INITIAL SALP REPORT

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Inspection Reports No. 50-266/92001; 50-301/92001

Wisconsin Electric Power Company

Point Beach Nuclear Plant

September 1, 1990, through January 31, 1992

CONTENTS

I. 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 March 18, 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 Point Beach Nuclear Plant for the period September 1, 1990, through January 31, 1992.

The SALP Board for the Point Beach Nuclear Plant was composed of the following individuals:

Board Chairman

E. G. Greenman, Director, Division of Reactor Projects (DRP)

Board Members

H. J. Miller, Director, Division of Reactor Safety (DRS)
C. E. Norelius, Director, Division of Radiation Safety and Safeguards (DRSS)
J. N. Hannon, Director, Project Directorate III-3, Office of Nuclear Reactor Regulation (NRR)
I. N. Jackiw, Chief, Reactor Projects Section 3A, DRP
R. B. Samworth, Project Manager, Project Directorate III-3, NRR
J. Gadzala, Resident Inspector, Point Beach Site

Other Attendees at the SALP Board Meeting

L. R. Greger, Chief, Reactor Programs Branch, DRSS
J. W. McCormick-Barger, Chief, Emergency Preparedness Section, DRSS
J. R. Creed, Chief, Safeguards Section, DRSS
W. G. Snell, Chief, Operational Programs Section, DRSS
M. P. Phillips, Chief, Operational Programs Section, DRS
K. R. Jury, Senior Resident Inspector, Point Beach Site
L. R. Plisco, Division of Licensee Performance and Quality Evaluation, NRR
A. G. Hansen, Project Directorate III-3, NRR
C. E. Brown, Technical Support Staff, DRP
J. A. Gavula, Reactor Projects Section 3A, DRP

II. Summary of Results

Overview

During the assessment period, overall performance of the facility was acceptable, but inconsistent. While improvement was noted in Emergency Preparedness and Radiological Controls, a decline and a declining trend in performance was evident in Maintenance/Surveillance and Operations, respectively. Performance in Security and Engineering/Technical Support was rated the same as the previous assessment period, but weaknesses in the last area caused extensive Board discussion on whether lower scores would be more appropriate. Performance in Safety Assessment/Quality Verification declined and was rated a Category 3 with an improving trend.

Performance in the Operations area remained excellent, but was noted as having a declining trend. Operator professionalism and maintaining a "black board" with respect to annunciators continued to be examples of excellent performance. Human factors upgrades and the improved work planning efforts showed good management involvement. However, an increase in personnel errors and continued concerns with procedural adequacy and compliance indicated a decline in performance.

The Category 1 rating in Emergency Preparedness (EP) and the Category 2 with an improving trend in Radiological Controls were primarily due to enhanced programs and generally very good performance. Strong management involvement in EP was demonstrated by the effective corrective actions to address previous weaknesses. Additionally, the response to, and preparation for events and the EP training program were strengths. In the Radiological Controls area, corrective actions for high radiation area control problems appeared effective. In addition, the site's cumulative exposure level was at its lowest since 1973 and the number of contaminations decreased during the period.

Performance in the area of Maintenance/Surveillance decreased since the last assessment period. Although surveillance activities were generally well performed, personnel errors and failure to follow procedures during maintenance were concerns. Improper main steam isolation valve (MSIV) testing resulted in an escalated enforcement action. A continuing procedure upgrade program has improved procedure quality; however, this process has not prevented procedural problems from occurring. The quality and experience of the maintenance personnel continued to be excellent. Efforts in preventive/predictive maintenance have not produced significant results.

Performance in Security remained constant. Strengths were exhibited in both operational readiness and intrusion system upgrades. Management involvement and oversight was not fully effective early in the assessment period due primarily to strained resources. Plant and corporate support improved throughout the period and corrective actions to identified deficiencies was usually aggressive and thorough.

Performance in Engineering/Technical Support was acceptable and was rated the same as the previous period. Many programmatic improvements were being effectively implemented. Examples of these included an increased presence

of corporate engineering on site and use of a team approach for large scale modifications. However, a number of weaknesses were identified in this area. Engineering was not routinely timely in providing resolutions to issues and did not take a proactive approach toward solving equipment problems. Many of these weaknesses were exhibited in the case of the failed MSIVs.

