

DEC 17 1986

In Reply Refer To:
Docket: 50-285/86-27

Omaha Public Power District
ATTN: R. L. Andrews, Division Manager -
Nuclear Production
1623 Harney Street
Omaha, Nebraska 68102

Gentlemen:

This refers to the Systematic Assessment of Licensee Performance (SALP) Board Report for the Fort Calhoun Nuclear Station. The SALP Board met on November 13, 1986, to evaluate the performance of the subject facility for the period March 1, 1985, through September 30, 1986. The performance analysis and resulting evaluations are documented in the enclosed SALP Board Report.

The performance of your facility was evaluated in the selected functional areas identified in Section IV of the enclosed SALP Board Report.

The overall performance of the Omaha Public Power District (OPPD) during this assessment period indicated a high level of dedication to nuclear safety. The SALP Board noted that OPPD's performance in the areas directly related to plant availability appeared to be excellent. These areas included plant operations, surveillance, maintenance, licensing activities, and fire protection. However, the SALP Board also noted that the areas not directly related to plant availability appeared to receive less attention. These areas included radiological controls, security and safeguards, quality programs and administrative controls affecting quality, training and qualification effectiveness, and emergency preparedness. OPPD should review available resources and take actions, as appropriate, to provide increased management attention to the areas not directly related to plant availability.

During the course of this assessment the NRC staff identified a number of areas that need management attention and improvement. In particular the areas include plant housekeeping, the plant labeling program, plant material conditions, and leaking valves in fluid systems.

During his tour of your facility the NRC Chairman also commented on these areas as well as the need to provide increased management attention to areas not directly related to plant availability.

The proposed completion date of 1990 for the site-specific simulator was noted by the staff, as well as the Chairman, and it is recommended that an effort be initiated to advance that date as far as possible.

RIV:RPB/B	RPB/B	C:RPB/B	C:RPB	D:DRS	C:EP&S	NRR
PHHarrell/tw	MEMurphy	DRHunter	JEGagliardo	EHJohnson	LYandell	DSell
12/11/86	12/11/86	12/11/86	12/11/86	12/16/86	12/16/86	12/16/86

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It is significant to note that the licensee has failed to improve its performance in the functional area of Security and Safeguards. The licensee has remained in a Performance Category 3 rating for consecutive SALP reports in this area. Licensee management should take aggressive action to correct the identified problems in a timely manner.

The SALP Board discussed at length whether the functional area of Training and Qualification Effectiveness should be rated in Performance Category 2 or Performance Category 3. The Board concluded that the appropriate rating for this functional area was Performance Category 2. The Board's decision was based on the effectiveness of the licensee's nonlicensed training program and the activities initiated by the licensee to improve performance in this area. The improvement initiatives had not been completed during this assessment period and the licensee is encouraged to provide timely completion and implementation. The SALP Board also noted that the current effectiveness of the licensee's training programs may be due, in part, to the low personnel turnover rate. The licensee has not demonstrated that the training programs would be effective if the program was challenged with an increase in the turnover rate of site personnel.

The SALP Board's review of the functional area of Radiological Controls indicated a declining trend in this area. The declining trend was attributed to an increase in the number of violations, lack of implementation of an aggressive audit/review program, and repeat violations where the root cause of problems had not been effectively eliminated.

The SALP Board also noted a declining trend in the functional area of outages. This declining trend was due to the significant weaknesses identified during a special inspection performed by the Safety Systems Outage Modification Inspection team. Licensee management attention to this functional area should be increased to stop the decline and to increase performance.

Unless you specifically request it, a management meeting will not be scheduled for this reporting period. Any request for a management meeting should be made, in writing, within 10 days of receipt of this report.

We request that you advise us, in writing, of actions you plan to take in response to the Performance Category 3 rating in the functional area of Security and Safeguards. Your response should include an implementation schedule for your actions. You may also address any comments you have regarding our evaluation of the performance of other functional areas. Your response should be submitted to this office within 30 days of the issuance of this SALP report. Your comments and our disposition of the same will be issued as appendices to the SALP Board Report.

Comments which you may submit are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this letter, we will be glad to discuss them with you.

Sincerely,

Original signed by
Robert D. Martin

Robert D. Martin
Regional Administrator

Enclosure:
Appendix - NRC SALP Board Report
50-285/86-27

cc w/enclosure:
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bcc to DMB (IE40)

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SALP BOARD REPORT

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Inspection Report 50-285/86-27

Omaha Public Power District

Fort Calhoun Nuclear Station

March 1, 1985, through September 30, 1986

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I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated Nuclear Regulatory Commission (NRC) staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. The SALP program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. The SALP program 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 operation.

An NRC SALP Board, composed of the staff members listed below, met on November 13, 1986, to review the collection of performance observations and data, and to assess licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at Fort Calhoun Nuclear Station for the period March 1, 1985, through September 30, 1986.

SALP Board for Fort Calhoun Nuclear Station:

- E. Johnson, Director, Division of Reactor Safety and Projects, Region IV
- J. Gagliardo, Chief, Reactor Projects Branch, Region IV
- D. Hunter, Chief, Project Section B, Reactor Projects Branch, Region IV
- L. Yandell, Chief, Emergency Preparedness and Safeguards Program Section, Region IV
- P. Harrell, Senior Resident Inspector, Fort Calhoun Nuclear Station, Region IV
- A. Thadani, Director, PWR Project Directorate 8, Office of Nuclear Reactor Regulation (NRR)
- D. Sells, Project Manager, Fort Calhoun Nuclear Station, NRR

Other personnel who participated in all or part of the SALP Board were:

- W. Seidle, Chief, Technical Support Staff, Region IV
- M. Murphy, Project Inspector, Project Section B, Region IV
- H. Chaney, Inspector, Facilities Radiological Protection Section, Region IV
- R. Baer, Inspector, Facilities Radiological Protection Section, Region IV
- N. Terc, Inspector, Emergency Preparedness Section, Region IV
- A. Earnest, Inspector, Safeguards Section, Region IV

II. CRITERIA

Licensee performance was assessed in 11 selected functional areas. Functional areas normally represent areas significant to nuclear safety and the environment. 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 to assess each functional area.

- A. Management involvement in assuring quality
- B. Approach to the resolution of technical issues from a safety standpoint
- C. Responsiveness to NRC initiatives
- D. Enforcement history
- E. Operational events (including response to, analysis of, and corrective actions for)
- F. Staffing (including management)
- G. Training and qualification effectiveness

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 definitions of these performance categories are:

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

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

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to

be strained or not effectively used so that minimally satisfactory performance with respect to operational safety and construction quality is being achieved.

III. SUMMARY OF RESULTS

The SALP Board review revealed licensee areas of significant strength with high management involvement in assuring quality and with a strong approach to the resolution of technical issues from a safety standpoint. However, the SALP Board also noted that the licensee has failed to improve its performance in the functional area of security and safeguards and showed a declining trend in the functional areas of radiological controls and outages. Even though the functional area of training and qualification effectiveness showed an improving trend there remain a number of improvement initiatives to be completed and strong management attention should continue in this area.

The licensee's performance is summarized in the table below, along with the performance categories from the previous SALP assessment period.

<u>Functional Area</u>	<u>Previous Performance Category (9/1/83 to 2/28/85)</u>	<u>Present Performance Category (3/1/85 to 9/30/86)</u>
A. Plant Operations	1	1
B. Radiological Controls	1	2
C. Maintenance	1	1
D. Surveillance	1	1
E. Fire Protection	1	1
F. Emergency Preparedness	2	2
G. Security and Safeguards	3	3
H. Outages	1	2
I. Quality Programs and Administrative Controls Affecting Quality	2	2
J. Licensing Activities	1	1
K. Training and Qualification Effectiveness	3	2

Fifty-two NRC inspections were conducted during this SALP assessment period, involving 5828 direct inspection man-hours. NRC inspection reports issued during this assessment period were:

- . 285/85-02 through 285/85-04; 285/85-06; 285/85-08 through 285/85-29
- . 285/86-01 through 285/86-26

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

This area was inspected on a continuing basis by the NRC resident inspector. The inspections included reviews and observations to verify facility operations were performed in accordance with regulations, Technical Specifications (TS), and procedures.

No violations or deviations were identified in this functional area.

The three licensee event reports (LER) listed below were attributed to activities in the functional area of Plant Operations.

- . Initiation of the ventilation isolation actuation system (VIAS) due to operator error. (LERs 85-004 and 85-005)
- . Partial loss of onsite power during a refueling outage due to an abnormal electrical lineup. (LER 85-011)

The licensee continued to maintain an experienced group of licensed senior reactor operators (SRO) and reactor operators (RO). The operator staff was stable during this assessment period with a very small turnover rate of licensed onshift operators. Staffing was at a level that permitted the licensee to maintain a six-shift rotation except during heavy vacation schedules in the summer months. The licensee was in the process of adding an additional six licenses to the operator staff and upgrading five ROs to SROs. The additional licenses and upgrades were scheduled to be completed in the latter part of 1987.

