

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Systematic Assessment of Licensee Performance

NRC Inspection Report: 50-482/84-36

Docket: 50-482

Licensee: Kansas Gas and Electric Company (KG&E)
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Wichita, Kansas 67201

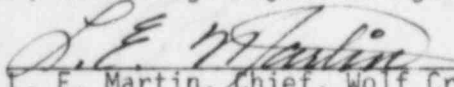
Facility Name: Wolf Creek Generating Station

Appraisal Period: August 1, 1983 - September 30, 1984

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I. INTRODUCTION

The NRC established a Systematic Assessment of Licensee Performance (SALP) program. This SALP program is an integrated NRC staff effort to collect available observations and data on a predetermined schedule and to evaluate licensee performance based on these observations and data. Emphasis is placed upon NRC understanding the licensee's performance in the functional areas listed in the body of the report and discussing and sharing this understanding with the licensee. SALP is an integrated part of the regulatory process used to assure licensee's adherence to the NRC rules and regulations. SALP is oriented toward furthering NRC's understanding of the manner in which: (1) the licensee management directs, guides, and provides resources for assuring plant safety; and (2) such resources are used and applied. The integrated SALP assessment is intended to be sufficiently diagnostic to provide meaningful guidance to licensee management related to quality and safety of plant operation, modifications, and new construction.

The integrated review was conducted by a SALP Board composed of NRC personnel who are knowledgeable of the licensee's activities. The SALP Board met on October 25, 1984, to review data and observations and to assess the licensee's performance in 16 areas. This SALP report is the SALP Board's assessment of the licensee's safety performance at the Wolf Creek Generating Station, during the period of August 1, 1983, to September 30, 1984.

II. CRITERIA

Licensee performance was assessed in 16 selected functional areas. Each of these functional areas represents an area significant to nuclear safety. Evaluation criteria as listed below were used, as appropriate, in each of the functional area assessments:

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

In addition, SALP Board members considered other criteria, as appropriate.

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

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

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

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

III. SUMMARY OF RESULTS

In summary, the licensee's performance, as determined during the SALP Board meeting, is shown in the table below, along with the performance category from the previous SALP evaluation period:

<u>SUMMARY OF RESULTS</u>			
	<u>Performance Category</u>		<u>Performance Category</u>
<u>Functional Area</u>	<u>8/1/83 to 9/30/84</u>		<u>8/1/82 to 7/31/83</u>
A. Containment and Other			
Safety-Related Structures	Not Assessed (N/A)		N/A
B. Piping Systems and Supports	2		3
C. Safety-Related Components	2		3
D. Support Systems including HVAC and Fire Protection	1		2
E. Electrical Power Supply and Distribution	2		1
F. Instrumentation and Control Systems	1		N/A
G. Preoperational Testing	2		3
H. Licensing Activities	1		2
I. Quality Assurance			
I.A Operations QA	2		N/A
I.B Construction QA	3		2
J. Management Control	2		2
K. Design Control	N/A		N/A
L. Plant Operations	N/A		N/A

M.	Maintenance	2	N/A
N.	Security and Safeguards	2	N/A
O.	Radiological Controls		
	0.1. Radiation Protection .	1	N/A
	0.2. Radwaste Systems/Liquid and Gaseous	2	N/A
	0.3. Transportation Activ ities/Solid Radwaste	2	N/A
	0.4. Chemistry/Radio- chemistry	2	N/A
	0.5. Environmental Surveillance	1	N/A
P.	Emergency Preparedness	3	N/A

The total NRC inspection effort during this SALP evaluation period consisted of 44 inspections involving a total of 4198 inspector-hours onsite by NRC inspectors and NRC consultants.

IV. PERFORMANCE ANALYSIS

A. Containment and Other Safety-Related Structures

The construction activities in this broad functional area were essentially completed prior to this assessment period with the exception of the structural integrity test of the containment building. This test had been scheduled for late in the assessment period but was delayed to facilitate the completion of other tests. Two NRC inspections have identified construction deficiencies in this area, however, these deficiencies are addressed in the Quality Assurance area of this report.

This area will not be assigned a performance category for this period.

