SALP BOARD REPORT

NUCLEAR REGULATORY COMMISSION

REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

50-305/87001

Inspection Report No.

Wisconsin Public Service Corporation

Name of Licensee

Kewaunee Nuclear Power Plant

Name of Facility

January 1, 1986 through June 30, 1987

Assessment Period

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INTRODUCTION

1.

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

An NRC SALP Board, composed of staff members listed below, met on August 17, 1987, to review the collection of performance observations and data to assess the licensee's 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's safety performance at the Kewaunee Nuclear Power Plant for the period January 1, 1986 through June 30, 1987.

SALP Board Chairman, Director, Division of

Radiological Safety and Safeguards

SALP Board for Kewaunee Nuclear Power Plant:

Name

Title

Board

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* Voting members of the Board _____

II. CRITERIA

The licensee performance is assessed in selected functional areas depending on whether the facility is in a construction, preoperational 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 observations.

One or more of the following evaluation criteria were used in assessing each functional area.

- 1. Management involvement in assuring quality
- 2. Approach to resolution of technical issues from a safety standpoint
- 3. Responsiveness to NRC initiatives
- 4. Enforcement history
- 5. Operational and Construction events (including response to, analysis of, and corrective actions for)
- 6. Staffing (including management)

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:

<u>Category 1</u>: 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 so that a high level of performance with respect to operational safety or construction is being achieved.

<u>Category 2</u>: 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.

<u>Category 3</u>: 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 so that minimally satisfactory performance with respect to operational safety or construction is being achieved. <u>Trend</u>: The SALP Board may determine to include an appraisal of the performance trend of a functional area. Normally, this performance trend is only used where both a definite trend of performance is discernible to the Board and the Board believes that continuation of the trend may result in a change of performance level.

The trend, if used, is defined as:

a. Improving

Licensee performance was determined to be improving near the close of the assessment period.

b. Declining

Licensee performance was determined to be declining near the close of the assessment period.



III. SUMMARY OF RESULTS

Overall, during this assessment period, the licensee's performance has been excellent. Seven functional areas maintained Category 1 ratings; two areas (Surveillance and Quality Programs and Administrative Controls Affecting Quality) rated Category 2 during the previous assessment period attained Category 1 ratings for this SALP period; and Training and Qualification Effectiveness, which was a new area of assessment was assigned a Category 1 rating. The area of Security has continued to be rated as Category 2. Management involvement in plant activities was comprehensive and effective. Personnel were dedicated to safe, efficient, and high quality performance. Communications between the operating staff and management was well established and effective. The licensee was responsive and effective in addressing NRC identified concerns and initiatives.

-	Functional Area	Rating Last <u>Period</u>	Rating This <u>Period</u>
Α.	Plant Operations	1	1
Β.	Radiological Controls	1	1
Ċ.	Maintenance	1	1
D.	Surveillance	2	1
Ē.	Fire Protection	1	1
F.	Emergency Preparedness	1	1
Ġ.	Security	2	2
H.	Outages	1*	1
I.	Quality Programs and Administrative Controls	. 2	1
J.	Training and Qualification	ר ה ++N/D	-
v	LITECLIVENESS Licensing Activities	1	1
N.	LICENSING ACCIVICIES	•	-

This functional area was titled "Refueling" during the previous assessment period.

* Not Rated (new functional area for SALP 6)

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

Evaluation of this functional area was based on results of routine inspections conducted by the resident inspector and a special Mid-SALP team inspection by Region III. Plant availability for the 18-month assessment period, which included two refueling outages, was approximately 83%.

Enforcement history was essentially the same as for the previous assessment period. One Notice of Violation (NOV) was issued (Severity Level IV). The NOV resulted from having both fire pumps out of service simultaneously. The violation was not of major safety significance, or indicative of a programmatic weakness. One Severity Level IV NOV was issued during the previous assessment period.

Six reactor trips occurred during this assessment period, although none of them were attributable to activities in the plant Operations functional area, (five were attributed to maintenance activities and one to surveillance activities). During the previous assessment period three trips were attributed to Operations Group personnel. Two of the trips in this assessment period occurred at hot shutdown conditions; one occurred at approximately 15% power, and three occurred while at greater than 60% power level.