Performance in the area of Safety Assessment/Quality Verification was rated Category 3 with an improving trend. Issues identified during this assessment period revealed long-standing weaknesses that the NRC was not aware of. Had these weaknesses been known, a lower rating for the previous assessment period would have been more appropriate. With regard to the weaknesses, the overall corrective action system was considered weak due to inadequate root cause evaluations, limited corrective actions, and poor planning and prioritization. Additionally, the scope of issues was not appropriately identified resulting in recurring equipment problems. It is recognized that actions have been taken to address the programmatic weaknesses. These included restructuring the offsite review committee, continuing a comprehensive cultural adjustment and team building programs, improving open item control and dedicating resources to monitor the existing corrective action programs. However, it is too early to judge the long-term effects of these actions which we will continue to closely monitor. Finally, we consider the continuation of the initiatives such as design basis reconstitution and safety system functional inspections to be important.

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	Declining
Radiological Controls	2	2	Improving
Maintenance/Surveillance	1	2	
Emergency Preparedness	2	1	
Security	2	2	
Engineering/Technical Support	2	2	
Safety Assessment/Quality Verification	2	3	Improving

III. Performance Analysis

A. Plant Operations

1. Analysis

Evaluation of this functional area was based on the results of 1 special and 12 routine inspections conducted by the resident and regional inspectors.

Enforcement history remained good, consistent with the previous assessment period. Two Severity Level IV violations were issued: one for inadequate procedures that led to a loss of reactor vessel level indication, and the other for operation outside technical specification (TS) limits during an inadvertent heatup without containment integrity.

The number of reportable events increased notably over the previous period, with most involving some degree of personnel error. A few of the personnel errors, such as exceeding 200F primary temperature without containment integrity, were also due in part to procedure or design deficiencies. Although not reportable, there were a number of self-identified concerns involving control of system lineups. A total of three automatic reactor trips occurred during the 17-month assessment period, compared with one trip during the previous 17-month period. All of the trips were due to equipment failures, with two occurring on Unit 1 and the third on Unit 2.

Management effectiveness in ensuring quality was generally good. One notable exception was the untimely reporting of the main steam isolation valve (MSIV) failures. Otherwise, management continued to promote a conservative and safety-oriented operating philosophy. Plant management maintained an active involvement in operation of the facility by directly monitoring ongoing projects and by reviewing control room activities daily. Management expectations were usually clearly conveyed and understood.

Material condition of the plant was very good as evidenced by high equipment reliability, low-forced outage rate, and normal operation with no illuminated control room annuciators. Prompt actions were initiated to repair malfunctioning alarms and a high priority was placed on completing these repairs. Operators aggressively pursued correction of plant conditions that generated even low-priority "nuisance" alarms. Significant control board human-factors upgrades were substantially completed, including standardization of control switches and color coding of system controls and indications.

A weakness noted early in the assessment period, which continued from the previous period, was the adequacy of and compliance with procedures. This contributed to a number of the operational errors which occurred this period. Effective and comprehensive measures were implemented to improve the quality and accuracy of procedures and to ensure their proper use. General plant cleanliness and equipment storage were notable weaknesses, especially in the lower levels of the turbine building and the auxiliary building. Initial attempts to remedy this situation were ineffective. After discussions with the NRC, senior corporate management became attentive to this matter and observable progress to alleviate it was made toward the end of the assessment period.

The fire protection program was generally excellent; however, knowledge level of fire watches was weak. Fire brigade personnel routinely demonstrated proficiency during drills and the results were well critiqued.

The approach to identification and resolution of technical issues was mixed. Use of operations planners to develop and prioritize work schedules for performance of TS surveillances appeared effective. Good practice was

continued in trending plant chemistry data through daily updating of graphs. The graphed data allowed operators to rapidly identify trends symptomatic of system degradation. However, the concept of operability was not clearly understood by some operators when the MSIVs were considered operable even though the valves did not close upon demand and required manual assistance. Also, technical specifications were applied to service water and component cooling water systems in a very narrow manner.

Staffing remained ample with licensed operators on a six-shift rotation. Overtime use was limited and remained controlled. Improved coordination between operators and engineers was indicative of good teamwork. Additional shift personnel were utilized for activities requiring increased oversight or management attention. An increase in the number of qualified senior reactor operators allowed plant management to utilize the more experienced for procedure improvement projects and plant betterment issues.