B. Piping Systems and Supports

1. Analysis

a. Piping Systems

This area was inspected during the periods of October 3-6, 1983, and April 9-13, 1984, by region based inspectors. During the assessment period, three violations were identified as follows:

- (1) 8408-01: Review of documentation by the Combined Review Group (CRG) did not ensure compliance to applicable specifications for pipe spool EJ-04-5016. (Severity Level V)

- (2) 8408-02: An open documentation item on the System Discrepancy List (SDL) was not listed on the Turnover Exception List prior to system turnover. (Severity Level V)
- (3) 8408-03: The SDL log was not updated following closeout of nonconformances. (Severity Level V)

Essentially all piping has been installed by the contractor at the Wolf Creek site.

b. Pipe Hangers and Supports

This area was inspected during the period of September 19-22, 1983 by a regional based inspector. During the assessment period, no violations were identified.

Installation of all hangers and supports has been essentially completed.

2. Conclusion

The licensee is considered by the Board to be in a performance category 2 in this functional area.

3. Board Recommendation

Recommended NRC Actions

The NRC Wolf Creek Task Force will complete the piping section of the as-built verification program.

Recommended Licensee Actions

The licensee management should increase efforts to assure that documentation packages are adequately reviewed for completeness and compliance with applicable specifications prior to system turnover.

C. Safety-Related Components

1. Analysis

During this inspection, period safety-related mechanical components in the reactor coolant system and certain engineered safety systems were reviewed for compliance with code and regulatory requirements in relation to installation, workmanship, and traceability of receipt documentation.

2. Conclusion

No violations or unresolved items were identified during this inspection effort. The licensee is considered to be in Performance Category 2 in this area.

3. Board Recommendations

a. Recommended NRC Actions

Safety-related mechanical and electrical components should continue to be monitored in respect to preservice and inservice testing programs.

b. Recommended Licensee Actions

The licensee should emphasize the preservice and inservice testing programs and the preparation of test plans to ensure compliance with code requirements.

D. Support Systems Including HVAC and Fire Protection

1. Analysis

There were two inspections conducted during the assessment period in the area of fire prevention/protection. The first inspection, documented in Inspection Report 50-482/83-34, reviewed the licensee's administrative controls for fire prevention, protection, and suppression during facility construction and the adequacy of implementation of these procedures. The second inspection, documented in Inspection Report 50-482/84-19, reviewed the implementation of the licensee's fire protection program for plant operation and compliance with the requirements of 10 CFR Part 50, Appendix R, per FSAR commitments and SER evaluation.

The results of the first inspection were satisfactory with no violations, deviations, unresolved or open items. The licensee's procedures covered all required program attributes and observed implementation was satisfactory.

The second inspection generated 11 open items, the most significant of which was the affect of spurious signals, hot shorts and open circuits on the alternate safe shutdown systems where lack of electrical isolation from the control room existed. The licensee's prompt response and initiative provided an acceptable solution within a very short time. Acceptable resolutions for all open items have been proposed and corrective actions commenced.

There was one inspection conducted during the assessment period in the area of HVAC systems (50-484/84-33). This inspection reviewed installed HVAC systems, including a partial walkdown of three systems; a review of contractor design specifications, installation and quality procedures, and duct fabrication instructions; a review of welding and inspection personnel qualifications and training records; and a review of selected installation and inspection documents. This inspection involved a total of 98 inspector-hours, and resulted in no items of noncompliance or deviations being identified.

2. Conclusion

There is reasonable assurance that the HVAC systems are constructed in accordance with the required specifications, procedures and drawings, and that welders and QC inspection personnel involved in HVAC work were properly certified. The actions taken by the licensee resulting from allegations received, were adequate, resulting in a reinspection, rework and repair program that corrected the problems that existed with the installation and inspection of the HVAC system. The licensee has demonstrated a high degree of technical competence in the area of fire prevention/protection. Management interest and involvement has been effectively demonstrated in the responsiveness to identified technical problems. The licensee is considered to be in performance Category 1 in this area.

3. Board Recommendations

a. Recommended NRC Actions

Since efforts in this area will increase rapidly as plant operations continue, the level of NRC inspection in this functional area should continue at the normal level.

b. Recommended Licensee Actions

The high level of management involvement should continue in this functional area to assure a smooth transition to full plant operations.

E. Electrical Power Supply and Distribution

1. Analysis

Activities inspected during the assessment period included the installation, inspection, and documentation of electrical raceways, terminations, separation, and penetrations.