Nine plant management personnel held and maintained SRO licenses. These personnel provided support and technical expertise to the operations department. The licensed management personnel included the plant manager, reactor engineer, training supervisor and instructors, and operations supervisor and

operations support personnel. During this assessment period, one shift supervisor was reassigned to serve as an interface between the maintenance and operations organizations, and an additional SRO was assigned to the operations support group.

In the latter part of this assessment period, all management personnel, licensed and unlicensed, made frequent tours and inspected the control room, equipment areas, and other operating spaces. These tours resulted in improved conduct of operations and increased management visibility.

The licensed operators exhibited a strong and dedicated commitment to procedural compliance and a good understanding of the technical issues associated with plant operations. These strengths were observed by the NRC resident inspector and other NRC inspectors during tours of the control room, during emergency and abnormal plant conditions, and during the annual emergency preparedness exercise. Log keeping and other documentation maintained by plant operators was performed in an accurate and highly professional manner.

The NRC resident inspector and other NRC personnel noted that operator morale declined over this assessment period. The decline in morale was attributed to the inability of licensed operators to pass NRC-administered examinations and the lack of a career path advancement program for onshift licensed operators. The NRC resident inspector monitored activities of onshift licensed operators and noted that the decline in operator morale did not affect the safe operation of the plant.

During this assessment period, the plant experienced two reactor trips. One trip occurred in July 1986 due to failure of an instrument inverter and the other manually initiated trip in August 1986 was due to overheating of an electrical generator bus duct. The last reactor trip prior to these two occurred in July 1984. On July 31, 1986, the licensee received a letter from H. R. Denton, Director of NRR, complimenting the licensee on its low frequency of reactor trips and noting that the low frequency is an important indication of safe and reliable plant operation.

In January 1986 the licensee issued and implemented upgraded emergency operating procedures (EOP), based on the Combustion Engineering guidelines for emergency procedures. These EOPs provided a symptom-based approach to plant emergencies. In conjunction with issuance of the EOPs, the licensee issued revised abnormal operating procedures (AOP) in January 1986. The new AOPs were issued as an upgrade to the previous emergency procedures to complement the revised EOPs.

During this assessment period, the emergency plan was implemented on two occasions. In September 1985 a Notice of

Unusual Event (NOUE) was declared due to a leaking chlorine bottle. The leak was quickly contained and the NOUE was terminated. In May 1986 another NOUE was declared due to incorrect operation of a sampling valve by a chemistry technician. The misoperation of the valve caused a release of radioactive gas to the auxiliary building (AB) and the gas was discharged to the atmosphere through the AB ventilation system. The ventilation system was secured and the unplanned release terminated approximately two minutes after initiation due to quick identification of the problem and subsequent initiation of corrective actions by the plant operators. Operator actions limited the level of the release at the offsite boundary. The magnitude of the release was approximately three times the TS limit at the site boundary for a duration of approximately 2 minutes. This release did not pose a threat to the health and safety of the public. After the AB was isolated and the release secured, the NOUE was terminated.

The safety parameter display system (SPDS) was declared operational by the licensee during this assessment period. Training was provided for plant operators on the use of the SPDS and observations by the NRC resident inspector indicated that the operators used the SPDS effectively. A control room modification was performed in order to locate an SPDS terminal near the plant control boards. This modification allowed the operators easy access to the terminal while performing activities on the control boards.

The licensee continued to implement changes to the control room based on the results of the detailed control room design review. This effort was ongoing and was not completed during this assessment period. The completion of the review was scheduled for February 1987.

A program for upgrading the annunciator system to eliminate nuisance alarms continued throughout this assessment period. Even though many nuisance alarms were eliminated, the annunciator system was still plagued by a number of alarms. The licensee continued to work at elimination of all nuisance alarms.

During tours of the facility made by the NRC Chairman, NRC Regional Administrator, and other NRC Region IV personnel subsequent to the review period, it was noted that plant-wide housekeeping activities were adequate. However, it was also noted that areas in the plant had not received the level of management attention to housekeeping that was considered appropriate. In these areas, dust, miscellaneous debris, and cigarette butts had accumulated. The need for additional housekeeping attention in these areas was considered to be an indication of the need for additional management attention in maintaining the plant in a clean condition.

During these tours, NRC personnel also noted that labeling of valves and piping systems was inadequate. The licensee used a method of marking that included uncontrolled, handwritten identification of system designations on pipes and walls with felt-tip markers. The licensee also used brass tags on valves with the valve number designation only. The tags did not contain a description of the valve function. The licensee should consider upgrading the plant labeling program by removing the miscellaneous felt-tip pen markings and initiating a controlled system for marking piping systems. In addition, the licensee should consider the use of valve tags that provide a description of the function, as well as the number of the valve.

2. Conclusion

The overall performance level in this functional area was excellent during this assessment period. Plant management involvement was effective as evidenced by no violations or deviations being identified in this functional area and by an excellent past operating history. The licensee maintained a well qualified and stable operations staff.

The licensee is considered to be in Performance Category 1 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at the present reduced level.

b. Recommended Licensee Actions

Licensee management should continue past efforts to ensure that this functional area is maintained at the current high level of performance. Management should take actions to complete the detailed control room design review and implement the appropriate control room upgrades in a timely manner, to eliminate all remaining nuisance alarms from the control boards, and to upgrade the plant-wide housekeeping and the plant labeling programs.

B. Radiological Controls

1. Analysis

Ten inspections in the functional area of Radiological Controls were performed during this assessment period by NRC Region IV personnel. These inspections included the following areas:

occupational radiation safety, radioactive waste management, radiological effluent control and monitoring, transportation of radioactive materials, and water chemistry controls.

The 13 violations listed below were identified in this functional area. No deviations were identified.

- . Failure to instruct workers prior to entering a restricted area. (Severity Level V, 285/8502-01)
- . Failure to maintain occupational external radiation exposure histories, Form NRC-4. (Severity Level V, 285/8502-02)
- . Failure to maintain the data for current occupational external radiation exposures, Form NRC-5. (Severity Level V, 285/8502-03)
- . Failure to provide workers with exposure information in a termination report. (Severity Level V, 285/8502-04)
- . Failure to follow procedures in posting a radiation area. (Severity Level IV, 285/8502-05)
- . Failure to identify a shipment as radioactive and failure to perform a transportation survey. (Combined as one Severity Level III, 285/8601-01)
- . Failure to provide workers with exposure information in a termination report. (Severity Level IV, 285/8601-02)
- . Failure to control a very high radiation area. (Severity Level III, 285/8601-03)
- . Failure to report Strontium 89 and 90 results. (Severity Level IV, 285/8605-01)
- . Failure to review environmental monitoring procedures. (Severity Level IV, 285/8605-02)
- . Failure to follow procedures for retention of radiation monitor calibration records. (Severity Level IV, 285/8608-01)
- . Failure to submit a special report on the inoperability of the postaccident sampling system (PASS). (Severity Level IV, 285/8608-02)
- . Failure to establish operating and calibration procedures for portable radiation monitors. (Severity Level V, 285/8608-03)

The three LERs listed below were attributed to activities associated with this functional area.

- . A chemistry technician caused the initiation of a VIAS while purging a line to take a reactor coolant sample. (LER 85-001)
- . Containment purge initiated prior to complete purging of pressure in containment caused a VIAS. (LER 85-007)
- . Release of radioactive gas to the AB due to misoperation of a sampling valve by a chemistry technician. (LER 86-003)

A detailed discussion of activities associated with this functional area is provided below.

a. Occupational Radiation Safety

This area was inspected four times during this assessment period. These inspections included three inspections during routine plant operations and one refueling outage inspection. Eight violations related to radiation protection activities were identified.

The numerous violations identified in the radiation protection program was an indication of a lack of management involvement in assuring quality, and worker training. Management/supervision had not performed routine reviews of work activities at the job sites within the radiation controlled area to ensure radiation protection controls were properly implemented. An aggressive, comprehensive licensee audit/review program had not been implemented regarding radiation protection activities. Repeat violations were identified which indicated that the root causes were not effectively eliminated. Weaknesses in the radiation protection program were identified in that radiation protection personnel were not familiar with basic regulatory requirements and plant procedures.

The size of the radiation protection staff was adequate to support plant operations. A low personnel turnover rate within the radiation protection group was experienced during this assessment period. The licensee's approach concerning the resolution of technical issues indicated a clear understanding of each issue and included a generally sound and thorough solution.

