of this functional area was based on the results of four regional inspections and routine resident inspections.

Enforcement history was adequate but declined slightly.

Management effectiveness in ensuring quality was good, especially with source-term reduction and ALARA (as-low-as-reasonably achievable) efforts. Other examples included an improved condensate demineralizer system operation, which resulted in increased resin bed life that reduced the volume of radioactive waste; redeployed security personnel to reduced radiation areas, which lowered their 1991 collective refueling outage dose to 0.7 person-rem from 9.5

person-rem in 1989; accelerated replacement of high cobalt control rod blades; increased chemical decontamination of reactor systems during the outage; and implementation of the use of electronic alarming dosimeters and computerized access for the radiologically controlled areas. Other initiatives included the expansion of the video disc plant-tour system to include the drywell and steam tunnel, the continued use of highly sensitive whole-body contamination monitors, and participation in industry studies on increased shutdown dose rates at plants with hydrogen water chemistry. Good cooperation between the chemistry and operations departments was evident, which helped maintain water quality consistent with industry guidelines. However, management was less effective in ensuring adequate control over several locked high-radiation area doors and radioactive waste shipments, the latter of which was a continued problem from the previous assessment period.

The identification and resolution of technical issues was good during this assessment period. The licensee's performance in the NRC confirmatory measurements program was very good with 56 agreements from 58 radiological comparisons and 26 agreements from 28 non-radiological comparisons. Efforts to further reduce personnel contaminations was good and some improvements were noted. However, the number of these events continued to be relatively high. The cumulative station dose showed improvement from previous refueling-outage and non-outage years. The licensee continued its policy of prohibiting radioactive liquid waste releases. Gaseous releases had been on a declining trend since 1989, following improvements to the offgas system, and good efforts were made to reduce the quantity of solid radioactive waste sent to the burial sites. Radiological environmental monitoring was appropriately conducted, with associated sampling and analysis equipment well maintained.

Staff levels, training, and qualifications continued to be good. Staff turnover was moderate. However, initially in this assessment period there were problems with timely revision of radiation protection procedures and administrative control of the radiation safety deficiency report system. These problems were attributed to two vacancies in the health physicist group; once these vacancies were filled, the problems were corrected. Upper management control improved for the radiation protection and chemistry areas when managers reported directly to the plant manager. Training of the radiation protection and chemistry technicians was good. To address some weaknesses in radiological work practices, an advanced radiation worker training course was taught to station supervisors and workers.

2. Performance Rating

Performance is rated Category 2 Improving in this area. Performance was rated Category 2 in the previous assessment period.

3. Recommendations

None.

C. Maintenance/Surveillance

1. Analysis

Evaluation of this functional area was based on the results of 12 routine resident inspections, a maintenance team inspection, an electrical distribution system functional inspection, an inservice inspection (ISI) program inspection, and an inservice testing (IST) program inspection.

Enforcement history was good with no safety significant violations identified.

Management's effectiveness in ensuring the quality of Maintenance and Surveillance activities was generally good. Management's emphasis on equipment condition, and actual performance of maintenance activities contributed significantly to good plant performance. Equipment availability was maintained at a high level. Entry into a TS LCO for corrective maintenance was rare and controlled. Rework was low. The backlog of corrective maintenance requests was kept low and closely monitored. ISI activities were adequately planned and prioritized. ISI procedures were well written and used appropriately. ISI records were complete, well maintained, and accessible. The scope and implementation of the surveillance program was a strength.

Management ensured that all levels of the organization were kept informed of current maintenance issues and plans by conducting thorough and concise discussions of issues during daily plant status meetings. Excellent communications existed among the maintenance, operations, and engineering personnel.

On the other hand, some weaknesses were noted in the adequacy and content of maintenance procedures. In addition, procedural compliance was occasionally weak, especially with some of the administrative requirements. This was caused partly by inadequate management emphasis on procedure compliance and a lack of first line maintenance supervision in those areas. There was no program for trending of equipment and component failures even though system engineers did do some trending of selected equipment problems. The preventive maintenance program appeared to be limited in scope as evidenced by the failure to address several vendor preventive maintenance recommendations. Other weaknesses were noted in scheduling and tracking of preventive maintenance tasks, tracking the use of test equipment, and documenting set point methodology. Some programmatic deficiencies also were noted in the IST program. Several multidisciplinary quality teams were organized to help analyze these long-standing maintenance issues and recommend improvements in the areas of procedures, mechanical maintenance work control, component master list, and procurement. Management implemented the recommendations.