Reviewed during these inspections were installation procedures, installation records, nonconformance reports, and licensee audits.

The following two violations were issued during the assessment period:

8334-01: This violation was issued in December 1983, for the failure to maintain required spacing between power cables in cable trays. (Severity Level IV)

8405-01: This violation was issued in February 1984, for the failure to provide control of the use of nylon screws in electrical terminations. (Severity Level IV)

2. Conclusion

The electrical power supply and distribution functional area is considered to be a Performance Category 2. The licensee's action in resolving the uncontrolled use of nylon screws in terminations was adequate to assure that a nonconducting termination was not overlooked.

3. Board Recommendations

Recommended Licensee Actions

The licensee should direct attention to the area of electrical separation.

Recommended NRC Actions

No actions indicated.

F. Instrumentation and Control Systems

1. Analysis

Activities inspected during the assessment period included fourteen instrumentation transmitter installations. Four flow, six level, and four pressure transmitter installations were inspected for protection from construction activities, secure mountings, and separation of sensing lines from walls, other surfaces, and redundant lines.

Associated with the field inspection of instrumentation hardware was the review of Westinghouse instrumentation traveler packages. Included in these travelers were construction work plans, welding process checklists, concrete expansion anchor installation and inspection QA records, nondestructive examination reports, and visual examination records. Also

reviewed were receiving inspection reports, material receiving reports, and field material requisitions. These records were examined to determine whether equipment was received as ordered, inspected upon receiving, stored, handled, and installed per requirements.

During one inspection, it was discovered that four construction work plans did not have a QC signature and date after some completed steps. Two of the discrepancies were found to be identified on a nonconformance report and two were on the exceptions list when transferred to KG&E start-up. These exceptions were to be documented on a new traveler, which appeared to be confusing. There was no evidence that the use of more than one traveler for a single installation caused any work steps to be missed.

Also inspected were KG&E calibration records for ten Westinghouse installed transmitters, Westinghouse procedures, and eleven nonconformance reports related to instrumentation hardware.

The calibration records for seven transmitters did not confirm that the correct torquing of mounting bolts for the instruments was performed. KG&E issued startup Field Report, SU-72, to track and document the torquing of these safety-related instruments. This problem will be addressed by the equipment qualification program as defined by ADM 08-813 prior to fuel load. This item remains open. (482/8418-02)

2. Conclusion

Due to the minor nature of the discrepancies noted above this area is considered to be a Category 1 performance area by the board.

3. Board Recommendations

a. Recommended NRC Actions

The level of NRC inspection should continue at the normal program level as the plant proceeds into the operational phase to ensure a proper transition.

b. Recommended Licensee Actions

A high level of management involvement should continue in this area to assure a smooth transition.

G. Preoperational Testing

1. Analysis

This area has been inspected by several NRC inspectors on a continuing basis. These inspections have primarily encompassed review of administrative and preoperational test procedures and observation of test performance. Because approved tests results have only recently been received from the licensee, inspections in this area have been limited. Administrative controls, which were incorporated into procedures for implementation of the preoperational test program in the areas inspected, were found acceptable. However, breakdowns in implementation of these administrative procedures are indicative of possible weaknesses in management control and/or training. The following enforcement actions were identified during this assessment period:

- a. Violation 8420-01, Failure to Properly Follow Procedures. (Severity Level V)
- b. Violation 8428-01, Failure to Operate Plant by Procedure. (Severity Level V)
- c. Violation 8427-02, Failure to Operate Plant by Procedure. (Severity Level V)

On the other hand, no breakdown in implementation of administrative controls was observed during performance of a large number of other preoperational tests. The licensee retrained the test personnel, and as a result of the training, no further violations were observed. Also, a task force was established to review all test procedures prior to implementation to ensure compatibility with normal plant operating procedures.

In the previous SALP report, a breakdown in quality assurance for the turnover of safety-related systems was discussed. This breakdown resulted in escalated enforcement action and imposition of a civil penalty. No breakdowns of quality assurance in the preoperational testing area were observed by NRC inspectors during this report period.

2. Conclusion

Although there have been several Severity Level V violations, similar problems were not noted for the majority of the tests observed. Licensee's corrective actions appear to have been effective in decreasing the number of procedural violations. The licensee is considered to be in performance category 2 in the preoperational testing functional area.