The licensee continued to be below the national average regarding personnel exposures. The person-rem exposure for 1985 was 373 as compared with the PWR national average of 427. In 1986 the licensee expended 73 person-rem for the period ending September 30, 1986.

b. Radioactive Waste Management

The licensee's program concerning the processing and onsite storage of gaseous, liquid, and solid radioactive waste was inspected once during this assessment period. No violations or deviations were identified.

The licensee implemented a well defined program for the processing of gaseous, liquid, and solid waste. No particular problems were identified in this area.

c. Radiological Effluent Control and Monitoring

The plant liquid and gaseous effluent control program was inspected twice during this assessment period. Two violations involving gaseous effluent monitoring instrumentation were identified. Effluent sampling and analyses activities were well defined in plant procedures to ensure compliance with the new Radiological Effluent Technical Specifications that were implemented during this assessment period. Gaseous and liquid release permit programs were established to ensure that planned releases received the necessary review and approval prior to release.

The offsite radiological environmental monitoring program was inspected twice during this assessment period. Two minor violations were identified. In general, the offsite radiological environmental monitoring program was well managed.

The radiochemistry program was inspected once which included onsite confirmatory measurements with the NRC Region IV mobile laboratory. No violations or deviations were identified. The results of the confirmatory measurements indicated that the licensee's percent agreement was slightly below the value expected for an operational radiochemistry program. The PASS was inspected in conjunction with the radiochemistry program. One observation was made which noted that the licensee had not established a PASS operator requalification/training program nor documented chemistry technician performance training on the PASS.

d. Transportation of Radioactive Materials

This area was inspected once. Two violations were identified. The two violations were the failure to survey a radioactive contaminated main steam valve prior to shipment to an offsite laboratory for repair, and the failure to identify a radioactive shipment by labeling or

marking. These two violations were combined into one Severity Level III violation. As a result of the transportation inspection findings and other related radiation protection Severity Level III and IV violations, an enforcement conference was held on April 11, 1986.

Weaknesses were noted concerning the maintenance of training records and the scheduling of training activities concerning personnel responsible for transportation activities. These weaknesses involved fragmented records storage, with some of the training information being maintained outside of the training department, and the lack of an established schedule for required refresher training.

e. Water Chemistry Controls

The primary and secondary systems affecting plant water chemistry were inspected once. No violations or deviations were identified. This inspection was limited in scope; therefore, a more detailed inspection was planned for 1987.

2. Conclusion

The following conclusions were made concerning the functional area of Radiological Controls. The licensee maintained a high level of quality in the radiological environmental monitoring and effluent release control programs. The areas of radiochemistry and radioactive waste management were deemed to be satisfactory. Several weaknesses were identified involving management oversight, adequacy of records, conduct of the radiation exposure control program involving high radiation areas, and in the radiation protection and radioactive materials transportation programs.

While management oversight of the various radiological control program areas was evident by the performance of audits, a programmatic problem existed in that the audits were generally of insufficient scope and detail to identify program weaknesses. It was noted that some licensee personnel did not have a good understanding of regulatory requirements and plant procedures which is an indication of an ineffective training program.

The licensee's performance was considered adequate in the areas of resolution of technical issues, reporting operational events, and staffing. The licensee's performance was judged to be less than satisfactory in the area of responsiveness to NRC initiatives in that responses were often viable, but lacking in thoroughness or depth.

The licensee is considered to be in Performance Category 2 with an overall declining trend in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

Inspection effort should be maintained at the normal level with decreased emphasis in the areas of radiological environmental monitoring, radiochemistry, effluent control and monitoring, and radioactive waste management. Inspection effort in the areas of occupational radiation safety, transportation, and water chemistry controls should be increased.

b. Recommended Licensee Actions

Management/supervision should spend more time visiting job sites to ensure radiation controls are properly implemented. The audit/review program should be expanded to improve the self-identification of program weaknesses. The effectiveness of training should be reviewed to ensure personnel have a good understanding of regulatory requirements and plant procedures.

C. Maintenance

1. Analysis

This area was inspected on a continuing basis by the NRC resident inspector. These inspections included verification that maintenance activities were performed in accordance with procedures, regulatory requirements, and TS. This area was also inspected during a special inspection conducted by an NRC inspection team in the area of equipment environmental qualification (EEQ).

Two violations and two deviations were identified in this functional area during this assessment period.

- Maintenance was not performed on the component cooling water pumps to maintain the EEQ status of the pumps. (Severity Level IV, 285/8509-01)
- Failure to meet a commitment related to cleanliness of fluid systems. (Deviation, 285/8527-01)
- Failure to meet a commitment related to storage of critical quality equipment (CQE) in temporary storage areas. (Deviation, 285/8527-02)
- Failure to store boric acid in a CQE storage area to prevent damage or deterioration. (Severity Level IV, 285/8621-01)

No LERs were identified in this functional area.

The licensee maintained a very stable and well-qualified maintenance work force with little turnover during this assessment period. The licensee added three new instrumentation and control (I&C) technicians and five new maintenance engineers to the maintenance staff during this SALP period. These additions provided additional technical support for the maintenance group and additional I&C technicians for an increased work load in site security systems maintenance and calibrations.

The maintenance group maintained plant equipment in good working order. For this reason, the licensee did not experience any forced plant shutdowns due to maintenance problems.

During this SALP period, the licensee implemented an automated tracking system for maintenance orders (MO). This system, CHAMPS, was also used to track and generate preventive maintenance (PM) items to ensure PM activities were performed when due to minimize delinquent PMs. The CHAMPS tracking system was initiated just prior to the refueling outage in 1985-1986 and tracked each MO and PM to verify proper and timely completion.

A special inspection was performed by an NRC inspection team in the area of EEQ. The team noted a maintenance-related problem in the area of performing maintenance on electrical motors. The licensee completed corrective actions for the identified deficient area. In the area of EEQ, the licensee also took corrective actions related to the checking and repair of all Limitorque motor-operated valves. The corrective actions included checking and replacement, as necessary, of the internal wiring in the Limitorque valves based on problems identified by the NRC in IE Information Notice 86-03. This effort was completed during the 1985-1986 refueling outage.

The licensee's backlog of maintenance activities for all crafts remained approximately constant during this assessment period. The level of backlog was approximately 250 man-hours of work on safety-related systems in each of the areas of electrical, I&C, and mechanical maintenance.

To ensure that maintenance efforts were directed toward equipment and components requiring the most immediate attention, a daily meeting was held between the maintenance and operations groups. In this meeting, operations personnel established their priorities for which maintenance activities should be completed first. Based on the input, the maintenance group established its daily work schedule.

The licensee experienced problems controlling the temporary storage of CQE material during this assessment period. During followup on a violation (285/8501-01) identified during the previous SALP period, the NRC resident inspector noted that the licensee had not taken the appropriate corrective actions as was stated in the licensee's response to the violation. Appropriately, a deviation was issued. At a later time, it was noted that the boric acid used for control of primary plant reactivity was not properly stored to prevent damage or deterioration. The licensee took actions to correct these problems. To correct the problems of having to store CQE materials in the plant in temporary storage areas, the licensee proposed and secured funds to relocate the warehouse. The warehouse is currently located outside the plant protected area. The relocation of the warehouse will allow access to materials from within the protected area and eliminate the need to store material inside the plant. The proposed schedule for completion of the warehouse relocation was 1988.

2. Conclusion

The licensee had shown increased management attention in the functional area of Maintenance as indicated by consistent evidence of prior planning and assignment of priorities. Additional licensee management attention is needed to reduce the backlog of maintenance items and to establish and implement an effective program for storage of CQE material in the plant.

Licensee management attention was evident in that no maintenance-forced outages occurred during this assessment period. The licensee maintained plant equipment in good working order through an effectively administered PM program.

The licensee is considered to be in Performance Category 1 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at the present reduced level.

b. Recommended Licensee Actions

Licensee management should continue an active involvement in this functional area to ensure that the present performance level is maintained. Management should continue to reduce the quantity of the maintenance order backlog.

D. Surveillance

1. Analysis

This area was inspected on a continuing basis by the NRC resident inspector and by NRC Region IV inspectors. The inspections included verification that tests were completed in a timely manner using an approved testing procedure, tests were conducted in accordance with TS requirements, and test results were reviewed to verify equipment and/or component operability.

The violation listed below was identified in this functional area. No deviations were identified.

- Failure to implement a surveillance required by the TS.
--(Severity Level IV, 285/8515-03)

One LER was identified in this functional area.

- Containment pressure instrument surveillance test was not completed within the required frequency. (LER 86-002)

The licensee maintained an effectively managed surveillance test program. A monthly surveillance testing schedule was published that included the test due date and responsible performing organization to ensure the appropriate individuals were notified of testing responsibilities. The master surveillance schedule was updated, as appropriate, whenever TS amendments were issued.