Three events attributed to activities in this area required the submittal of Licensee Event Reports (LER) two of which involved personnel error: (1) both fire pumps being inoperable simultaneously for approximately ten seconds because procedural steps were performed out of sequence. This was a repeat of an event during the previous assessment period; (2) failure to properly realign sampling flow to the radiation monitor for two of the containment fan coil units service water discharge following a flush of the sampling piping. The third event was a Technical Specification violation caused by the failure of a boric acid transfer pump. For each event the licensee's corrective actions were timely and appropriate. The number and safety significance of the events indicates a significant improvement over the previous assessment period in which seven LERs were attributed to personnel error and four LERs to component failures.

The overall performance of the Operations Group has continued to be good. The continuing excellent performance of the Kewaunee Nuclear Power Plant, as evidenced by the approximately 99.7% unit availability for scheduled power operation during this eighteen-month assessment period, can be attributed, in large part, to the professional and competent on-shift operating staff. Extensive management involvement in the day-to-day operations was clearly evident throughout the assessment period. An improvement in the shift working schedule was implemented on September 1, 1986, when a six-shift rotation was initiated.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period.

3. Board Recommendations

None.

B. Radiological Controls

1. Analysis

Evaluation of this functional area was based on the results of two inspections during the assessment period by region-based specialists and routine inspections conducted by the resident inspector.

Enforcement history in this area has represented an improvement in licensee performance during this assessment period. No NOVs were issued compared to two NOVs (one Severity Level IV and one Severity Level V) issued during the previous assessment period.

Three events attributed to activities in this area required the submittals of LERs of which one involved personnel error; a high radiation area access door being left unlocked. The other two events involved actuation of an Engineered Safeguards Feature (ESF) by the steam generator blowdown radiation monitor due to a steam generator tube leak. For each event the licensee's corrective actions were timely and appropriate. During the previous assessment period two LERs were attributed to activities in this area, both resulting from personnel error. Licensee staff is sufficient for programmatic needs and remains very stable. Staff qualifications and experience levels continue to exceed industry norms and have a positive impact on program implementation.

Management involvement and support for the radiation protection and chemistry programs remains a licensee strength. Corporate involvement with site activity was evident during the licensee's evaluation and establishment of corrective measures associated with an unplanned release of about five curies of argon 41 due to the connection to the hydrogen header of two gas cylinders which mistakenly contained an argon 40/hydrogen mixture.

The licensee's responsiveness to NRC initiatives was good during the assessment period as evidenced by the following: (1) implementation of a program for improving precision and accuracy in many chemical analyses including most technical specification related analyses; (2) implementation of an extensive interlaboratory comparison program for chemistry and radiochemistry; (3) implementation of a coordinated boron/lithium control program to minimize corrosion activity; (4) installation of new instrumentation for the secondary system analytical panel; and (5) initiation of steps to lock the access hatches to the sump "C" cavity.

The licensee's approach to resolution of technical issues was good. New equipment with improved sensitivity has been obtained for personal whole body frisking and for chemistry and radioactivity analyses. Extensive testing is in progress in an effort to attain Westinghouse specifications for total organic carbon in secondary chemistry. Radiological controls and surveillances and adherence to procedures and RWPs remains good.

Personal radiation doses for 1986 were approximately 175 personrem and are estimated to be about 225 person-rem for 1987. These doses are well below the average for U.S. pressurized water reactors and are indicative of continued good exposure controls. Contamination control remains a licensee strength. No problems were identified with the solid radioactive waste or the radioactive waste transportation programs.

Radiological effluents remained well below Technical Specification and 10 CFR 20 limits. Radiological considerations of the Argon 41 release and a planned release of approximately one curie of radioactive water from the secondary side of a steam generator were evaluated and well managed by the licensee. However, one area which should be improved are the effluent monitor calibration procedures which should be revised to include an acceptance band for monitor response to calibration sources.