3. Board Recommendations

Recommended NRC Actions

The NRC should continue to inspect this area in accordance with the normal routine program.

Recommended Licensee Actions

The licensee should continue to give a high level of attention to the training of test personnel and to their maintenance of attention to procedural detail.

H. Licensing Activities

1. Analysis

This functional area was rated Category 2 in the previous SALP appraisal period (August 1, 1982 through July 1, 1983). During this rating period, several major licensing initiatives were completed including the issuance of SSER #4, the completion of the staff's fire protection and Appendix R review, the closure of all but two SSER open items and the preparation of the Proof and Review revision of the Technical Specifications by the staff and the applicant.

The applicant has consistently demonstrated effective management involvement and decision making in the preparation and followup of licensing actions that have been under review by the staff. The KG&E management has been accessible and available to ensure that necessary corporate decisions are arrived at promptly so as to bring about prompt resolution of staff concerns. The applicant evidenced a continuing understanding of the staff's policies and needs. An appropriate level of management was always present and able to make decisions to bring about resolution of licensing issues that arose during staff review. The applicant has consistently demonstrated constructive cooperation with staff reviewers to bring about resolution of open items.

KG&E has demonstrated by their performance that they have a clear understanding of the technical issues involved in licensing issues that have been considered during this rating period. Their approach to the resolution of these issues has been technically sound, thorough, and timely in almost all cases. The applicant and their SNUPPS consultants have always provided a viable and sound technical approach to safety concerns raised by the staff. The applicant has generally provided well planned approaches to licensing concerns and has exhibited an excellent capability to modify their approach to regulatory issues to meet changing staff concerns.

KG&E has shown itself to be able to respond promptly to staff requests for additional or new information. The applicant consistently meets deadlines imposed by the staff for submittal of information and ensures timely resolution of issues that evolve during the review by invoking management involvement or by use of SNUPPS consultative assistance.

2. Conclusion

The applicant has been very responsive and technically competent in licensing activity during this rating period, and is considered to be in performance Category 1 in this area.

3. Board Recommendations

Recommended NRC Action

The NRC staff resources should continue to be allocated to assure that the review of a license application is completed on a schedule that is consistent with the applicant's projected fuel load date.

Recommended Applicant Action

The applicant should continue to respond promptly with a high level of management involvement during the remaining licensing activity leading to license issuance.

I.A Quality Assurance - Operations

1. Analysis

Several inspections relating to quality assurance (QA) - operations were made during this evaluation period including comprehensive operational readiness inspections ongoing at the end of the period. The following enforcement actions were taken:

- a. Violation 8401-01, Control of Nonconforming Material. (Severity Level IV)
- b. Violation 8435-01, Failure to Follow Documented Procedures in the Storage of Radiographic Film, excess number of open design changes and failure to maintain a log of the maintenance of test and measuring equipment calibration. (Severity Level V)
- c. Violation 8432-06, Evaluations of Level V Procurement Commodities Inadequate. (Severity Level V)

- d. Violation 8432-03, Quality Control Personnel Training Inadequate to Perform Inspection on Parts Requiring Dimension Checks. (Severity Level V)

Areas inspected included system turnover and a detailed review of the QA program covering QA program administration; audits; document control; design changes and modifications; records, test, and measuring equipment; safety committee activity, corrective action; procurement; receipt, handling, and storage; maintenance surveillance testing; and tests and experiments.

Two open items were identified in the maintenance area as follows:

- Some maintenance procedures did not contain cleanliness instruction.
- A maintenance notebook for limiter torque valve data was not a controlled document and did not contain data for all valves.

A number of surveillance tests remained to be written, which made it impossible to complete this inspection. The receipt inspection procedure did not provide adequate instruction for making a dimensional inspection.

Management policies appear to be adequately stated and understood. Corporate management was usually involved in site activities. Procedures were rarely violated. Reviews were generally thorough, timely, and technically sound. Procurement generally was well controlled and documented.

The training and qualification program contributes to an adequate understanding of work and fair adherence to procedures with a modest number of personnel errors.

2. Conclusion

With the exception of the first item under the above analysis section, the violations observed were of Severity Level V and not repetitive. Evidence of an adequate QA program was found with some minor implementation problems apparent.