The NRC resident inspector verified during numerous observations of surveillance test activities that the testing was properly completed, the latest revision of the testing procedure was used, and the test was reviewed for compliance with established acceptance criteria. The NRC resident inspector observed that the individuals performing the tests were well acquainted with the testing requirements and performed the tests in a highly professional manner. The primary basis for the high level of performance was the licensee's stable work force and experience of the personnel performing the tests. Surveillance test results were reviewed at the completion of the test to verify the acceptance criteria were met. If the results indicated that the test was unsatisfactory, the equipment and/or component was repaired and a retest performed in a timely manner.

Although the licensee experienced one identified problem in implementing TS-required surveillances and one in performing surveillances within the required frequency, these problems appeared to be isolated cases. Typically, the licensee performed approximately 2500 TS surveillances each year in a

timely manner. The licensee maintained a program to ensure that surveillance activities required by new TS amendments were incorporated into the surveillance program.

2. Conclusion

The licensee maintained an effectively managed surveillance test program. In this functional area, the responsiveness to NRC issues was timely and technically sound. Major violations were rare and were not indicative of a programmatic breakdown. Personnel performing surveillance activities were well trained and qualified.

The licensee is considered to be in Performance Category 1 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at a reduced level.

b. Recommended Licensee Actions

Licensee management should continue to exercise strong management controls over the surveillance test program to ensure that the current high level of performance is maintained.

E. Fire Protection

1. Analysis

This area was inspected by NRC Region IV inspectors and on a continuing basis by the NRC resident inspector. The inspections were performed to verify the licensee maintained a fire protection/prevention program in accordance with Branch Technical Position 9.5-1, commitments to Appendix R to 10 CFR Part 50, and the licensee's fire hazards analysis; housekeeping and cleanliness control were adequate; and fire brigade training was performed in accordance with the TS.

Two violations and no deviations were identified in this functional area.

- . Failure to perform hourly fire watch patrols of degraded fire barriers. (Severity Level IV, 285/8603-02)

- . Failure to submit a report, as required by the TS, for a fire barrier that was degraded longer than 30 days. (Severity Level V, 285/8621-02)

The LER listed below involved activities in the functional area of Fire Protection.

- . A continuous firewatch was not posted during halon system inoperability. (LER 85-012)

During this assessment period, the NRC completed the review and processing of the licensee's exemption requests under Appendix R to 10 CFR Part 50 and issued the final fire protection Safety Evaluation Report. The licensee completed all commitments for modifications made to satisfy the requirements of Appendix R.

Other significant items initiated by the licensee during this assessment period are listed below.

- . Requested and received an inspection of all fire doors by Underwriters Laboratory. As a result of this inspection, the licensee identified a number of fire doors to be repaired or replaced. Installation of new fire doors was in process at the end of the assessment period.
- . Selected plant personnel were trained and certified to install and/or inspect the most common types of fire barrier penetration seals.
- . Fire barrier records were revised to make them more usable.
- . New fire barrier labels were being installed.
- . A revised fire hazards/transient loading study was initiated.

The licensee issued five special reports on the inoperability of fire barriers as required by the TS during this assessment period. In each reported case, the licensee issued an MO for repair of the barrier and established a roving or continuous fire watch, as appropriate. The licensee took appropriate corrective actions to ensure the degraded barrier was repaired as soon as possible.

The licensee maintained the plant in an adequately clean condition, with only a few exceptions. On four occasions, the NRC resident inspector noted areas where significant amounts of miscellaneous material had accumulated and the licensee had to provide additional housekeeping attention. In each case, the licensee provided immediate attention to the areas to eliminate the identified discrepancies. In no case identified by the NRC

inspector, did the housekeeping discrepancies cause the fire loading for the affected areas to exceed the fire loading stated in the fire hazards analysis.

During this assessment period, reviews were performed by NRC inspectors to verify that fire brigade training was performed in accordance with the TS. The results of these reviews indicated that the licensee implemented an effective fire brigade training program and that the individuals participating in the program were well trained and qualified.

2. Conclusion

The licensee continued to show significant progress in the development of an effective fire protection/prevention program. Licensee management involvement in this functional area was evident by the progress made in the program.

The licensee is considered to be in Performance Category 1 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should be reduced.

b. Recommended Licensee Actions

Licensee management should continue to implement the program improvement initiatives by completion of the activities presently underway.

F. Emergency Preparedness

1. Analysis

This area was inspected on a periodic basis by NRC Region IV inspectors, the NRC resident inspector, and contract personnel.

Three violations and one deviation were identified in the functional area of Emergency Preparedness.

Three operating shifts were unable to demonstrate the ability to perform 15-minute notifications to state and local authorities. (Severity Level IV, 285/8519-01)

- . Failure to provide adequate emergency response training to health physics technicians, shift technical advisors, and reactor operators, and failure to provide adequate training tests. (Severity Level IV, 285/8519-02)
- . Inadequate review of the emergency preparedness program. (Severity Level IV, 285/8519-03)
- . Failure to meet a commitment to perform training of emergency personnel within 1 year. (Deviation, 285/8519-04)

No LERs were identified in this functional area.

During this assessment period, an emergency response facilities (ERF) appraisal and four emergency preparedness inspections were conducted. Two of the inspections consisted of exercise observations and evaluations, and the other two were routine unannounced inspections.

The results of these inspections indicated that the licensee demonstrated weaknesses in the areas of training; internal audit program; and procedures related to notifications, protective action recommendations, security during emergencies, and dose projections.

Repeat deficiencies were identified during observation of the annual emergency exercise drills. The deficiencies were prompting and coaching of the drill players by individuals running the drill and excessive delay in making notifications to local and state authorities. These deficiencies are discussed in NRC Inspection Reports 50-285/85-16 and 50-285/86-19. Additional deficiencies identified during the second exercise performed during this SALP period indicated that more definitive corrective actions were needed and that, although the exercise demonstrated a satisfactory state of emergency response readiness, improvement was needed in some areas.

The violations and deviation identified during inspections indicated a minor programmatic breakdown in these areas. However, the licensee's replies and responses to NRC-identified problems showed a proper understanding of the issues; viable, generally sound, and thorough approaches and timely responses and resolution of issues. For example, the NRC inspectors verified that adequate corrective actions were taken in response to the violations identified during this assessment period.

Sixteen deficiencies were identified during this assessment period aside from the deficiencies identified during the ERF inspection. The NRC inspectors closed nine of ten deficiencies identified during the first emergency exercise inspection.

During this assessment period, a special team inspection was performed to verify that the licensee had properly constructed, located, and equipped the ERF as required by NUREG-0737, Supplement 1. The results of the inspection noted no violations or deviations; however, fourteen deficiencies were identified.

The 14 deficiencies identified during the ERF appraisal pertained to the methods and models used for performing dose assessment; to the availability of radiation instruments, pocket dosimeters, and meteorological data; and to the procedures used for protective action recommendation decisionmaking. The details of the deficiencies are provided in NRC Inspection Report 50-285/86-20.

On May 1, 1986, the licensee declared a NOUE due to release of radioactive gas to the AB which was subsequently released to the environment. See the functional area of Plant Operations for a discussion of this event. The licensee implemented the emergency plan as required by regulations. The actions taken by the licensee for this event included staffing of the technical support center (TSC). The NRC resident inspector was present at the plant and observed the actions taken by the licensee. Licensee personnel demonstrated the ability to implement the requirements of the emergency plan during an actual event.

2. Conclusion

The licensee established adequate emergency response capabilities and responded well to violations and other deficiencies identified during NRC inspections. The results of the licensee's participation in annual emergency exercises demonstrated a satisfactory state of emergency response readiness. No violations or deviations were identified during the ERF appraisal and a relatively small number of deficiencies. However, repeat findings and new exercise deficiencies indicated the need for additional management attention in this area.

The licensee is considered to be in Performance Category 2 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at the present level.

b. Recommended Licensee Actions

The licensee should address the weaknesses in the emergency preparedness training program and correct the deficiencies

identified in the last exercise and the ERF appraisal. The licensee should establish a program to determine the root cause of identified problems to ensure the problems are corrected and not found to be repeat problems in subsequent inspections.

G. Security and Safeguards

1. Analysis

This area was inspected on a continuing basis by the NRC resident inspector and periodically by NRC Region IV inspectors. The inspections were performed to verify the licensee was maintaining a security and safeguards program as required by the licensee's security program and 10 CFR Part 73.

The 16 violations listed below were identified in the functional area of Security and Safeguards. No deviations were identified.