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The laboratory facilities appear to be adequate and have good state-of-the-art instrumentation to do the required chemistry analysis. Cleanliness was evident. Programs for precision and accuracy, interlaboratory comparisons, and extensive graphing and trending (much of which was initiated during this assessment period) not only aid in management oversight and control but are indicative of an ongoing effort toward self improvement.

Chemistry and radiological control personnel observed in performing their assigned duties were knowledgeable of responsibilities, attentive, and adhered to applicable procedures.

During this assessment period the licensee completed their secondary plant copper reduction program. The program involved changing the tubing for the main condenser and all feedwater heaters from a copper alloy to stainless steel. The change will reduce the deleterious affects of sludge buildup on the steam generator tubesheets.

2. Conclusion

This licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period.

3. Board Recommendations

None.

C. Maintenance

1. Analysis

Evaluation of this functional area was based on the results of routine inspections conducted by the resident inspector and a special Mid-SALP team inspection by Region III.

Enforcement history in this area has represented an improvement in licensee performance during this assessment period. No NOVs were issued compared to one Severity Level IV NOV issued during the previous assessment period.

Seven events attributed to activities in this area required the submittal of LERs. Three of the events involved personnel error (two of which resulted in reactor trips). The remaining four events involved component malfunctions (three of which resulted in reactor trips). These five trips constitute five of the six

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trips discussed briefly in the Operations section of this report. Those events involving personnel error were: (1) reactor trip from 100% power when an electrician inadvertently open circuited a phase potential transformer for the main generator; (2) reactor trip while at hot shutdown when an I&C technician inadvertently removed the control power fuses from one channel of intermediate range nuclear flux instrumentation; (3) an ESF actuation when an I&C technician exercised the wrong oil pressure switch on a main feedwater pump while troubleshooting the cause of an alarm. The other four events were: (4) deterioration of a floating bushing on the emergency diesels; (5) reactor trip caused by erratic operation of a main feedwater regulating valve while transferring from the bypass valve; (6) reactor trip caused by erratic operation of a main feedwater regulating valve when controlling channels were switched; and (7) reactor trip caused by a degraded source range nuclear flux detector. For each event the licensee's corrective actions were timely and appropriate. The events were not of major safety significance, and with the exception of (5) and (6) were isolated occurrences. During the previous assessment period, three LERs were attributed to personnel error, and four LERs to component failures. Extensive management involvement was apparent in the process of identifying and correcting the problems associated with the feedwater regulating valve. During the 1987 refueling outage corrective actions included changing the trim on the regulating valves and providing valve position indication at the control station in the control room. Four plant startups have been performed using the improved system without any further indications of control problems.

Effective management in conjunction with dedicated craft personnel has resulted in the continuing high quality performance of maintenance activities. This is evidenced by the forced outage rate of 0.33% during this assessment period.

Organizational changes made during this period included adding and filling the positions of an I&C Engineer and an Electrical Specialist.

The licensee's preventative maintenance program shows consistent evidence of prior planning and assignment of priorities; it is well defined, controlled, and has explicit procedures for control of preventative maintenance activities. It was noted that because of its continuing aggressive secondary plant piping inspection program, the licensee was easily able to shift its emphasis to concerns associated with the Surry event (pipe thinning in the condensate and feedwater systems).

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 in this area during the previous assessment period.

3. Board Recommendations

None.

D. Surveillance

1. Analysis

Evaluation of this functional area was based on the results of routine inspections by the resident inspector and two inspections by Region III specialists.

Enforcement history indicated an improved performance in this area. One Severity Level IV NOV was issued for failure to perform a surveillance in accordance with an approved procedure, resulting in a reactor trip. This violation was not of major safety significance and was an isolated occurrence. During the previous assessment period one Severity Level III, two Severity Level IV, and two Severity Level V NOVs were issued.