Operator responses to reactor trips, spurious turbine runbacks, and other minor events demonstrated an ability to respond quickly to plant transients and stabilize plant conditions. Operator actions, following an inadvertent loss of the Unit 2 heater drain and condensate pumps, were prompt enough to stabilize the plant before automatic protective features actuated. Operations personnel were alert, exhibited a high degree of professionalism in all facets of control room operation, and remained knowledgeable of plant and equipment status. These attributes were characteristic of strong control room discipline. Communications among operators, though informal, were effective.

The effectiveness of the training and qualification program for licensed operators was good. The pass rates for initial and requalification examinations were 77 percent and 92 percent, respectively. These rates are consistent with the previous assessment period. A new dual-unit site-specific simulator was also installed with one unit being certified during the assessment period. This was the only dual-unit simulator installed in the country and brought a higher level of fidelity to operator training.

2. Performance Rating

Performance is rated Category 1 with a declining trend in this area. Performance was rated Category 1 during the previous assessment period. The decline in performance is attributed to the increasing personnel errors.

3. Recommendation

None.

B. Radiological Controls

1. Analysis

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

Enforcement-related performance improved from the previous assessment period and was excellent. No violations were identified this period compared to four during the previous period.

Management effectiveness in ensuring quality was good. Management provided good support for the water quality and chemistry analysis comparison programs. An in-line ion chromatography system was installed to improve secondary chemistry parameters and the laboratory quality assurance program used vendor supplied intercomparisons to assure quality of analytical measurements. Management conducted an extensive review of recurrent high radiation area control problems in the early part of the assessment period and implemented effective corrective measures to gain appropriate control toward the end of the period. A formal ALARA (as-low-as-reasonably-achievable) program was in the initial stages of development at the end of the period, but the program was not well supported by all departments as evidenced by the failure of some departments to provide yearly dose estimates and inconsistent attendance at Exposure Reduction Committee meetings. Radioactive-waste-processing equipment was improved through the purchase of a new compactor, but the associated facilities remained limited with no capability to sort or survey radioactive waste. The radiological conditions in the auxiliary building degraded throughout the period but did not significantly affect access to required areas.

The approach to the identification and resolution of technical issues from a safety standpoint was very good. Performance in the NRC nonradiological confirmatory measurements program was excellent with 30 agreements in 31 comparisons. The number of personnel contamination events decreased from the previous assessment period and was low at 108 for 1991. Radiation exposure was also low; decreasing from 348 person-rem in 1990 to 265 person-rem in 1991. There were no significant unplanned exposure events. Gaseous and liquid radioactive effluent releases continued to remain well within TS limits. Vendor supplied solid waste volume reduction techniques were used but little was done to minimize onsite waste generation. No radwaste shipping or transportation problems were experienced in this period. The radiological environmental monitoring program continued to be well implemented and the equipment was well maintained.

Staffing was adequate and qualifications remained good. The experience level of personnel continued to increase as a result of low staff turnover. The chemistry staff was competent and well qualified. A permanent ALARA position was established and filled as a first step towards developing a formal ALARA program.

The effectiveness of the training program was mixed but improved over the assessment period. Some personnel errors, such as those that occurred early in the period during an unplanned gaseous release event and high-radiation-area boundary-control problems, were partially attributed to inadequate training. Extensive training was conducted as part of the initiatives undertaken to eliminate high radiation area problems. A new training program for technicians was developed during the period and included industry events and health physics concerns with various systems. This continuing program was effective in increasing technicians' knowledge and ability to perform their duties as evidenced by good performance during the last half of the period.

2. Performance Rating

Performance is rated Category 2 with an improving trend in this area. Performance was rated Category 2 during the previous assessment period.

3. Recommendations

None.

C. Maintenance/Surveillance

1. Analysis

Evaluation of this functional area was based on the results of a maintenance team inspection, a special inspection by regional inspectors and 19 routine inspections conducted by the resident inspectors.