- . Unqualified security personnel were performing security duties. (Severity Level IV, 285/8508-01)
- . Failure to follow a search procedure at an access control point. (Severity Level V, 285/8520-01)
- . Failure to display security badges while in the protected area. (Severity Level V, 285/8527-03)
- . Locks, keys, and combinations were not properly controlled. (Severity Level IV, 285/8528-01)
- . Detection aids for the protected area were found to be inadequate. (Severity Level IV, 285/8604-01)
- . Assessment aids were inadequate. (Severity Level IV, 285/8604-02)
- . Control of locks and keys was inadequate. (Severity Level IV, 285/8604-03)
- . A vital area barrier was found to be inadequate. (Severity Level IV, 285/8607-01)
- . Inadequate control of a protected area barrier. (Severity Level IV, 285/8610-01)
- . Inadequate security force response capability. (Severity Level IV, 285/8615-03)
- . Individual guard suitability records were unauthenticated. (Severity Level IV, 285/8615-01)

- . Failure to conduct behavioral observations. (Severity Level IV, 285/8615-02)
- . Inadequate access control for a vital area barrier. (Severity Level to be determined, 285/8617-01)
- . Inadequate control of safeguards information. (Severity Level IV, 285/8623-01)
- . Not identifying a diagram as safeguards information. (Severity Level IV, 285/8623-02)
- . Inattentive compensatory watchperson. (Severity Level IV, 285/8626-01)

No LERs were identified in this functional area.

Eight inspections were conducted by NRC Region IV physical security inspectors during this assessment period. Additionally, physical security violations were identified in four separate reports issued by the NRC resident inspector.

During this assessment period, the licensee failed to take appropriate corrective action as evidenced by recurring violations in three different areas. The areas affected included two violations in control of locks and keys; three violations for failure to properly control vital and protected area barriers; and three violations related to the performance, training, and quantity of security personnel. These violations of a repetitive nature was an indication of licensee management's failure to determine the root cause of identified problems and take appropriate corrective actions, and the failure to apply generic corrective actions for related areas when a problem was identified in a specific area.

An enforcement conference was held in Region IV on August 22, 1986, to discuss identified problems related to the failure to maintain a vital area barrier. This violation is currently under review by NRC Headquarters for potential escalated enforcement. The enforcement conference was followed by a management meeting between the licensee and NRC Region IV security management and inspection personnel to discuss recurring problems in the area of security.

During this SALP period, the licensee established and staffed new positions within the security organization. The licensee placed nuclear watch officers (unarmed security personnel) on each shift to supplement the existing security force. The watch officers performed compensatory measures and various security duties. In addition, the security force was increased to eight

guards per shift. These actions were taken to ensure sufficient manpower was available to meet requirements stated in the licensee's security plan.

The licensee made a personnel change in the security organization during this SALP period. The change replaced the previous management-level individual with an individual with little previous background and experience in the area of security. The licensee has taken action to increase management positions on each security shift by creating a new position of security shift supervisor. The positions were in the process of being filled at the end of the assessment period.

The licensee commenced expansion of the security building during this assessment period. The security building expansion will allow the licensee to control the entrance and exit of personnel to and from the protected area at different control points. The expansion is currently scheduled to be completed in early 1987. The licensee also proposed to upgrade the security computer system. The upgrade should be completed in 1988.

In May 1986 a Regulatory Effectiveness Review (RER) was performed by NRC Headquarters, Region IV, and U.S. Army Special Forces personnel. The RER was performed to review the impact of security on safe plant operations and to evaluate the overall effectiveness of the security program to protect against the design basis threat for theft and radiological sabotage as defined in 10 CFR Part 73. The results of the RER found similar problems as had been found by the NRC Region IV inspectors during this SALP period. The results of the RER were issued in a special report dated November 4, 1986.

2. Conclusion

Licensee management demonstrated a lack of dedication to establishing and maintaining a security program that is only minimally acceptable. Expertise and staffing did not appear to be adequate at the security management level, but the licensee initiated action to correct this problem. The licensee was slow in correcting basic security component deficiencies and tended to rely on long-term compensatory measures. At the end of this assessment period, the licensee developed plans for correcting some of the long-term deficiencies, but actual hardware changes were not implemented.

The licensee is considered to be in Performance Category 3 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should be increased due to weak management controls and the large number of violations identified during this assessment period. The NRC inspection effort should focus on management effectiveness in resolving problems identified in weak areas.

b. Recommended Licensee Actions

The licensee should take aggressive action to increase management attention to resolve the weaknesses identified in this functional area. These actions should include obtaining personnel with a strong security background to assist in resolving the problems that continue to plague the licensee's security and safeguards program, resolution of identified problems and implementation of appropriate corrective actions to ensure problems do not recur, and initiation of a program to establish a sound management approach for upgrading the program.

H. Outages

1. Analysis

This functional area was inspected on a continuing basis by the NRC resident inspector during the period of the Cycle 10 refueling outage from September 28, 1985 through January 9, 1986. A special inspection was performed by the Safety Systems Outage Modification Inspection (SSOMI) team of activities related to this functional area. The SSOMI team consisted of members from NRC Headquarters, Region IV, and consultants. The inspections included verification that refueling activities, outage management, repairs and modifications to equipment, and preoperational startup testing were performed in accordance with the TS, regulatory requirements, and procedures.

No violations, deviations, or LERs were identified during this assessment period for this functional area.

For the first time, in-house personnel provided supervision and coordination of Cycle 10 refueling activities. The supervision and coordination included refueling of the reactor, modification work, and preoperational testing. To provide additional management involvement with future maintenance and refueling outages, the licensee established a new position of

Supervisor-Outage Projects. The group headed by this new manager will provide planning and scheduling of refueling activities.

Movement of the fuel was completed without incident. The NRC resident inspector observed fuel handling activities on numerous occasions. Refueling activities were performed in accordance with TS requirements. The personnel performing fuel movement activities were well trained and qualified.

The SSOMI team inspection noted significant problems associated with the installation and testing of modifications installed during the Cycle 10 outage. Problems were noted in the areas of control of special processes, not following testing and installation instructions, and not providing required independent inspections by the quality control (QC) organization. The details of the identified problem areas are provided in NRC Inspection Report 50-285/85-29. The NRC is currently reviewing the results of the inspection and will be making a determination of the expected enforcement actions. For this reason, the violations were not listed in this functional area.

2. Conclusion

Licensee management demonstrated effective control of the outage activities associated with the movement and handling of fuel during transport to and from the reactor vessel. The licensee demonstrated significant weaknesses in the area of installation and testing of plant modifications during the outage. The weaknesses identified by the SSOMI team were attributed to taking corrective action that was not effective in correcting the root cause of identified problems, failing to fully understand the technical issues and apparent programmatic breakdowns.

The licensee is considered to be in Performance Category 2 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at a reduced level for activities associated with fuel handling and movement. The inspection effort for installation of modifications should remain at the normal level. The NRC should perform a detailed followup of licensee actions taken in response to the items identified by the SSOMI team.

b. Recommended Licensee Actions

Licensee management should continue to exercise the same level of management control as has been apparent in the past for the movement of fuel. Management attention and control should be increased in the significant weak areas identified by the SSOMI team to ensure activities in these areas are performed in accordance with requirements.

I. Quality Programs and Administrative Controls Affecting Quality

1. Analysis

This functional area was inspected on a continuing basis by the NRC resident inspector and by NRC Region IV inspectors. This area was also inspected by a special team inspection performed in the area of EEQ. A special inspection was also performed of activities related to this functional area by the SSOMI team. Inspections performed in this functional area included review of the administration of quality assurance (QA) and QC activities, operations QA program, QC program, safety review committees (onsite and offsite), document control, records, procedures, IE Bulletin followup, and procurement controls.

The 13 violations and one deviation identified in this functional area are listed below.

- . Records for piping thermal stress analysis were not retrievable. (Severity Level IV, 285/8503-02)
- . Failure to request exemption for inservice inspection requirements for recirculation piping. (Severity Level V, 285/8503-04)
- . Accuracies for PASS monitoring transmitters had not been established. (Severity Level IV, 285/8509-02)
- . Containment electrical penetration assemblies installed in the plant were not properly qualified for EEQ applications. (Severity Level III, 285/8509-03)
- . Terminal blocks installed in the plant were not properly qualified to EEQ applications. (Severity Level IV, 285/8509-04)
- . Electrical cable installed in the plant was not properly qualified for EEQ applications. (Severity Level IV, 285/8509-05)
- . Failure to maintain completed surveillance tests in the files. (Severity Level V, 285/8511-01)

- . Failure to establish document control procedures. (Severity Level IV, 285/8515-01)
- . Failure to meet licensing requirements related to storage of uranium hexafluoride (UF6) cylinders. (Severity Level IV, 285/8515-02)
- . Failure to follow a procedure related to inspection of UF6 cylinders. (Severity Level IV, 285/8602-07)
- . Modification to a safety-related system was performed without the use of an approved procedure. (Severity Level IV, 285/8603-01)
- . Failure to maintain installation of cable trays and cable tray covers in accordance with design documentation. (Severity Level IV, 285/8614-01)
- . Failure to establish measures to prevent acceptance of electrical cable without a material test report. (Severity Level V, 285/8616-01)
- . Failure to meet a commitment related to parameters monitored by the SPDS. (Deviation, 285/8618-01)

The LER listed below was identified for this functional area.