Five events attributed to activities in this area required the submittal of LERs of which two involved personnel error: (1) reactor trip from 100% power when one channel of power range nuclear flux protection bistables was placed in the trip position and a simulated power signal inputted to a second channel; and (2) an inadvertent actuation of an ESF when an electrical jumper was not securely fastened, allowing it to ground circuitry which caused an automatic isolation of the steam generator blowdown and sampling systems. The other three events were: (3) local leak rate testing identified degraded components which would allow leakage greater than the Technical Specification limits; (4) an inadequate local leak rate test caused by a drawing error; and (5) an ESF actuation caused by a relay failing during a surveillance test. For each event the licensee's corrective actions were timely and appropriate. The events were of minor safety significance and were isolated occurrences. During the previous assessment period one LER was attributed to personnel error and two LERs to component failure.

The licensee's response to a weakness regarding test procedures identified during the previous assessment period has been timely and effective. The program for upgrading all surveillance procedures which was initiated during the previous assessment period, was completed during this assessment period. This effort was beyond that necessary for attaining compliance and has resulted in an overall improvement to the procedures and demonstrates an aggressive and responsive attitude towards nuclear safety by management. Other indicators of effective management involvement in this area included: surveillance and inservice inspection activities that were well managed and performed in a professional manner; activities that were controlled by well stated and defined procedures; and surveillance records that were complete and well maintained. All scheduled surveillance activities were performed within their required time periods.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 2 during the previous assessment period.

3. Board Recommendations

None.

- E. Fire Protection
 - 1. <u>Analysis</u>

Evaluation of this functional area was based on the results of routine inspections conducted by the resident inspector, and two special inspections by a Region III specialist and contractor personnel to determine the licensee's implementation of, and compliance with, the requirements of Sections III.G, J, L, and O of Appendix R to 10 CFR 50.

Enforcement history in this area has represented an improvement in performance. There were no NOVs or deviations issued in this area during this assessment period. During the previous assessment period two NOVs were issued, a Severity Level IV and a Severity Level V.

One voluntary LER was submitted for information as a result of activities in this area. The LER described the circumstances which caused the failure of curtain type ventilation fire dampers to close automatically with maximum ventilation air flow. This event did not require reporting under the criteria contained in 10 CFR 50.73 (a); however, the licensee determined that the test results could be of generic interest. Effective management involvement to ensure quality in this functional area was evident as indicated by the lack of significant issues identified during the Appendix R inspection.

Housekeeping continues to result in a high degree of cleanliness in all areas. The continuing effort to maintain and improve the plant appearance is reflective of the plant staff's pride in its plant. The clean, well-ordered, appearance of the plant has been noted by all visiting NRC personnel. In addition, personnel from a number of other utilities' nuclear plants have visited the Kewaunee plant to observe the results of good housekeeping practices.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period.

3. Board Recommendations

None.

F. Emergency Preparedness

1. Analysis

Evaluation of this functional area was based on the resident inspector's observation of an emergency preparedness exercise conducted on October 14, 1986.

Enforcement history in this area has represented an improvement in performance. There were no NOVs or deviations issued during this assessment area. One Severity Level IV NOV, and one Severity Level V NOV were issued during the previous assessment period.

The October 14, 1986, exercise involved partial participation by the State and local governments, that is, the demonstration of communications capabilities among State and local authorities and the licensee.

The following observations were noted during the exercise: emergency action levels were promptly identified and evaluated; notifications were completed within the required time period; very good recordkeeping practices were implemented; the transfer of responsibilities was conducted in a clear and concise manner; and the various teams conducted their duties in an orderly, effective, and timely manner. To further strengthen its program, the licensee conducted an unannounced emergency response drill which involved activation of all response facilities on June 10, 1987. The drill was evaluated by the licensee and found to be satisfactory with only minor discrepancies which are being corrected by the licensee.

The licensee has requested the NRC to approve a move of the Emergency Operations Facility (EOF) from its location in Two Rivers to the corporate offices in Green Bay. This should improve the activation response time and overall efficiency of the EOF activities.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period.

3. Board Recommendations

None.

G. Security

1. Analysis

Evaluation of this functional area was based on the results of routine inspections conducted by the resident inspector and a special Mid-SALP team inspection by Region III.