Technical issues regarding maintenance and surveillance activities were resolved conservatively with due regard for safety. The replacement of a turbocharger on an emergency diesel generator was an example of good planning and execution. Also, scheduling and performance of refueling outage activities were strengths and were done in a way to maximize the availability of electrical and reactor cooling equipment to minimize shutdown risk.

Personnel errors during Maintenance/Surveillance activities increased, especially during outages, resulting in three engineered safeguards system actuations. One event was considered significant and involved severe injury to an electrician when his test equipment contacted live 4160Vac switchgear. In addition to personnel injury, the event caused a brief loss of offsite power. Among the causes identified for that event were inadequate procedures, lack of supervisory involvement, and failure to use the appropriate safety equipment. Two other non-plant employees were injured as a result of supervisors not ensuring that proper rigging was used to perform work. In addition, a painter bumped a sensitive instrument line and caused a reactor trip at full power.

Staffing levels were adequate to complete maintenance work without excessive reliance on overtime. Maintenance personnel were supplemented during outages with crews from within the company. Contract personnel were used for some activities, such as IST and ISI.

Skilled, experienced, and dedicated craftsmen continued to be the greatest strength of the maintenance staff. In most cases, knowledgeable, well-trained personnel compensated for procedures that were not always detailed. As a result of the long-term low turnover rate, many maintenance technicians have been performing their jobs since the initial licensing of the plant. New hires usually started as plant helpers and went through an extensive training and apprenticeship program.

2. Performance Rating

Performance is rated Category 2 in this area. Performance was rated Category 1 in the previous assessment period.

3. Recommendations

None.

D. Emergency Preparedness

1. Analysis

Evaluation of this functional area was based on the results of three region based inspections.

Enforcement history remained excellent with no violations identified.

Management effectiveness in ensuring quality was excellent, as demonstrated by the resources expended for recent changes to the physical location of the operations support center, the increased size and improved layout of the emergency operations facility, and the general layout of the technical support center. The staff took appropriate actions regarding two actual activations of the emergency plan. The events were properly classified as Unusual Events, with timely notifications made to State, county, and NRC officials. Post-activation reviews were detailed and were performed in accordance with a comprehensive procedure. Required audits of the program were thorough, and

appropriate corrective actions were taken for audit findings. Management strongly supported liaison with State and county authorities, which continued to be a strength in this area.

The identification and resolution of technical issues from a safety standpoint was excellent. For example, significant efforts were made to ensure that an NRC event response team would easily integrate into the licensee's emergency response facilities. Emergency plan revisions were done exceptionally well, with adequate justifications provided for each revision. The 1990 and 1991 annual emergency exercises were very successful, and all significant aspects of the emergency plan were adequately challenged. No exercise weaknesses or concerns were identified. During the 1991 exercise, changes to the emergency response facilities and procedures were tested and found to have improved its performance. Results from the routine inspection indicated that maintenance of the facilities and equipment and the overall program was excellent and attention to detail was evident.

Staffing of the emergency preparedness group was good. The individuals were knowledgeable and effective. Staffing and training of the emergency response organization (ERO) was very good. Organizational depth was good with at least three individuals qualified for each ERO position. The selection and training process ensured that the ERO remained staffed with qualified individuals.

2. Performance Rating

Performance is rated Category 1. Performance was rated Category 1 in the previous assessment period.

3. Recommendations

None.

E. Security

A. Analysis

Evaluation of this functional area was based on the results of three security inspections, a fitness-for-duty (FFD) inspection, and a regulatory effectiveness review (RER).

Enforcement history improved from the previous assessment period and was excellent. No violations were identified, compared to five in the previous period.

Management effectiveness in ensuring the quality of the security program was excellent. The licensee completed an upgrade project of the perimeter intrusion detection system that included the addition of new closed-circuit television (CCTV) cameras and the movement of some security fences. Management support for the security program was demonstrated during the RER inspection. The RER team concluded that those security elements evaluated were sound, well managed, and reflected a diligent and proactive approach by security personnel

and utility management. The team also determined that the self-initiated actions for upgrading security personnel and equipment were effective against a design-basis threat. Work was properly planned and priorities were assigned well. Most notable was the ability of the operations and security staffs to identify critical equipment combinations and to develop appropriate prioritized security strategies to protect against violent external assaults. Further, those parts of the security system that were tested and evaluated were excellent and innovative in mitigating the postulated threat. Security personnel were very knowledgeable of the equipment and well trained in their duties.