The licensee is considered to be in Performance Category 2 in the QA-Operations functional area.

3. Board Recommendations

Recommended NRC Actions

The NRC should continue to inspect in this area as required by the routine program.

Recommended Licensee Actions

The licensee should continue to give significant management attention to the overall area such that implementation errors are further reduced.

I.B Quality Assurance - Construction

1. Analysis

Two NRC inspections of generic quality assurance program implementation have identified the potential for serious problems in safety-related primary building structural steel systems installed throughout the nuclear power block buildings.

The inspections were documented in the following inspection reports:

- a. 83-36: This report dealt with a multiple series of examples which taken collectively were considered to be in violation of Appendix B. The examples all related to the various aspects of the specifying, purchasing, installation and inspection of high strength bolting used to make up connections in the various structural elements. (Severity Level IV)
- b. 84-22: This report dealt with the adequacy of welding and inspections thereof in regard to structural connections made in the field by welding. (Severity Level III)

The board noted that in the latter case above, the licensee's contractor and engineer documented acceptance of a majority of a reasonably representative sample of a large family of welds that deviated from the design and/or Code requirements. The net effect of this action was to obviate the licensee's commitment (to the NRC) to comply with AWS D.1.1 and also obviates a basic tenant of Appendix B to detect nonconforming conditions and effect appropriate corrective action.

However, the licensee appears to have had an adequate number of personnel with the necessary skills to assess the performance of the various organizational components of the overall site construction organization and to effect meaningful corrective actions in most instances.

2. Conclusion

The licensee's performance for the assessment period must be placed in Performance Category 3 for the reasons outlined above.

NOTE: Overall Conclusion for Quality Assurance

The rating of a performance Category 2, as viewed from the operational standpoint, combined the consequences of the rating of a performance Category 3 pertaining to construction results in an overall rating of a performance Category 3 for quality assurance for this assessment period.

3. Board Recommendations

Recommended NRC Actions

Since the construction of the Wolf Creek station is essentially complete, all required NRC actions in this area will be achieved by continuing the NRC supplemental inspections. Satisfactory evidence has been established that the station is in conformance with NRC rules, regulations, and the licensee's commitments.

Recommended Licensee Actions

Review all nonconformance and corrective action reports as a minimum to assure that they have not been used as a vehicle to obviate drawing specifications requirements, and/or commitments to the NRC.

J. Management Control

1. Analysis

The degree and success of the management controls exerted by the licensee over activities at the Wolf Creek Nuclear site was not the subject of specific inspections during the evaluation period, but management involvement is considered during most inspection activities. Just prior to the beginning of the report period, a Wolf Creek Project Director was appointed to provide day-to-day project direction to the Construction Manager, Director Nuclear Operations, Manager Nuclear Services, Manager Nuclear Plant Engineering, Plant Manager, and Startup Manager. He reports directly to the Vice President-Nuclear. This appears to have increased management's awareness of and responsiveness to day-to-day problems. The Director, Nuclear Operations, position was vacant for approximately 1 year during the report period.

A Quality First organization was established recently. The Manager, Quality First, reports directly to the Quality Director

and has direct access to the Vice President-Nuclear. This organization provides a program whereby all KG&E employees and Wolf Creek Generating Station onsite contractor personnel may present quality concerns to an appropriate organization for resolution without harassment or discrimination to those persons expressing quality concerns. Methods for closeout of all concerns and reporting back to the concerned individuals have been established. This program does not preclude direct contact by an employee with the NRC. Since inception of the program to October 5, 1984, 587 concerns had been expressed to the Quality First interviewers. Of these 587 concerns, 264 had been resolved and closed out and 323 remain open. The staff has been increased to 28 people including clerical employees in an attempt to effect faster closeout of concerns. This program appears to have resulted in a marked decrease in the number of concerns taken directly to the NRC while there has been a marked increase in the total number of concerns investigated.