There was no significant change in enforcement history in this area. One Severity Level IV and two Severity Level V NOVs were issued, compared with one Severity Level IV and one Severity Level V NOVs issued during the previous assessment period. In addition to the identified violations, one weakness was identified relative to the licensee's program for controlling personnel and vehicle access to the site. No major safety concerns were identified.

Management's involvement in assuring quality in this functional area is at an acceptable level. This was evident by the licensee's upgrading of some security equipment including the purchasing and installation of state-of-the-art metal and explosive detectors, an x-ray unit, and upgrading the perimeter alarm system. The licensee is also in the process of constructing a new protected area access facility. Staffing levels of the security organization are adequate. During the assessment period a new contract security company was hired. The new contractor appears to provide an increased level of management support to the licensee's security director. This was evident during the Mid-SALP inspection when the inspectors observed onsite contract security management personnel providing technical support to the licensee in identifying and solving security related problems.

The licensee's responsiveness to NRC initiatives was adequate. When violations and or weaknesses were identified, the licensee took corrective measures in a timely and generally an effective manner. Audits were being performed as required and were determined to be in agreement with security plan commitments.

During the assessment period, the licensee had eight security events, (seven computer failures and one inadequately protected vital door) which required reporting under 10 CFR 73.71.

Review of the licensee's computer problems indicated that during the last six months of the assessment period no additional problems have occurred. This represents an improving trend in the operation of the computer system. All of the events reported under 10 CFR 73.71 requirements were properly identified, analyzed and reported. None of the events resulted in the issuance of a violation. Licensee corrective action to the events was adequate and should prevent recurrence.

2. Conclusion

The licensee's performance is rated Category 2 in this functional area. The licensee was rated Category 2 during the previous assessment period.

3. Board Recommendations

None.

H. Outages

1. Analysis

Evaluation of this functional area was based on the results of routine inspections conducted by the resident inspector and a special Mid-SALP team inspection by Region III.

Enforcement history in this area was good. No violations were identified during this or the previous assessment period.

Two refueling outages were conducted during the assessment period. Both outages were completed within their respective scheduled time periods of 51 days (1986) and 39 days (1987). Major modifications completed included: replacement of feedwater heaters with new heaters having stainless steel tubing; installation of facilities for using steam generator nozzle dams; installation of an Inadequate Core Cooling Monitoring System; installation of an automatic shunt trip for the reactor trip breakers; changes to meet the requirements of 10 CFR 50, Appendix R; installation of a Loose Parts Monitoring System for the steam generators and reactor vessel; replacement of instrument bus inverters; and replacement of trim on the main feedwater regulating valves.

The review of selected modification documentation indicated that the personnel associated with the work had exhibited proper work control, established and followed appropriate procedures, involved skilled and trained personnel, maintained good communications, and generally met applicable regulatory requirements. There was evidence of good management in the approval and control of work. Compliance with 10 CFR 50.59, "Changes, Tests and Experiments", was evident.

Personnel interviewed generally had an excellent personal knowledge of the work performed.

There were no violations identified with activities in this assessment area but there was one LER attributed to it. This was a personnel error which resulted in an inadvertent actuation of an Engineered Safeguards Feature (containment fan coil emergency discharge dampers). The root cause of the event was an error in the post-installation testing procedure for a replacement instrument bus inverter. The event was of minor safety significance and an isolated occurrence.

Core reload activities were performed by an experienced contractor under the direct supervision of licensee personnel. The licensee had established cleanliness, communication, and material accountability controls to support core alterations which were conducted in a safe and expeditious manner.

During the outages the inspectors noted extensive involvement of corporate office personnel in plant activities. This involvement, particularly in the area of modifications, design changes, and inservice inspection, is a significant factor in the continuing of well controlled and productive outages.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period in the related Refueling assessment area.

3. Board Recommendations

None.

I. Quality Programs and Administrative Controls Affecting Quality

1. <u>Analysis</u>

The evaluation of this functional area was based on routine inspections by the resident inspector and four inspections by Region-based specialists.

Enforcement history in this area declined in performance during the assessment period. Nine Notices of Violation were issued (eight Severity Level IV and one Severity Level V) during this assessment period. One Severity Level IV violation and one Severity Level V violation were identified during the previous assessment period.