The approach to the identification and resolution of technical issues was good. A state-of-the-art intrusion detection system installation decreased maintenance problems and a high false-alarm rate. The installation of a "video capture" system provided an upgrade in the performance capabilities of the perimeter alarm system. In addition, a new X-ray machine enhanced package searches. Additionally, an aggressive tracking and trending program aided in identifying problem areas.

The staffing and qualifications of the security staff were good. The experience level of the security force was high as a result of the low turnover rate of personnel. The security resources were effectively used and security personnel performed well. Security management personnel had an effective liaison with local law enforcement agencies. Also, excellent communication was maintained between senior station management and the security staff. Security management was diligent and competent. The program for required reporting of security events was excellent. Security-related records and logs generally were complete, timely, well maintained, and readily retrievable. Security personnel were competent in the execution of their duties. The licensee continued to use the coordinated talents of security, engineering, and contractor personnel for the installation of equipment and evaluation of personnel. The licensee also implemented a timely program to heighten security response awareness during the Persian Gulf conflict.

The training and qualification program for the security organization was excellent and effectively implemented. Security training was excellent in the area of armed contingency response. The contingency training program was comprehensive and well thought out, using defensive strategy and armed response capabilities.

The FFD program satisfied the general performance objectives of 10 CFR Part 26.10. Program strengths included the quantity and quality of training, specimen collection facilities, and the close monitoring and management oversight of the program.

2. Performance Rating

Performance is rated Category 1 in this area. Performance was rated Category 2 during the previous assessment period.

3. Recommendations

None

F. Engineering/Technical Support

1. Analysis

Evaluation of this functional area was based on two team inspections, nine routine resident inspections and two operator licensing examinations.

Enforcement history was excellent with no violations identified during this assessment period.

Management effectiveness in ensuring quality was good. Management emphasized increased attention to detail and teamwork to solve problems with modifications, drawing control, component master lists, and trending. The licensee improved the quality of modification packages (by consultants and its own staff), by establishing a senior engineering review team to conduct detailed technical reviews of all modifications. Improvement was also noted in the control of temporary modifications and hardware procurement and management was generally involved in the operator licensing area.

In one area, development of a complete motor operated valve program in accordance with commitments for Generic Letter (GL) 89-10, the licensee did not pay adequate attention to the details of the GL, resulting in the issuance of a deviation. The licensee actions, however, addressed most of the aspects of the generic letter.

An NRC conducted electrical distribution system (EDS) functional inspection determined that the design of the EDS was satisfactory. During this period the licensee also conducted an effective engineering review of this system. Design attributes, for the most part, were retrievable and verifiable, but in some cases, the as-built condition of the plant differed from the design drawings. Also, several design weaknesses were found in the EDS, such as the lack of a transient voltage analysis for the emergency diesel generators. Engineering calculations were technically sound although some nonconservative assumptions were identified.

The identification and resolution of technical problems and issues were generally good. The safety significance of issues was considered first and resolutions were prompt, thorough, and well founded. Examples included a flow test that resolved NRC questions regarding the adequacy of suction head for the standby liquid control system pumps; the discovery, analysis, and resolution of a design problem associated with the new reactor mode control switch; and testing performed to help resolve an issue discovered at another utility regarding ventilation for safety-related switchgear. The use of actual tests simulating conditions reflecting the design-bases to resolve questions, rather than merely relying on analyses, was considered a strength.

On the other hand, the initial response to a self-identified problem with the separation of electrical cables was weak. The initial focus was narrow; NRC staff had to encourage the licensee to expand the inspection to other safety-related systems. The additional evaluation was thorough.

None of the LERs related to this functional area were safety significant; most of these were the result of the licensee's self-initiated design-bases documentation (DBD) program.