Enforcement history declined significantly from the previous assessment period. One Severity Level III violation was issued for improper testing of the MSIVs. The as-found condition of the valves was not properly evaluated and testing was done after preconditioning the valves. Four Severity Level IV violations were also issued, including failure to follow procedures during testing and maintenance, and inadequate verification of work. Some of these problems led to inadvertent actuation of the reactor protection systems. During the previous assessment period, no violations were issued.

The number of reportable events increased notably over the previous assessment period. Personnel errors during maintenance activities accounted for a significant portion of the events and appeared to be primarily attributable to a combination of weak procedures and occasional inattention to procedures on the part of maintenance technicians. Conversely, there were no personnel errors attributed to surveillance activities; an improvement from the previous assessment period.

Management effectiveness in ensuring quality was mixed. On the positive side was the continued good material condition of the plant. Management involvement, although characterized as informal, was conducted among highly experienced personnel who are well acquainted with one another. Although assignments of responsibility for matters such as work coordination were not clearly documented, all concerned understood their roles and carried them out appropriately. Senior maintenance personnel remained involved in the conduct of work and routinely visited job sites. A specialized training program for technical management personnel was instituted in response to previously identified maintenance weaknesses. Close and persistent management oversight resulted in the timely and safe completion of three refueling outages, an emergency repair to residual heat removal system piping that obviated the need for a plant shutdown, and an unforeseen maintenance outage on Unit 1 to effect repairs to the main condenser. However, a lingering weakness was the lack of detailed maintenance procedures, consistent in quality and content, to control work. Many procedures lacked tolerance bands, acceptance criteria, or vendor specifications. This has been offset to some extent by the experience level of maintenance personnel, but may also have contributed to the technicians'

inattention to procedures, as mentioned above. Although recently written maintenance procedures were of good quality, this ongoing procedure improvement initiative is not expected to be completed until 1996.

The approach to identification and resolution of technical issues remained mixed. Weekly planning of corrective and preventive maintenance activities was effective. Good coordination of maintenance and surveillance activities usually resulted in minimizing equipment outage times. However, maintenance did not adequately communicate the problem with the MSIVs to engineering for technical assistance. In-service inspection activities were suitably planned and prioritized. A conservative approach to safety was demonstrated by actions taken to resolve a steam generator girth weld indication, analysis and correction of excessive primary check valve leakage, and the steam generator tube repair and plugging program. The maintenance work backlog, though manageable, was growing in the latter half of the assessment period. This was attributed to more minor items being formally addressed in the maintenance-work-request system. Many low-priority items had not been addressed for several years. There was a substantial computerized database which was very useful for tracking maintenance activities; however, it was not used proactively for equipment performance trending. Maintenance history continued as an informal process, and frequently relied on personal memory. The discovery of a persistent MSIV operator degradation illustrated the shortcomings of this informal approach. New predictive maintenance programs were recently initiated; however, no systematic technical approach to root cause analysis existed for maintenance problems. This limited the self-assessment ability of the current preventive maintenance program.

The TS surveillance program was well managed and successfully implemented with surveillances routinely completed on time. Surveillance procedures were well written, gave clear directions, and were routinely present at the job site. Instrument and control technicians maintained good communications with operations personnel during the performance of tests, allowing operators to remain cognizant of test status. This conservative attitude toward performing surveillances was demonstrated when testing was halted by technicians upon discovery of errors in the procedures on several occasions. Unexpected equipment responses were routinely brought to the attention of supervisors for evaluation and resolution.

Staffing in the maintenance department was sufficient to accomplish required maintenance and surveillance activities without excessive overtime. The maintenance staff was well qualified, highly experienced, and had a very low turnover rate. Maintenance personnel were normally assigned only to the day shift. Overtime was controlled in accordance with NRC guidelines and was not excessive. Toward the end of this assessment period, maintenance personnel were assigned to 6-day work weeks to address the maintenance backlog.

Effectiveness of the training and qualification program was very good as evidenced by the skill level of maintenance personnel and consistent observation of well conducted work activities. The balance between formal training and on-the-job training appeared good and provided assurance that technicians were qualified.

2. Performance Rating

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

3. Recommendations

None.

D. Emergency Preparedness

1. Analysis

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

Enforcement history improved from the previous period and was excellent. No violations were identified during this assessment period compared to one violation during the previous period.