The following enforcement actions are related to management control:

- a. Violation 8330-01, Failure to Provide Adequate Procedures for Control of Steam Generator Secondary Side Chemistry. (Severity Level V)
- b. Violation 8330-02, Failure to Provide Adequate Housekeeping Procedures. (Severity Level V)
- c. Deviation 8333-01, Change in Chairmanship of Joint Test Group (JTG) Contrary to FSAR Commitment.
- d. Deviation 8338-01, Failure to Provide Preoperational Test Procedures For Timely Review in Accordance with FSAR Commitment.
- e. Violation 8338-02, Failure to Provide a Procedure to Adequately Control Issuance of Revisions to Procedures. (Severity Level V)
- f. Violation 8338-03, Convening the JTG Without the Proper Chairman or his Designated Alternate. (Severity Level IV)
- g. Violation 8409-01, Failure to Properly Control Access to Safety-Related Battery Room. (Severity Level IV)

2. Conclusion

None of the enforcement actions discussed above are of a repetitive nature and only Items f and g are above Severity Level V violations. However, the significant number of problems

detected is indicative that management should be vigilant to ensure administrative controls are adequate and properly implemented. Establishment of the Quality First organization is indicative of a management attitude conducive to identifying and correcting deficiencies.

The licensee is considered to be in Performance Category 2 in the management control functional area.

3. Board Recommendations

Recommended NRC Actions

No specific NRC action in this area is appropriate since the analysis is largely based on data points gathered in the more technical functional areas.

Recommended Licensee Actions

The licensee should reflect on the various NRC recommendations for licensee actions contained in the other sections of this report.

K. Design Control

The NRC did not conduct any inspections of onsite design activities during the assessment period. The Board noted that licensee's participation in the SNUPPS organization is depended upon by the licensee to maintain surveillance over the various design organizations, whether onsite or offsite. The Board has not assigned a performance category for this period.

L. Plant Operations

1. Analysis

The plant was in the hot functional testing phase at the end of the reporting period. Inspections have been performed in the following areas:

- a. Review of operating logs and reading sheets
- b. Audit of standing and special orders
- c. Review of equipment tag outs
- d. Review of administrative and general plant operating procedures
- e. Initial fuel receipt procedure review and performance observation
- f. Operation of the plant in support of hot functional testing
- g. Event reporting and evaluation program

In general, administrative controls appear to be adequate and properly implemented. A few minor discrepancies were discovered in control and implementation of the standing and special orders and were promptly corrected by the licensee. The initial fuel receipt activities went smoothly.

The shift supervisors and operators exhibit adequate knowledge and training to properly operate the plant. At times they were reluctant to aggressively take charge of the plant when testing limits were approached or exceeded during hot functional testing. An example of this failure is described in Violation 8427-01, Failure to Operate Plant by Procedure (Severity Level V). Operators appear to perform routine plant evolutions well, however it was observed on at least two occasions that the operators were slow in referring to off-normal procedures when recovering from operating events. The licensee has promptly and aggressively responded with appropriate corrective action when advised of apparent deficiencies in plant operations.

The event reporting and evaluation program is functional and appears adequate.

2. Conclusion

Based upon the limited opportunity available to the NRC to observe overall performance in this functional area, no definitive conclusions relative to licensee performance in this area could be drawn and, therefore, no performance category assignment has been made.

3. Board Recommendations

Recommended NRC Actions

The NRC should continue to inspect this area as defined by the routine inspection program.

Recommended Licensee Actions

The licensee should give major attention to enhance training and implementation surveillance in this area to assure adequate preparedness for such time as the plant is fully operational.

M. Maintenance

1. Analysis

Inspections in this area have been made on a continuing basis. They have resulted in the following enforcement actions:

- a. Violation 8339-01, Failure to Protect Equipment (Severity Level IV) - Involved two boric acid pumps unbolted from their mounting which resulted in one bent frame and examples of components open to atmosphere.
- b. Violation 8409-01, Failure to Control Activities Affecting Quality (Severity Level V) - Involved use of safety-related battery rooms for piping weld preparation.
- c. Proposed Violation 8435-01, Failure to Maintain a Log of the Maintenance of Test and Measuring Equipment Calibration. (Severity Level V)

Items a and b are related to protection and control of installed equipment. As a part of the corrective action taken by the licensee the necessity of proper equipment maintenance was stressed to all startup personnel. Also, comprehensive work permit and access controls were implemented. These controls appear to be effective.

2. Conclusion

In view of the fact that no recent violations have been observed, licensee corrective actions related to protection and control of installed plant equipment have apparently been effective.

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

3. Board Recommendations

Recommended NRC Actions

The NRC should continue normal inspection activities in this area.