The system engineering program continued to be a strength; however, the staffing was strained. Addressing weaknesses in tracking and trending of equipment problems, as discussed in the Maintenance/Surveillance section, was limited, and became an additional system engineer responsibility. Heavy reliance on overtime was required for outage activities. Engineering management developed plans to reduce overtime during future outages, but due to lack of an outage, the effectiveness of these plans was not tested. The turnover rate (15 percent) of experienced system engineers was high compared to other site organizations. The configuration management group was well staffed to support the ongoing aggressive DBD efforts. This group was able to resolve all high priority design questions. A reorganization during this assessment period removed the radiation protection, chemistry, and computer disciplines from under the general superintendent of engineering and had these groups report directly to the plant manager, allowing engineering management to concentrate its efforts on engineering issues.

The operator training and qualification program effectiveness was good as evidenced by the high passing rate of NRC-administered initial and requalification examinations. Only minor weaknesses were noted; one specifically would have delayed the insertion of control rods following an ATWS. System engineers were well trained, experienced, and required to complete a senior reactor operator (SRO) level systems training program and to participate in an accredited engineering and technical staff training program. The SRO program was effective in helping the engineers understand how their specific systems affect integrated plant operations, as well as promoting better communication between operators and engineers.

2. Performance Rating

Performance is rated Category 2 in this area. Performance was rated Category 2 in the previous assessment period.

3. Recommendations

None.

G. Safety Assessment/Quality Verification

1. Analysis

Evaluation of this area was based on routine and special inspections, meetings with corporate and/or site technical and licensing representatives, and evaluations of license amendment requests.

Enforcement history was excellent with no safety significant violations identified.

Management effectiveness in ensuring quality was excellent as evidenced by a number of self-assessment activities. For example, in mid-1990, Northern States Power Company (NSP) reorganized its nuclear generation staff to streamline its operations and develop its site organization. Plant management provided vigorous leadership for the assessment of industry concerns regarding control of risk during shutdown activities. The plant manager developed and incorporated comprehensive policies before the refueling outage so that offsite power, emergency diesel generators, and core cooling systems were maintained in the most reliable configurations practical. Management clearly communicated those policies to personnel and closely monitored the shutdown activities to verify that risk was being controlled.

Performance in identifying and resolving technical issues was conservative and demonstrated a concern for safety. For example, when the adequacy of control rod drive cap screws was found to be questionable, the decision was made to replace them on an accelerated basis. Similarly, when a concern was identified at a similar plant regarding a potential problem with the standby liquid control system pumps, the issue was resolved by developing and conducting an actual test to determine whether pump cavitation would occur under design-bases conditions. In addition, the configuration management program initiated in 1989 is a five year effort which will include a safety system functional inspection of all safety systems. The primary components of the program are DBD and resolution of discrepancies. During the assessment period, several design deficiencies were identified as a result of the DBD review. The rapid and proactive efforts to resolve safety issues were a strength. Management also made conservative decisions involving event reporting, TS interpretations, safety issue resolutions, and corrective action implementation. 10 CFR 50.59 evaluations during this assessment were well done.

Self-assessment committees were proactive and effective in dealing with plant problems. The Safety Audit Committee (SAC) met quarterly rather than biannually as required by the TS. Similarly, the onsite review committee (OC) met twice as often as required. All OC members were site managers, indicating that the licensee placed a high level of importance on the OC reviews. The formation of modification design and review teams was an initiative that greatly improved the quality of the modifications submitted to the OC and the efficiency of OC reviews.

Another positive self-assessment initiative was the human performance evaluation system which consisted of a permanent task force made up of 10 members of the plant staff from all disciplines. The task force had the authority to recommend corrective actions at any level of plant staff, including plant management. All recommendations made by the task force were implemented.

During the EOC-14 refueling outage, a newly developed ultrasonic test (UT) technique was employed for examination of the reactor vessel beltline welds. This resulted in examination of a number of welds that were previously considered uninspectable. This initiative was monitored by NRC staff and considered highly favorable.

Performance of the power supply quality assurance (PSQA) group also continued at a high level. The PSQA individuals performed audits required by the TS. There was an increase in discretionary audits from the previous assessment period. The size, qualifications, and low turnover of the PSQA group facilitated the performance of detailed audits.

The quality services group also improved its work activities and effectively contributed to the quality verification and self-assessment of the Monticello site. The quality services staff at the site was reorganized during this assessment period. Several improvements to the organization included the establishment of a quality services superintendent, consolidating the plant and nuclear projects quality assurance and control staffs into one group, and placement of the quality services staff under the newly established general manager position rather than the plant manager. This reorganization resulted in making the quality assurance staff more independent and efficient and in improving communications within the organization.