Management effectiveness in ensuring quality was very good and improved in several areas. Emergency response facilities and equipment were adequate and remained very well maintained. Effective changes were completed to the organization of a number of rooms which constituted the Operational Support Center (OSC), in order to more efficiently dispatch inplant teams and improve contamination control in the OSC. A staffing shortage, which arose in the emergency planning group during the period, was corrected by the appointment of an experienced coordinator and a second assistant. The timely reporting of offsite environmental samples' analyses was a concern during the 1990 and 1991 exercises. Corrective action taken encompassed the entire process, from survey team formation through sample analysis, and were thorough.

Identification and resolution of technical issues was excellent. The only actual emergency declaration that occurred during the assessment period was correctly classified in a timely manner. The associated offsite notifications were timely. A non-emergency situation, involving a loss of long-distance communications service and the emergency notification system, was effectively handled so that communications with State, county, and NRC officials remained possible.

Overall performance during the 1991 exercise was good with no weaknesses identified. Challenging aspects of the 1991 exercise included: off hours activation of the emergency response organization (ERO); demonstration of the reorganized OSC; and deployment of several inplant teams, the fire brigade, and offsite monitoring teams. In addition to the concern regarding timeliness of environmental samples' collection and analysis, a second concern was identified regarding the tracking of the integrity of each fission product barrier. In response to this concern, several emergency action levels were refined and status board provisions were improved in the Technical Support Center. The adequacy of corrective actions for both concerns was demonstrated during the March 1992 exercise, which occurred after the assessment period.

Staffing of the emergency planning and training groups was very good at the end of the period. The ERO staffing levels were good for the well-defined key and support positions. An improved paging system was being implemented at the end of the assessment period to further ensure the complete and timely augmentation of onshift personnel following an emergency declaration. Early in the assessment period, the licensee demonstrated prudence in ensuring that adequate personnel were available to maintain full shift staffing during a blizzard.

The emergency preparedness training program was excellent and improved during the period. A second full-time instructor was added to the program. The training staff assumed more responsibility for training corporate office members of the ERO. A computerized system to track training was implemented along with administrative controls to periodically inform plant managers and the emergency planning group of lapsed training. Action items identified during exercises, drills, and classroom training were effectively tracked until they were resolved. Training on portable equipment for analyzing environmental samples, as well as revised provisions for deploying offsite survey teams, were being implemented at the end of the assessment period. A recent change to the training program included the use of the new plant simulator during drill and exercise performance. The simulator provides direct data input to the safety parameter display system consoles which greatly increases the realism and therefore the effectiveness of the exercise.

2. Performance Rating

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

3. Recommendations

None.

E. Security

1. Analysis

Evaluation of this functional area was based on the results of four security inspections, two fitness-for-duty (FFD) inspections, one operational safeguards response evaluation (OSRE), and routine resident inspections.

Enforcement history improved from the previous assessment period and was good. Three violations were identified this period compared to seven violations during the previous period. These violations did not indicate programmatic safety-related weaknesses. Satisfactory corrective action was taken to address barrier problems identified in this and the previous assessment period.

Management effectiveness in ensuring the quality of the security program was mixed. Plant and corporate management support continued to improve and were considered good as evidenced by the implementation of a goals and objectives program, the acquisition of new security equipment, and voluntary participation in an OSRE. However, security management effectiveness in ensuring the quality

of day-to-day security operations was weak during the first half of the assessment period and had declined from the previous period. Strained security management resources resulted in inadequate management overview. In addition, management failed to monitor contractor basic-security-training activities, as demonstrated by identified concerns with examination improprieties and test proctoring inadequacies. However, aggressive corrective actions were taken once these issues were identified. During the last half of the assessment period, increased management awareness and staffing resulted in an improved level of control and overview of day-to-day operations.

The approach to the identification and resolution of technical issues was good. Increased engineering support and equipment enhancements raised the level of effectiveness and reliability of the protected area security intrusion system and the access control program. Enhancements included modifications to perimeter cameras and the intrusion alarm system, installation of a video capture system, and upgrading of x-ray and explosive detectors. Improved engineering involvement continued to reduce false and nuisance alarms to a satisfactory level.