Six of the Severity Level IV violations were identified during an inspection of the licensee's actions in response to the requirements of IE Bulletin No. 79-14, "Seismic Analysis for As-Built Safety Related Piping Systems". Circumstances which resulted in the six violations were discussed during an Enforcement Conference on February 13, 1987, and at a followup meeting on February 26, 1987. During a followup inspection it was determined that, (1) the licensee's program to correct the identified deficiencies had received comprehensive prior planning and that priorities had been assigned, (2) activities were being controlled through the use of well stated and defined procedures, and (3) piping stress analysis, support calculations, and other records were generally complete, well maintained, and available. The licensee's reconciliation reviews completed at the end of this assessment period had identified no instances requiring hardware modifications.

The NRC has recognized that the violations identified during the inspection regarding IE Bulletin No. 79-14 activities were not reflective of the licensee's quality programs being implemented during this assessment period. The findings indicate that an apparent weakness in quality programs existed during the time period of 1979-1980 when the licensee's actions in response to the bulletin were implemented. In fact, what is reflective of the licensee's quality programs during this assessment period is the extensive efforts demonstrated to correct the identified violations. Those efforts have been noted to be comprehensive, effective, timely, and demonstrate an aggressive and responsive attitude towards nuclear safety by management. The successful completion of two major programs during this assessment period (environmental qualification and fire protection) with no major deficiencies identified is evidence of a strong commitment to quality.

It was also noted that Wisconsin Public Service Corporation provided continuous quality control coverage at its spent fuel storage rack vendor's facilities. The quality control presence was a major factor in the vendor meeting contractual commitments, and the delivery of a quality product. The findings of the quality control personnel has resulted in other utilities becoming aware of potential deficiencies with their racks.

Two events attributed to activities in this area required the submittal of LERs. One of the events involved personnel error in which a periodic test required by the Technical Specifications was not performed due to a personnel error in making a change to the test procedure. The other event involved improper cover gas on the volume control tank due to inadequate administrative controls regarding the receipt of portable gas cylinders. The events were of minor safety significance and were isolated occurrences.

2. Conclusion

The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 2 during the previous assessment period.

3. Board Recommendations

None.

J. Training and Qualification Effectiveness

1. Analysis

There were no inspections specifically related to training conducted during this assessment period. Evaluation of this functional area was based on the results of operator licensing examinations, and the resident's and Region-based inspector's observations and review of plant activities and events as relating to training and qualifications of personnel involved. No violations or deviations were identified in this functional area.

Licensing examinations were administered to 13 candidates of which 11 passed the examinations and two failed the simulator portion of the examination. The two candidates who failed were later re-examined and passed.

Observations and review of plant activities and events has indicated that personnel were properly trained and qualified, and that LERs involving personnel errors were not caused by programmatic deficiencies in the training programs.

The licensee's responsiveness to NRC initiatives has been good. Concerns involving malfunctions of the plant simulator, and the lack of a specific procedure for tripping of bistables associated with an instrument failure, were promptly addressed and corrected.

The licensee has received INPO accreditation for six training programs: (1) Non-Licensed Operator; (2) Reactor Operator; (3) Senior Reactor Operator/Shift Supervisor; (4) Shift Technical Advisor; (5) Radiation Protection Technician; and (6) Chemistry Technician. The other four areas are scheduled for INPO accreditation review in September 1987.

2. Conclusion

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The licensee's performance is rated Category 1 in this functional area. The licensee was not rated in this area during the previous assessment period due to this being a new functional area.

3. Board Recommendations

None

K. Licensing Activities

1. Analysis

The basis for this evaluation was the licensee's performance in support of licensing actions (amendment requests, responses to generic letters and other actions) which have been reviewed and evaluated by the staff during the rating period. These actions have resulted in eight license amendments and changes to the Technical Specifications, six relief requests, and one exemption to Section III.G.2.d of Appendix R to 10 CFR Part 50. During this SALP rating period, the licensee's management was active in licensing activities and kept abreast of all current and anticipated licensing activities. Licensee submittals were consistently of high quality, timely, and did not require significant rework to address staff requirements. These attributes were a significant factor in reducing the 28 licensing open items at the beginning of the assessment period to 19 at the end of the assessment period.