Recommended Licensee Actions

The licensee should continue to give attention to this area.

N. Security and Safeguards

1. Analysis

The preoperational preparation of this facility to meet the requirements of 10 CFR 73 has been inspected on a continuing basis by the SRI and by regional-based NRC physical security inspectors on four occasions. No violations or deviations were identified during this review period. There is an approved plan for the temporary storage of fuel on-site until authorized fuel loading commences. The

NRC office of Nuclear Material Safety and Safeguards has approved the site security plan.

Concerns were identified to the licensee during this assessment period regarding the organization of the interim security plan for the protection of the special nuclear material (SNM) that was at that time due to arrive onsite. The licensee resolved this matter by rewriting the plan.

Records organization was not sufficiently advanced to provide a good indication of the required records keeping process; however, it is noted that the personnel records for the security personnel were disorganized and inadequate. The licensee committed to improve coordination between the security function and personnel activity to assure an adequate records system.

The quality of the security equipment is high but the testing and maintenance coordination and supporting procedures are still being developed. The licensee appears to be preparing for the transition from startup; however, there has been little progress in the development or improvement of an effective maintenance and surveillance program for a security-related system.

The procedures for the material control and accounting of special nuclear material (SNM) were inspected and found to be adequate.

Response to NRC initiated items appears to be excellent as is the level of cooperation required to resolve issues.

2. Conclusion

NRC attention should be maintained at normal levels as the plant enters the operational phase. Licensee management attention and involvement are evident with respect to preoperational safeguards.

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

3. Board Recommendations

Recommended NRC Actions

The level of NRC inspection in this functional area should continue at the normal level.

Recommended Licensee Actions

Continued management oversight of the development of the safeguards program is recommended as the security plan is implemented in anticipation of fuel load.

0. Radiological Controls

Eight inspections were conducted during the assessment period regarding radiological controls by region-based radiation specialist inspectors. These eight inspections covered the following areas: radiation protection, chemistry/radiochemistry and confirmatory measurements, transportation activities/solid radwaste, and environmental surveillance. The following specific areas are included within the general functional area of radiological controls:

1. Radiation Protection

a. Analysis

This area was inspected three times by region-based inspectors during the assessment period. No violations or deviations were identified. The first inspection involved the initial onsite review of the licensee's radiation protection program. Several NRC concerns classified as open items were identified during the initial inspection. These open items included such areas as: organization, management controls, personnel qualifications, training, exposure controls, respiratory protection, surveys, ALARA program, notifications and reports, radiological work controls, radiation detection instrumentation, facilities, startup surveys, audits, and procedures. The second inspection revealed that the licensee had established a tracking system, including projected completion dates, to resolve the open items. The second and third inspections also indicated that the licensee had completed actions to close about 60 percent of the original open items. The licensee had also made significant progress toward completion of the remaining open items.

The inspections in this area identified the following major concerns: (1) the lack of commercial reactor power plant experience among the health physics technicians, and (2) lack of full-time ALARA coordinator. The licensee's corrective actions for these concerns included: (1) a commitment to have an adequate number of ANSI qualified health physics technicians with the necessary power plant experience available onsite prior to fuel loading, and (2) assigning a full-time ALARA coordinator.

b. Conclusion

The licensee has demonstrated an active interest toward the resolution of NRC concerns. A generally sound and thorough approach to assuring compliance with NRC requirements is evident. The licensee's projected completion dates for outstanding open items indicate that most open items should

be completed in a timely manner. It appears that the licensee should be able to resolve the remaining NRC concerns prior to issuance of an operating license.

The licensee is considered to be in performance category 1 in this area.

c. Board Recommendations

Recommended NRC Actions

The NRC inspection effort should continue at normal levels consistent with established guidelines during the startup program.

Recommended Licensee Actions

Continued management attention is necessary to assure that the remaining open items are resolved in a timely manner.