- . A nonsingle-failure proof circuit was identified during a refueling shutdown. (85-009)

A special inspection in the area of EEQ was performed by an NRC inspection team that included personnel from NRC Headquarters and Region IV. The team noted problems affecting the qualification of various plant components due to inadequate or missing documentation. A Severity Level III violation was identified during the inspection for the failure to properly qualify the Conax penetrations installed in the plant. The inspection team noted that the licensee had implemented an EEQ program at an unusually early date and that the program was well developed. Two followup inspections were performed by Region IV and one by the NRC resident inspector. The results indicated that the licensee had corrected the documentation deficiencies.

A special inspection by the SSOMI team was also performed related to activities within this functional area. This team inspection noted areas of weakness associated with design configuration control. The specific areas included problems in issuance of inadequate installation and testing procedures and drawings, modification of the facility without performance of a documented safety evaluation, lack of control for design inputs, inadequate or inappropriate design analyses, inadequate

procurement documentation, and an inadequate corrective action program. The details of these problems are provided in NRC Inspection Reports 50-285/85-22 and 50-285/85-29. The NRC is currently reviewing the results of the SSOMI for potential enforcement actions. For this reason, the severity level for any potential violations has not been determined; therefore, the violations have not been listed in this functional area.

During previous SALP reports, the area of records retention and retrieval was identified as an area of concern to the NRC. The licensee experienced problems with records during this assessment period. The problem areas included failure to maintain completed surveillance tests in the files, failure to retrieve records for piping thermal stress analysis, and failure to maintain an adequate licensed-operator and health physics training records program. The licensee continued to work on resolving a problem noted in the last SALP report regarding the filing and retrievability of construction records.

During this assessment period, the licensee experienced difficulty in meeting commitments made to the NRC. This was evidenced by the issuance of deviations in the functional areas of Maintenance, Radiological Controls, Emergency Preparedness, and this functional area. Deviations were identified due to the licensee's failure to meet commitments made in response to notices of violation or in response to implementation of regulatory requirements. Deviations were also identified from the licensee's failure to submit reports required by the TS. The deviations resulted from the licensee's failure to take actions or to implement the actions within the required time frame as specified in the response. The licensee had not yet established a formal commitment tracking system to ensure that commitments were met. The licensee was in the process of establishing a program for commitment tracking which should be in place in the near future.

Region IV personnel reviewed the licensee's submittal that described the QA program in effect in 1985. The review concluded that the QA program continued to satisfy the requirements of Appendix B to 10 CFR Part 50.

The licensee increased the staff size during this assessment period. The staff was increased from 256 to approximately 320 personnel in the Nuclear Production Division. The licensee proposed to increase the staffing level at the plant and in the engineering offices above the current level to resolve the SSOMI team identified weaknesses, resolve security problems, and provide additional support in training.

To provide a more timely response to NRC items of concern and other issues, the licensee established and staffed a new onsite

position just prior to the end of this assessment period. The position is an onsite licensing engineer whose primary function is to interface with NRC inspectors and to provide timely resolutions of any identified concerns or issues.

The licensee established a program to increase management involvement in plant activities. This program required that plant management participate in routine activities performed in the plant on approximately a weekly basis. Each week the management group visited a different area of plant activity and participated in performance of the activity. The program was intended to increase plant management's awareness of problems arising in daily activities.

During this SALP period, reviews were performed to verify that the onsite Plant Review Committee (PRC) and the offsite Safety Audit and Review Committee (SARC) performed their activities in accordance with the TS and licensee requirements. The results of the inspections indicated that the PRC and SARC are adequately performing their required activities. The SARC performed audits during the assessment period that included more individuals on the audit team with a technical background in the area being audited.

Inspections were also performed in the areas related to activities performed by the QA and QC groups. These inspections were performed by NRC Region IV inspectors and on a periodic basis by the NRC resident inspector. The results of the inspections indicated that the licensee was maintaining an adequate QA and QC staff with the appropriate qualifications. The licensee has proposed increases in both the QA and QC staffs. The QA department has increased the usage of technical specialists for the performance of audits in the areas of security, chemistry, EEQ, inservice inspection, and the radiological effluent program.

2. Conclusion

The licensee demonstrated implementation of acceptable QA and QC programs during this assessment period. The licensee has shown difficulties in meeting commitments made to the NRC due to a commitment tracking system not being established.

The licensee continued to exhibit difficulties in the area of records storage and retrievability. This has been identified in past SALP reports and the licensee has expended resources in this area; however, the establishment of an appropriately functioning records system has not been completed.

The licensee has not been timely in resolving or addressing concerns or issues identified by NRC inspectors. The problems

identified by the SSOMI team indicated a need for increased management attention in the area of design configuration control.

The licensee is considered to be in Performance Category 2 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should remain at normal levels.

b. Recommended Licensee Actions

Licensee management should increase efforts to resolve the problems identified in SALP reports regarding a record retention and retrieval system. Licensee management involvement in the area of commitment tracking should be increased to provide a tracking system that will ensure the commitments made are completed accurately and in a timely manner. Licensee management should take action to ensure that more timely response to concerns or issues identified by the NRC is provided. Additional licensee management attention should be provided in the area of design configuration control.

J. Licensing Activities

1. Analysis

This functional area was monitored on a continuing basis by the NRR Project Manager during this SALP period. Licensing activities included technical reviews associated with amendments, extensions, exemptions, orders, and miscellaneous reviews related to plant operations. A listing of the licensing activities completed during this assessment period is provided in Section V.H.

The licensee continued to show good management overview in the functional area of Licensing Activities. The licensee consistently balanced the desire to maintain or improve plant productivity with the need to protect the health and safety of the public. The majority of the licensing actions completed during this SALP period were resolved by the licensing group. This was accomplished by closely coordinating the technical efforts of the licensee's staff, consultants, contractors, and suppliers. In instances where matters were referred to upper management, the individuals involved proved to be well informed and helpful in resolving questions. Upper management was

actively involved in resolving problems and was well informed of conditions that needed their attention. Upper management was also involved in maintaining and improving the quality of work done at the facility by actively participating in the development of quality improvement programs that included the initiation of planning to develop an integrated living schedule.

During this assessment period, errors were found in the codes used in the core physics analysis. Licensee management took aggressive action to ensure an early and satisfactory resolution of this issue. Licensee management continued to pursue a program that was aimed at improving and increasing the technical capability of the staff, including the approval to purchase and install a site-specific simulator and initiating a construction program to improve the security and staff facilities at the plant. During this assessment period, a SSOMI team inspection was conducted. Licensee management was active in addressing the issues raised by this inspection.

As indicated above, the licensee continued to maintain a significant technical capability in engineering and scientific disciplines necessary to resolve items of concern to the NRC and the licensee. During this assessment period, the licensee expanded the staff at the facility as well as the support staff located at the main office in Omaha. Further staff expansion was planned in the future. In addition, the licensee continued to utilize the services of Combustion Engineering and other nuclear support groups to assist in the resolution of technical problems or to develop improvements that enhanced the operation and safety of the facility. The licensee was completing the review of analytical models to be submitted to the NRC for approval for use in the 1987 refueling outage at the end of this assessment period.

The licensee's extensive and improving technical capability was reflected in the submittals made in support of or in response to licensee- or NRC-initiated actions. With few exceptions, the technical content of these submittals was complete and thorough. Where additional information was needed, it was of a clarifying nature for the most part and in many cases handled by a phone call with a followup letter to confirm the verbal conversations. Few licensee responses to NRC requests for additional information required subsequent questions.

The licensee applied probabilistic risk assessment techniques in the analysis of the auxiliary feedwater (AFW) system. The analyses were used to support the continued operation of the two AFW pump system at the plant. Although this issue has not been completely resolved, the results of the analyses performed by the licensee were presented to the staff in November 1985 and provided the bases for continued use of the existing system.

The licensee responded promptly to NRC staff initiatives. During this assessment period, the licensee worked with the NRC in resolving multiplant and TMI action items. In each case, the licensee carefully evaluated the action in question and provided meaningful input to the NRC staff. Particularly noteworthy is the support provided by the licensee to the control room habitability study performed by the NRC. The licensee also provided the necessary support to bring TMI action items related to the ERF and the SPDS to a point where final NRC closeout can be expected in the next assessment period. Where differences occurred, the licensee negotiated changes to ensure that the results adequately reflected safety considerations and incorporated the staff's positions and licensee's desires. This occurred in the development of the TS changes made to incorporate the requirements of 10 CFR Part 50.72 and 50.73 and provided the bases for the resolution of the TS changes that will incorporate the inadequate core cooling instrumentation system.