A number of actions required modifications to the Technical Specifications (including those associated with Appendix J). Wisconsin Public Service Corporation (WPSC) management demonstrated consistent evidence of planning, scheduling and control of these licensing activities. The WPSC submittals were well prepared, technically sound, and exhibited a conscientious effort to comply with regulations. In one technical specification change request, WPSC demonstrated that it would go to considerable expense to improve plant safety by rerouting the transmission lines to improve offsite power reliability. Initiative also was shown in upgrading two other Technical Specifications.

The licensee's request for exemption from Appendix R was supported by WPSC representatives who displayed a clear understanding of NRC concerns with the level of fire protection. The licensee's additional fire protection commitments revealed a consistently conservative approach toward providing an adequate level of safety.

2. Conclusion

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The licensee's performance is rated Category 1 in this functional area. The licensee was rated Category 1 during the previous assessment period.

3. Board Recommendations

None.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

During this 18-month assessment period, the Kewaunee Nuclear Power Plant conducted routine full power operation except for two scheduled refueling outages and four forced outages. The plant experienced 6 reactor trips (4 at greater than or equal to 15% power and two at hot shutdown conditions). The plant availability was approximately 83.3% and the forced outage rate was approximately 0.33%. Significant activities which occurred during this assessment period are summarized below:

- 1. February 28, 1986, the unit was shut down for Cycle 11-12 refueling outage.
- 2. April 20, 1986, completed the refueling outage. During the startup, a forced outage of 13.3 hours was caused by a main feedwater regulating valve malfunction.
- 3. November 29, 1986, the plant completed the 200th day of a continuous run, making it the first unit in the United States to have had five continuous runs of 200 days.
- 4. February 24, 1987, the unit was shutdown for Cycle 12-13 refueling outage. The outage ended the unit's second longest continuous run at 287 days.
- 5. April 4, 1987, completed the refueling outage.

B. Inspection Activities

1. Inspection Data

There were 22 inspection reports issued during this assessment period, 86001 through 86009, and 87002 through 87014.

Table INumber of Violations in Each Severity Level

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Fund	Operating ctional Areas	Ī	<u>Sev</u> <u>II</u>	erity Lev <u>III</u>	<u>els</u> <u>IV</u>	V
۵	Plant Operations				1	
Β.	Radiological Controls					
C.	Maintenance				1	
D.	Surveillance				+	
Ε.	Fire Protection					
F.	Emergency Preparedness				1	2
G.	Security				•	- ,
Η.	Outages				8	1
I.	Quality Programs and Administrative Controls Affecting Quality				C	_
J.	Training & Qualification Effectiveness					•
Κ.	Licensing Activities					
	TOTALS				11	3



2. Special Inspections

A special mid-SALP Team inspection was conducted by region based and resident inspectors during March 16-20, 1987, 305/87004. Areas of inspection included: plant operations, radiological protection, chemistry, design change and modifications, electrical modifications, maintenance, and security. The security results where addressed in detail in a separate team inspection report 305/87011.

C. Investigation and Allegations Review

No allegations relating to the Kewaunee Nuclear Power Plant (KNPP) were received in Region III during this assessment period.

D. Escalated Enforcement Actions

No Escalated Enforcement Actions were implemented during this assessment period for the KNPP.

E. Licensee Conferences Held During Assessment Period

- 1. April 3, 1986 (KNPP): Meeting with the licensee to present the SALP 5 report for the period of July 1, 1984 through December 31, 1985.
- February 13, 1987 (Region III Offices): Enforcement Conference with licensee representatives to discuss the inspection findings related to IE Bulletin No. 79-14, "Seismic Analysis for As-Built Safety-Related Piping Systems".
- February 26, 1987 (Region III Offices): Followup meeting on IE Bulletin No. 79-14 to discuss the licensee's corrective action plan.
- 4. May 28, 1987 (Region III Offices): Followup meeting on IE Bulletin No. 79-14 to further discuss and clarify the issue.
- F. <u>Confirmatory Action Letters (CALs)</u>

No Confirmatory Action Letters were issued to the licensee during the assessment period.