Performance in handling security events was mixed. The security organization performed well in the development and implementation of measures to heighten security awareness during the Persian Gulf conflict. However, on two related occasions, followup of security events was weak. After the initial event, corrective action was not adequately implemented which allowed a similar event to occur. After this second occurrence, corrective action was not comprehensive nor adequately monitored to ensure timely completion.

Security staffing levels increased and were appropriate to address program requirements. Increased staffing alleviated strained personnel resources, reduced overtime, improved morale, and allowed adjustment of personnel resource usage in order to enhance security projects and programs. Security force turnover was reduced from the previous assessment period. By the end of the assessment period, the security force had attained full staffing. An effective working relationship continued between local law enforcement agencies and licensee security management.

The effectiveness of the training and qualification program was very good. Results of the OSRE showed that security force contingency plans, weapons training and response capabilities were excellent as demonstrated by the high quality of drills and exercises.

The FFD program satisfied the general performance objectives of 10 CFR 26.10. Program strengths included strong management support and a canine program to aid in the identification of controlled substances.

2. Performance Rating

Performance is rated a Category 2 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 the results of 21 inspections including an operational safety team inspection, a maintenance team inspection, 3 operator licensing examinations, and interactions between the licensee and the staff of NRR.

Enforcement history declined from the previous assessment period as several Severity Level IV violations were issued reflecting the management weaknesses discussed in this section. In addition a Severity Level III violation discussed in the Maintenance/Surveillance functional area also reflected poor engineering performance to resolve a long standing design deficiency.

The number of reportable events remained low. None of the events were indicative of programmatic weaknesses.

Management effectiveness in ensuring quality was mixed. On the positive side, the dedication of commercial-grade components for safety-related use was good. Controls in the design and installation of modifications had improved and a new team approach to larger scope modifications had been developed late in the assessment period. There was a notable increase in engineering presence onsite. The modification backlog had received substantial management attention which resulted in a more manageable, and decreasing, backlog. The pre-exam reviews of initial operator examinations were also good. Other activities that indicated good planning and good assignment of priorities included the dual-unit control room simulator, the control rod data acquisition system, the preventive maintenance of electrical safeguards busses and support equipment, the actions taken to resolve the 10 CFR Part 21 report on Gamma-Metrics cable assemblies, and the program implemented to comply with Regulatory Guide (RG) 1.97 issues. Reactor engineers were involved in the day-to-day operation of the plant.

On the negative side, engineering was not routinely proactive. Their involvement in maintenance activities was not sufficient to preclude repetition of problems. For example, although the engineering department developed a modification to the MSIV packing to correct valve failures, engineering was unaware of subsequent valve failures. Engineering was organized by component specialization and the engineers' assignments changed frequently. This resulted in a lack of system or component responsibility and fragmented followup of problems. At times the engineering department accepted problems rather than aggressively pursuing corrective actions, as in the case of the MSIV problems and high temperatures in the auxiliary feedwater (AFW) system due to leaking check valves.

Engineering evaluations, at times, lacked detail. Contributing to this weakness were inadequacies in the design-basis documents. The licensee recognized this problem and was continuing to implement a design document reconstitution program with completion scheduled for 1997. Technical calculations, including assumptions, sometimes lacked depth and qualitative or

quantitative justification. Examples were noted where procedures prepared or reviewed by the engineering department lacked tolerance bands on test specifications, did not require as-found data, incorrectly identified components or did not specify post-modification acceptance criteria. Recent initiatives to correct problems included tracking and controlling temporary modifications and establishing an independent, systematic review and verification process for safety evaluations.

The approach to the identification and resolution of technical issues was mixed. In some cases parameters were trended; however only the specific engineer assigned a component was aware of any adverse trends regarding that component. The staff had the capability to evaluate trending data but did not utilize this information to predict component failures. For some components, the threshold for documenting problems was very high. Examples included the failure of the MSIVs to meet closure time requirements for several years, which the licensee did not consider a problem, and the repeated failures of a neutron flux instrumentation channel.

Although there was a program to track industry information applicable to the station, the evaluation and resolution of problems in many instances were untimely. Examples included the resolution of issues regarding melamine torque switches which affected several safety-related motor-operated valves, the dc ground detection system problems and the long standing MSIV and AFW check valve issues discussed above.