Staffing improvements were made by increasing the number of qualified personnel and the realignment of responsibilities to better utilize the individuals that support plant operations. For example, additional operators were added to the staff during this assessment period to ease staffing problems that occurred due to intensified training requirements.

2. Conclusion

The licensee's activities in this functional area were conducted by a well staffed and well trained group resulting in an overall efficient operation. Management overview was evident in that the licensing effort, for the most part, was well integrated into other plant and licensing activities as reflected in a uniform approach. Upper management became involved in licensing actions, when necessary, to assist in resolving potential deadlocks. The licensee should be commended for the diligent way in which licensing actions were resolved and the willingness to compromise to achieve agreement with NRC staff positions.

The licensee is considered to be in Performance Category 1 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

Continue the close monitoring of licensee activities in this functional area and provide the NRC guidance required to assist the licensee in the resolution of licensing issues.

b. Recommended Licensee Actions

Continue to improve the quality and size of the staff and continue to exercise the same level of management attention that has been apparent in the past.

K. Training and Qualification Effectiveness

1. Analysis

This functional area was inspected by Region IV personnel and on a periodic basis by the NRC resident inspector. Inspections included review of nonlicensed training and licensed-operator training. The review of licensed-operator training was performed to verify that the licensee implemented the requirements stated in Appendix A to 10 CFR Part 55 and the licensee's NRC-approved training program.

No violations, deviations, or LERs were identified in this functional area.

An inspection was performed in the area of nonlicensed training. The inspection included reviews in the areas of general employee training; chemistry and radiation protection training; and training provided for maintenance, QC, test engineering, and shift technical advisor personnel. The results of this inspection indicated that these programs were being implemented effectively and in accordance with commitments made to the NRC.

During this assessment period, examinations were administered by the NRC as tabulated below.

.. Initial Examinations

	<u>SRO Candidates</u>			<u>RO Candidates</u>		
	<u>Total</u>	<u>Pass</u>	<u>Fail</u>	<u>Total</u>	<u>Pass</u>	<u>Fail</u>
June 18, 1985	2	2	0	4	4	0
November 12, 1985	1	1	0	0	0	0

. Upgrade Examinations

	<u>SRO Candidates</u>		
	<u>Total</u>	<u>Pass</u>	<u>Fail</u>
November 12, 1985	3	1	2

Requalification Examinations

	<u>SRO Candidates</u>			<u>RO Candidates</u>		
	<u>Total</u>	<u>Pass</u>	<u>Fail</u>	<u>Total</u>	<u>Pass</u>	<u>Fail</u>
November 12, 1985	5	0	5	3	2	1
March 18, 1986	5	4	1	2	1	1

Based on the failure rate of the examinations given on November 12, 1985, a management meeting was held in December 1985 to discuss the status of the licensee's licensed-operator requalification program. Based on the management meeting, the licensee committed to institute changes to the program.

The licensed personnel that failed the examination were removed from licensed duties and placed in accelerated requalification training. At the end of the requalification training, the personnel were reexamined on March 18, 1986.

Based on the results of the performance by licensed operators on examinations, the licensed operator training program was rated by the NRC as unsatisfactory for fiscal year 1986. The program will be further evaluated during the week of November 17, 1986.

An inspection was performed in the area of licensed-operator training in August 1986 to evaluate the program status and the licensee's progress in making improvements in the requalification program. During this inspection, four unresolved items were identified that constituted potential violations. Problems were noted in the areas of review of emergency procedures, completion of manipulations on plant controls, lecture attendance, and maintenance of training records.

The inspection results also indicated that the licensee had provided accelerated requalification training to the individuals that failed to pass the NRC-administered examination given on November 12, 1985. However, the NRC inspectors noted that the licensee had not completed the actions committed to during the management meeting in December 1985. The implementation was in progress but the schedule indicated that corrective actions would not be completed until the middle part of 1987.

The licensee proposed and secured funds to construct a new training facility with a site-specific simulator. The training facility was scheduled to be completed in 1989 and the simulator to be completed in 1990. During a visit to the plant on November 5, 1986, the NRC Chairman noted that licensee

management should consider taking actions to construct the training facility and simulator sooner than the currently proposed schedule.

The licensee began work on obtaining accreditation for training programs from the Institute of Nuclear Plant Operations (INPO). The INPO accreditation was expected to be received by the end of 1986.

Just prior to the end of this assessment period, an organizational change was made within the training organization. The Supervisor-Station Training was assigned to report to the Manager-Administrative Services, a corporate-level position. Prior to this change, the supervisor reported to the plant manager.

The size of the training staff maintained by the licensee was small. However, the number of operators at the facility is small and it appeared that the size of the training staff was sufficient to meet the facility's training demands.

During this assessment period, the licensee initiated or completed activities to improve performance in this functional area. A discussion of these activities is provided below.

- . Developed performance-based training materials. Implementation of the new materials was scheduled to be completed in the near future.
- . Expanded the examination question bank to include performance-based questions.
- . Developed a training program master plan (TPMP) to replace the training manual. The TPMP will provide more comprehensive and easier to interpret training requirements. The TPMP was scheduled for implementation in 1987.
- . Established a QC personnel training program with the Southeast Community College. This program provided continued refresher training for QC personnel.

2. Conclusion

The licensee maintained an effective program in the area of nonlicensed training. Weaknesses were identified in the area of licensed-operator training. The licensee took actions to improve performance in this functional area.

The effectiveness of the licensee's training programs appeared to be, in part, due to the low personnel turnover rate. The licensee has not demonstrated that the training programs would be adequate in the event the turnover rate increased.

The licensee is considered to be in Performance Category 2 in this functional area.

3. Board Recommendations

a. Recommended NRC Actions

The NRC inspection effort in this functional area should be maintained at the normal level with emphasis placed on licensed-operator training.

b. Recommended Licensee Actions

Licensee management should continue implementation of the actions initiated during this assessment period to improve the licensed and nonlicensed training programs. Licensee management attention to resolve the weaknesses identified in the licensed-operator training program should be increased.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

1. Major Outages

The licensee shut down the plant on September 28, 1985, for the Cycle 10 refueling outage at the Fort Calhoun Nuclear Station. Major activities accomplished during the refueling outage included eddy current testing of both steam generators, plugging of steam generator tubes, installation of seismic supports for masonry walls, replacement of HFA relays, replacement of instrument inverters, and replacement of containment penetration assemblies. The reactor was taken critical on January 9, 1986, to end the refueling outage.

2. Power Limitations

Power was limited during this assessment period during various plant startups for steam generator chemistry considerations. When the plant was started up, hold points for power level were observed to allow steam generator chemistry to be adjusted within specific guidelines. After the chemistry was within the guidelines, power escalation was continued.

3. License Amendments

Amendment 86	April 3, 1985	Incorporate Requirements of Appendix I
Amendment 87	April 29, 1985	Toxic Gas Monitoring
Amendment 88	May 9, 1985	Reactor Protection System Bypassing/Tripping
Amendment 89	May 24, 1985	Postaccident Sampling
Amendment 90	August 19, 1985	Testing Frequency for AFW Pumps
Amendment 91	August 22, 1985	Process Control Program Surveillance Requirements
Amendment 92	November 29, 1985	Cycle 10 Power Operation
Amendment 93	December 6, 1985	Administrative Changes
Amendment 94	January 10, 1986	Capsule Removal Schedule
Amendment 95	February 3, 1986	Leakrate Testing Surveillance
Amendment 96	April 24, 1986	Updated Snubber Tables
Amendment 97	June 3, 1986	Recirculation Heat Removal
Amendment 98	July 1, 1986	Fire Suppression Equipment
Amendment 99	August 13, 1986	10 CFR Part 50.72 and 50.73 Requirements
Amendment 100	September 8, 1986	Heatup and Cooldown Curves

4. Significant Modifications

Modifications completed during this assessment period included installation of seismic supports for masonry walls, installation of a fire support system in the AFW pump area, replacement of instrument inverters and transformers, and installation of delta T power process loops.

B. Inspection Activities

1. Violations

See Table 1 for a tabulation of the identified violations and deviations in each functional area for this assessment period.

2. Major Inspections

Special inspections were performed in various areas of licensee activities. The listing below provides details of the inspections.

- . An EEQ special inspection was performed by NRC Headquarters and Region IV personnel in April and May 1985 to verify licensee compliance with 10 CFR Part 50.49. The details of the inspection are provided in NRC Inspection Report 50-285/85-09.