G. <u>Review of Licensee Event Reports and 10 CFR Part 21 Reports</u> Submitted by the <u>Licensee</u>

1. Licensee Event Reports (LERs)

LER Numbers: 86001 through 86015 87001 through 87008

Twenty-three LERs were submitted during this assessment period; ten LERs were the result of personnel errors; five LERs were the result of component end-of-life; four LERs were the result of other categories, that is, unknown or undefined; two LERs were the result of design deficiencies; and two LERs were voluntarily submitted for information. The total number of LERs indicates a 28% reduction over the previous assessment period and a 33% reduction in personnel errors.

NOTE: The above information was derived from a review of LERs performed by the NRC Staff and may not completely coincide with the licensee's cause assignments.

Review of the LERs indicated that the information given generally provided a clear and adequate description of each event; the entries reviewed were correct and the codes agreed with the information in the narrative. The licensee voluntarily submitted two reports (LERs 86004 and 87006) that were not required by the reporting requirements of 10 CFR 50.73. The reports were provided because the events may be of generic interest and exemplified a positive attitude of exceeding the minimum reporting requirements.

2. Analysis and Evaluation of Operational Data (AEOD)

The results of the Office of Analysis and Evaluation of assessment period indicated an improvement in the quality of the licensee's issued LERs. AEOD gave an overall average score of 9.2 out of a possible 10 points, compared to a current industry average of 8.4 for those units/stations that have been evaluated to date. During the last AEOD review, Kewaunee scored a 7.6 out of a possible 10 points, compared to the industry average of 7.5. This suggests that the licensee is keeping up with the overall industry's efforts to provide high quality LER. Strong areas identified during AEOD's review included quality discussions relating to root causes, corrective actions, mode, and safety consequences; however, AEOD stated that improvements were needed in the discussions of automatically and manually initiated safety system responses, and in providing adequate identification for failed components.

3. 10 CFR Part 21 Reports

No Part 21 Reports were submitted by the licensee.

- H. Licensing Activities
 - 1. NRR/Licensee Meetings

April 3, 1986

October 6-9, 1986 March 10-13, 1987

2. <u>Commission Meetings</u>

None

3. <u>Scheduler Exemptions</u> None

<u>Reliefs Granted</u>
 March 26, 1987

July 25, 1986

September 22, 1986

February 26, 1987

March 31, 1987

May 4, 1987

5. <u>Exemptions Granted</u> June 19, 1986 SALP Management Meeting

Review of SPDS Programs Environmental Qualification Audit

Inservice Inspection Plan - Steam Generator Nozzle Inner Radius Ultrasonic Testing

Inservice Testing

Inservice Testing

Inservice Testing

Inservice Inspection Plan - Steam Generator Upper Girth Weld on Transition

Seismic Qualification Plant Specific Implementation

Section III.G.2.d of Appendix R Cable Separation

6. Emergency Technical Specifications Issued

None



7. License Amendments Issued

- AM67 Removal of LCO from Technical Specifications Due to Rerouting of Offsite Power Source Transmission Lines.
- AM68 Frequency of Diesel Generator Loading, July 3, 1986
- AM69 Technical Specification Revisions for Appendix J, December 1, 1986
- AM70 Revisions to Heatup and Cooldown Technical Specification Curves for Normal Operation, December 18, 1986
- AM71 Miscellaneous Technical Specification Changes, January 21, 1987
- AM72 Technical Specification Changes Reflecting Organizational Changes, February 23, 1987
- AM73 Steam Generator Repairs and Plugging, April 1, 1987
- AM74 Technical Specification Changes to Reflect Minor Changes and For Requirements on Containment Hydrogen Monitors

8. Orders Issued

None

9. Licensing Actions

Open at beginning of period	- 28
Number added during period	່ 22
Number completed during period	31
Number open at end of period	19