On the positive side, aspects of the motor-operated-valve testing program were considered good. Innovative techniques were developed for test performance. Compensatory actions taken for the power-line instability concern and potential single-failure vulnerability of the tie breakers between the safeguards and non-safeguards electrical busses were good. Other examples of good identification and resolution of technical issues included the application of robotic repair technology on an inaccessible control rod drive mechanism seal assembly and the extensive radiographic examination of the service water system which identified pipe pitting problems.

Although personnel were added to onsite and offsite engineering organizations, staffing remained strained due to manpower allocation. Expertise and the experience level of the engineering staff was good; however, training of new engineers and an increased number of deficiencies identified contributed to the untimely resolution of issues and correction of problems. In the operator licensing area, deficiencies identified in the proposed requalification examinations and delays experienced with the upgrading and maintaining of requalification examination material appeared to be due to staffing constraints.

The effectiveness of the training and qualification programs remained good. The results of initial and requalification operator examination were consistent with the previous assessment period. Technical staff and control room personnel were knowledgeable regarding RG 1.97 recommendations and the location of postaccident monitoring instrumentation. Recent training of more than 100 plant and corporate engineers on the 10 CFR 50.59 screening and evaluation process was a particular strength. The non-destructive examination training and qualification programs compiled with applicable Code requirements and performance was excellent.

2. Performance Rating

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

3. Recommendations

None.

G. Safety Assessment/Quality Verificati

1. Analysis

Evaluation of this functional area was based on the results of 6 special and 12 routine inspections performed by resident and regional inspectors; 16 amendment, exemption, or relief requests; response to 4 generic letters, and observations made by the NRR licensing project manager.

Enforcement history continued to reflect weaknesses in this area with four violations being identified. A Severity Level III violation for failure to determine and correct the cause of repetitive MSIV failures was indicative of a programmatic problem.

The Licc ee Event Reports submitted often inadequately addressed the root causes of events, and therefore inappropriate corrective ac ions were proposed. For example, when a crevice flushing procedure resulted in a mode change without containment integrity established, proposed corrective actions were limited to mir r procedural changes; after discussions with NRC, appropriate corrective actions were proposed. Due to inadequate management involvement, poor planning and inadequate prioritization of work, some regulatory requirements or commitments to take corrective actions were not accomplished in a timely manner. For example the dedicated shutdown capability was not implemented in accordance with the schedule in the regulations.

Management effectiveness in ensuring quality was adequate. On the positive side, a number of programs have been undertaken to strengthen safety assessment capabilities, including the safety system functional inspection program, the design basis reconstitution program, and a new corrective action commitment tracking program. However, it is too early to evaluate the effectiveness of these programs. Improvements were noted in the quality of the safety assessments accompanying applications for license amendments. However, problems continued to exist in ensuring quality in day-to-day activities. Early in the assessment period, several procedures received inadequate final review and several temporary changes to procedures did not receive timely staff reviews. Some responses to violations were also lacking in details as to the specific corrective action. Management expectations were not always effectively communicated. Plant management apparently did not recognize the overall significance of numerous MSIV failures and did not ensure that the cause of the failures was found and corrected. Additionally, initial compensatory actions for taking one of the two emergency diesel generators out of service for service water piping replacement were not comprehensive. After discussions with the NRC, appropriate measures were implemented.

Periodic management meetings with NRC were generally informative, open and candid. While significant progress in improving communications with the NRC occurred over the evaluation period, there were early instances where information was not provided in a timely manner. Additionally, poor internal communications reflected a weakness in inter- and intra- departmental relations. For example, several compensatory measures to be employed while making repairs to emergency diesel generator cooling water piping were proposed, but these measures were not adequately communicated to control room supervisors and maintenance staff having responsibility for implementation. Also, operators did not always inform management of MSIV failures.

The approach to the identification and resolution of technical issues was mixed. The effective use of safety review groups resulted in generally good identification of technical issues. Review groups operated independently and with a critical approach to the review process. The offsite review committee had good management involvement and was recently restructured to include additional experience from outside the company. However, because the onsite review committee did not pursue operating events with sufficient aggressiveness to determine the root cause and prevent their recurrence, repeated problems were noted with a number of components including power range neutron flux monitors, flux recorders, hydrogen recorders, and diesel generator fuel oil pumps. Due to a lack of management oversight, technical specifications were at times interpreted in a nonconservative manner. For example, operability was not considered when taking components out of service in the service water and component cooling water systems.