Both the plant quality services and the PSQA groups were well staffed. The staffs were well qualified and committed to safety and quality and were supplemented by contract personnel during outages to provide coverage for the increased work activity.

The licensee was able to identify the causes of deficiencies and provided accurate analyses of their safety significance and consequences, proposed corrective action to prevent recurrence, and identified similarities to previous events. Prompt corrective steps were taken to prevent recurrence of the events. The licensee was proactive in closely monitoring and assessing industry information for operational experiences and events at other plants and took action to resolve those which applied to Monticello. This is a continuing strength. Examples included net positive suction head questions for standby liquid control system pumps, ventilation of safety-related switchgear, and control of switchyard activities.

During the assessment period, six license amendments were issued. The engineering and technical analyses submitted in support of the amendments were sound and thorough. Responses to requests for additional information were properly prepared and technically adequate.

Generic communications completed by the licensee consisted primarily of recent NRC bulletins and generic letters. Responses were technically sound, complete, and timely. All required reports were submitted on time.

2. Conclusions

Performance is rated Category 1 in this area. Performance was rated Category 1 in the previous assessment period.

3. Recommendations

None.

IV. SUPPORTING DATA AND SUMMARIES

A. Major Licensee Activities

1. On July 4, 1990, the unit was shut down for a maintenance outage to replace the upper seal on the #12 recirculation pump. The plant went back on line July 10, 1991.

2. On September 11, 1990, the unit was shut down to repair both pumps in the control rod drive system. The plant went back on line September 16, 1991.

3. On October 29, 1990, the reactor scrammed from full power after plant personnel bumped a sensitive instrument line. The plant was made critical on November 1 and the plant was synchronized to the grid on November 2, 1991.

4. On February 8, 1991, the plant was shut down for a maintenance outage to repair leaking tubes in a drain cooler and weeping safety relief valves and to perform other maintenance.

5. On February 11, 1991, during a reactor startup, a scram occurred after a high-high neutron flux in the intermediate range. The reactor was started up on February 14 and the turbine-generator was synchronized to the grid on February 15, 1991.

6. The plant was shut down for a refueling outage on March 31, 1991. The plant was started up on May 29, 1991, and synchronized to the grid on May 31, 1991.

7. On June 5, 1991, the reactor scrammed from full power on a main steam isolation trip caused by a spurious signal on one channel while another channel was in trip for a surveillance.

8. On June 6, 1991, while the licensee was shutting down the plant because of a leaking safety relief valve, the plant scrammed in the intermediate range when operators failed to notice that power had started to increase as a result of a cool down from low decay heat. The plant was restarted on June 8, 1991.

9. On August 25, 1991, the reactor scrammed as result of a voltage transient caused by an insulator failure from a lightning strike on an offsite power line.

B. Major Inspection Activities

1. Inspection Data

The 32 inspection reports discussed in the SALP 10 report (July 1, 1990, through November 30, 1991) are listed below:

Facility: Monticello Nuclear Plant

Docket No.: 50-263

Inspection Report Nos. 90015 through 90026, 91002 through 91021.

2. Significant Inspection Summary

Significant inspections performed during the SALP 10 period are listed below.

a. A special electrical distribution system functional inspection was performed from October 1, 1990, to November 2, 1990. The team considered the design and implementation of the electrical distribution system at Monticello to be satisfactory (Inspection Report No. 263/90018).

b. A special safeguards inspection was conducted from November 8, 1990, to November 26, 1990, regarding inadequate storage of safeguards information at the licensee's corporate office (Inspection Report No. 263/90023). A subsequent Enforcement Conference was held on December 6, 1990 (Inspection Report No. 263/90024).

c. A special maintenance team inspection was conducted from February 25, to March 15, 1991. The team concluded that the implementation of the maintenance program was satisfactory (Inspection Report No. 263/91002).

d. A special inspection was performed onsite to followup on the unexpected reactor scram during a shutdown on June 6, 1991 (Inspection Report No. 263/91013). A subsequent Enforcement Conference led to the issuance of a Severity Level IV violation issued for operators not being aware of plant status and an RO not being attentive to instrumentation and controls (Inspection Report No. 263/91014).