- . A special inspection in the area of outage modification activities was performed in September, October, November, and December 1985 by the SSOMI team. The SSOMI team consisted of members from NRC Headquarters, Region IV, and consultants. This inspection was performed as part of a trial NRC program being implemented to examine the adequacy of licensee management and control of modifications performed during major plant outages. The details of the inspection results are provided in NRC Inspection Reports 50-285/85-22 and 50-285/85-29. The violations and associated severity levels from these two reports will be issued in the near future.

- . In April and May 1986 an RER was performed by personnel from NRC Headquarters, Region IV, and members of the U.S. Army Special Forces. The RER was performed to review the impact of security on safe plant operations and to evaluate the overall effectiveness of the security program to protect against the design basis threat for theft and radiological sabotage as defined in 10 CFR Part 73. The results of the RER were issued in a special report dated November 4, 1986.

- . A special inspection was performed in July 1986 by NRC Region IV personnel and contractors. The inspection was performed to verify the adequacy of the licensee's ERF as required by NUREG-0737, Supplement 1. The details of this inspection are provided in NRC Inspection Report 50-285/86-20.

C. Investigations and Allegations Review

During this assessment period, an allegation was made by a licensee employee that licensee management had failed to take remedial action in response to incidents of fighting, sleeping on the job, harassment of personnel, and intimidation of fellow employees that occurred during the period 1979 through 1984. The NRC reviewed the allegation and determined that the incidents described by the licensee employee were not a safety concern and that the incidents did not affect the health and safety of the public.

No investigations were completed during this SALP period.

D. Escalated Enforcement Actions

Three notices of violation with proposed imposition of civil penalties were issued to the licensee during this assessment period. A discussion of each is provided below.

- . A Severity Level III violation without a proposed civil penalty was issued in NRC Inspection Report 50-285/85-09. The violation was issued as a result of the licensee's failure to properly qualify Conax electrical penetration assemblies in accordance with the equipment qualification rule stated in 10 CFR Part 50.49(k). A civil penalty was not proposed for this violation as the violation was identified prior to the November 30, 1985, deadline for environmental qualification of electrical equipment, and an extension for this item could have been granted by the NRC.
- . In NRC Inspection Report 50-285/86-01, two Severity Level III violations were issued without a proposed civil penalty. The violations included the failure to identify a main steam valve as radioactive and to perform radiological surveys prior to shipping the valve offsite, and the failure to control a very high radiation area. Due to the licensee's demonstrated past good performance in the functional area of Radiological Controls, a civil penalty was not proposed for these two violations.

E. Licensee Conferences Held During This Assessment Period

The following conferences were held between the licensee and the NRC during this assessment period.

- . A management meeting was held on December 12 and 13, 1985, to discuss the NRC concerns related to the qualification of NRC-licensed operators. In an examination given on November 12, 1985, six of eight operators failed to pass the NRC examination. This high failure rate and the proposed requalification of the six individuals were the bases for the management meeting.

A management meeting was held December 13, 1985, at the Region IV office to discuss concerns related to the EEQ inspection. The bases for the meeting were the results noted during performance of an NRC inspection in the area of EEQ as detailed in NRC Inspection Report 50-285/85-09.

An enforcement conference was held on April 11, 1986, to discuss concerns related to health physics activities. The bases for the conference were the findings stated in NRC Inspection Report 50-285/86-01. The NRC noted in the report that the licensee failed to perform a radiological survey on a contaminated valve prior to shipment to an offsite calibration facility and failed to properly control a very high radiation area.

On July 10, 1986, an enforcement conference was held to discuss the findings of a special inspection performed by the SSOMI team. The results of the team inspection are detailed in NRC Inspection Reports 50-285/85-22 and 50-285/85-29. The NRC is currently reviewing the results of the team inspections for potential enforcement actions. The results of this review will be issued in the near future.

An enforcement conference was held on August 22, 1986, in the Region IV office to discuss the licensee's failure to adequately maintain a vital area barrier. The details of this violation are provided in NRC Inspection Report 50-285/86-17.

F. Confirmatory Action Letters

During this assessment period, one confirmatory action letter (CAL) was issued by the NRC. This letter, dated December 20, 1985, related to confirmation of commitments made by the licensee in a management meeting held in Region IV on December 13, 1985. The CAL discussed actions planned to be taken by the licensee as a result of an NRC followup inspection in the area of EEQ.

G. Review of Licensee Event Reports and 10 CFR Part 21 Reports Submitted by the Licensee

1. Licensee Event Reports

There were 16 LERs issued during this assessment period including LERs 85-001 through 85-012 and 86-001 through 86-004. Trends were noted in the following areas.

The licensee reported seven instances of inadvertent initiation of the VIAS due to various reasons (e.g. equipment problems, personnel error, and plant systems leakage). The VIAS initiations occurred up to the latter part of 1985. Since that time, the licensee has not

experienced an actuation due to licensee management involvement in preventing an inadvertent operation of the system.

The LERs listed below were issued by the licensee during this assessment period. The SALP Board reviewed these LERs and determined that the root cause did not warrant placement within a specific functional area.

- . Automatic reactor trip caused by failure of an instrument inverter. (LER 86-001)
- . Manual reactor trip due to overheating of a bus duct on the station electrical generator. (LER 86-004)
- . Initiation of a VIAS caused by leaking radioactive effluents from a piping system. (LER 85-002)
- . Initiation of a VIAS due to torn filter paper in a radiation monitor. (LER 85-008)
- . Main steam safety valves failed to lift within setpoint values during surveillance testing. (LER 85-006)
- . A lockout relay failed to properly function during surveillance testing. (LER 85-010)

The NRC's Office of the Analysis and Evaluation of Operational Data performed an evaluation of the content and quality of a representative sample of LERs submitted by the licensee. The results of the evaluation were provided to the licensee under a separate cover letter.

2. 10 CFR Part 21 Reports

In a letter dated March 17, 1986, the licensee issued a 10 CFR Part 21 report to the NRC regarding failure of Valcor valves. The report stated that the valve disc guide assembly springs had failed causing the valve to be inoperable. The spring failure was attributed to hydrogen embrittlement. The licensee replaced the springs in the valves with the same spring material and tested the valves for satisfactory operation. The licensee intends to replace the springs during the 1987 refueling outage with a material not susceptible to hydrogen embrittlement.

H. Licensing Activities1. Licensing Activities Completed

<u>Issue</u>	<u>Completion Date</u>
Special steam generator tube inspection	March 8, 1985
Reevaluation of the AFW Technical Specifications	April 24, 1985
Emergency core cooling system error and core height	June 13, 1985
Reactor vessel-to-nozzle welds	June 19, 1985
Control of heavy loads, Phase II	June 28, 1985
Loss-of-coolant accident analysis	July 1, 1985
Compliance with 10 CFR Part 50.46	July 1, 1985
Core reload methodology changes for Cycle 10	August 26, 1985
Alternate shutdown capability, upper electrical penetration room	November 4, 1985
Steam generator tube integrity	December 11, 1985
Control room habitability	December 27, 1985
Validation of mini-CECOR/BASS system	March 10, 1985
Inservice inspection relief for recirculation piping	June 24, 1986
Clarification of fire protection modifications	July 1, 1986
Generic Letter (GL) 83-28, Salem anticipated transient without scram (ATWS), Item 3.2	July 3, 1986
GL 83-28, Salem ATWS, Item 4.5.1	July 10, 1986

2. Extensions, Exemptions, and Orders

EEQ deadline additional extension	March 29, 1985
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Appendix R to 10 CFR Part 50, fire protection	July 3, 1985
Modification of Commission Order, dated February 22, 1984	January 9, 1986
Appendix J to 10 CFR Part 50, containment leakage	January 10, 1986
3. <u>Meetings</u>	
Reliability of the AFW system	November 8, 1985

TABLE 1
ENFORCEMENT ACTIVITY

FUNCTIONAL AREAS	NUMBER OF VIOLATIONS IN EACH LEVEL					DEVIATIONS
	I	II	III	IV	V	
A. Plant Operations	0	0	0	0	0	0
B. Radiological Controls	0	0	2	6	5	0
C. Maintenance	0	0	0	2	0	2
D. Surveillance	0	0	0	1	0	0
E. Fire Protection	0	0	0	1	1	0
F. Emergency Preparedness	0	0	0	3	0	1
G. Security and Safeguards*	0	0	0	13	2	0
H. Outages**	0	0	0	0	0	0
I. Quality Programs and Administrative Controls Affecting Quality**	0	0	1	9	3	1
J. Licensing Activities	0	0	0	0	0	0
K. Training and Qualification Effectiveness	0	0	0	0	0	0
TOTAL	0	0	3	35	11	4

* One additional violation was identified in this functional area but the severity level of the violation has not been determined.

** Additional violations were identified in this functional area based on the results of the SSOMI team inspection. The number and severity level of the violations have not been determined. This determination will be made in the near future.