Significant weaknesses were evident early in the evaluation period regarding prioritization of audit findings and escalation of overdue corrective actions. This deficiency was subsequently addressed by restructuring the QA procedures governing open item control and the assignment of dedicated personnel to monitor the status of corrective action progress. These actions resulted in a notable decrease in the backlog of overdue items and continued improvement in the management of newly identified deficiencies.

Staffing was adequate to carry out the quality assurance program and to identify corrective actions for deficiencies discovered. However, staffing was not effective in ensuring that corrective actions were implemented. Staffing increases and management changes were made to further strengthen the Safety Assessment and Quality Assurance capabilities.

The effectiveness of training and qualification was generally good. The new control room simulator was assembled in May and certified in July. The simulator was utilized in evaluating proposed design changes. A comprehensive cultural adjustment and team building training program continued to enhance problem identification and resolution. This program appeared to have had a positive impact on nuclear department personnel. However, continuing deficiencies were identified by the NRC concerning operator requalification dynamic scenarios and written examination question banks. Some improvement to the latter was noted toward the end of the assessment period.

2. Performance Rating

Performance is rated Category 3 with an improving trend in this area. Performance was rated Category 2 during the previous assessment period.

3. Recommendations

Continued management emphasis is recommended to improve performance in the areas of internal and external communications, root cause determination and corrective action followup. Further, continued overview of programs undertaken to strengthen safety assessment capabilities must be maintained.

IV. Supporting Data and Summaries

A. Major Licensee Activities

This assessment period is from September 1, 1990, through January 31, 1992. During this time period both units operated normally except for routine refueling outages, numerous Unit 1 runbacks due to a faulty nuclear instrument, a forced outage on Unit 1 to repair that nuclear instrument, two scrams on Unit 1 due to instrument bus failures, and one scram on Unit 2 due to loss of a dc bus. Unit 2 completed its second consecutive uninterrupted annual run.

B. Inspection Activities

Forty inspection reports are discussed in this SALP 9 report (September 1, 1990 through January 31, 1992) and are listed in Paragraph 1 of this section, Inspection Data. Significant inspection activities are listed in Paragraph 2 of this section, Special Inspection Summary.

1. Inspection Data

a. Unit 1
Docket No.: 50-266
Inspection Reports No.: 90019 through 90027, 91002, 91004 through 91013, 91015 through 91030, and 92002 through 92005

b. Unit 2
Docket No.: 50-301
Inspection Reports No.: 90019 through 90027, 91002, 91004 through 91013, 91015 through 91030, and 92002 through 92005

2. Special Inspection Summary

Significant inspections conducted during this SALP 9 assessment period are listed below:

a. During January 7-25, 1991, a special maintenance team inspection was conducted (Inspection Reports No. 266/90026 and 301/90026).

b. During March 18-28, 1991, a special inspection of security allegations was conducted (Inspection Reports No. 266/91007 and 301/91007).

c. During May 13-17, 1991, a special inspection of the Regulatory Guide 1.97 implementation was conducted (Inspection Reports No. 266/91010 and 301/91010).

d. During May 21 through June 10, 1991, a special security inspection was conducted (Inspection Reports No. 266/91012 and 301/91012).

e. During July 8-26, 1991, a special inspection to assess remote shutdown program and capability was conducted (Inspection Reports No. 266/91017 and 301/91017).

f. During August 28 through December 6, 1991, a fitness for duty inspection was conducted (Inspection Reports No. 266/91020 and 301/91020).

g. During October 15-24, 1991, a special NDE inspection was conducted by the NRC mobile van (Inspection Reports No. 301/91021).

h. During October 1 through November 1, 1991, a special inspection to assess MSIV closure failures was conducted (Inspection Reports No. 266/91025 and 301/91025).

i. On November 22, 1991, an enforcement conference related to the MSIV failure was conducted (Inspection Reports No. 266/91029 and 301/91029).

j. During October 21-24, 1991, a special audit of structures and civil engineering features was conducted.

k. During January 6-10, 1992, a limited scope operational safety team inspection was conducted (Inspection Reports No. 266/92002 and 301/92002).