2. Radwaste Systems - Liquid and Gaseous

a. Analysis

Three inspections of this area were performed during the assessment period. No violations or deviations were identified. Several NRC concerns classified as open items were identified during the first inspection which was the initial onsite review of the liquid and gaseous radwaste programs. These open items included: organization, personnel qualifications, training, control of effluents, air cleaning systems, liquid waste equipment, gaseous waste equipment, instrumentation, audits, and implementing procedures. During the second and third inspections, the NRC inspector noted that progress had been made toward resolution of the open items. However, corrective actions had not been completed to allow closing of any of the previously identified open items. Several of the open items in this area would not normally be expected to be completed until immediately prior to the scheduled fuel loading date. It was noted that the licensee's projected completion dates are consistent with scheduled construction and preoperational activities.

b. Conclusion

Considerable work remains to be completed in this area however, work for some of these open items would not be expected to start until construction activities have been completed.

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

c. Board Recommendations

Recommended NRC Actions

The NRC inspection effort should continue to closely track the progress made toward the resolution of open items. Increased NRC inspection activity is recommended for outstanding open items scheduled for completion prior to fuel loading.

Recommended Licensee Actions

A high level of management attention is needed in this area to assure that all open items are resolved in a timely manner.

3. Transportation Activities/Solid Radwaste

a. Analysis

The transportation activities/solid radwaste area was inspected three times during the assessment period. No violations or deviations were noted. Several NRC concerns classified as open items were identified during the initial inspection. These open items involved: organization, personnel qualification, training, updating FSAR to include using a portable solidification system, audits, implementing procedures, and an ALARA review of the solid radwaste system. The NRC inspector noted during the second and third inspections that progress had been made toward resolution of the open items. However, additional work remains to be completed in order to close the open items.

b. Conclusion

Good progress has been made regarding resolutions of identified NRC concerns.

The licensee is considered to be in performance category 2 in this area.

c. Board Recommendations

Recommended NRC Action

The NRC inspection effort should continue at normal levels consistent with established guidelines during the startup period.

Recommended Licensee Actions

Management oversight is needed to ensure that open items such as updating of the FSAR and training of personnel involved in the transportation program are completed in a timely manner.

4. Chemistry/Radiochemistry, Confirmatory Measurements

a. Analysis

The initial preoperational inspection of this area was performed during the assessment period. No violations or deviations were identified. Several NRC concerns classified as open items were noted. These open items included: organization, personnel qualifications, training, program description, routine sampling, postaccident sampling, QA/QC programs, facilities, analytical instrumentation, and implementing procedures.

It appears that the licensee had assembled an adequate staff and purchased the necessary equipment and instrumentation to support the chemistry/radiochemistry program. Approximately 76 percent (117 out of a proposed 154) chemistry/radiochemistry procedures had been approved and issued. Construction of all facilities had not yet been completed. Laboratory and analytical equipment and instrumentation had not yet been installed.

b. Conclusion

Considerable work remains to be completed in this area. The licensee is considered to be in a performance category 2 in this area.

c. Board Recommendations

Recommended NRC Actions

The NRC inspection effort should be maintained at a normal level. The next inspection of this area should include an onsite visit with the mobile laboratory to perform confirmatory measurements on laboratory calibration standards.

Recommended Licensee Action

Management attention is needed to assure that open items are resolved in a timely manner.

5. Environmental Surveillance

a. Analysis

The licensee's environmental surveillance program for the construction and preoperational phases was inspected during the assessment period. No violations or deviations were noted. Six previously identified open items were closed. One new open item regarding meteorological system reliability was identified. The inspection verified that the environmental surveillance requirements in the Final Environmental Statement and construction permit had been completed.

The licensee's proposed radiological environmental surveillance program for plant operations was reviewed to determine agreement with the Radiological Effluent Technical Specifications (NUREG 0472). The licensee's proposed program was found to be in close agreement with NUREG 0472.

b. Conclusion

The licensee has maintained an adequate environmental surveillance program. The licensee has been responsive regarding the resolution of NRC concerns. The licensee is considered to be in performance category 1 in this area.

c. Board Recommendations

Recommended NRC Actions

This area should be inspected again prior to fuel loading to verify that the environmental surveillance program contained in the Radiological Effluent Technical Specifications has been implemented.

Recommended Licensee Actions

Management attention should be directed to assure that environmental surveillance requirements are implemented.

P. Emergency Preparedness

1. Analysis

During the reporting period, three onsite emergency preparedness inspections were conducted. No violations or deviations were identified.

The third inspection was the preoperational emergency preparedness team inspection conducted during the period September 17 - 28, 1984. A number of significant deficiencies were identified during this inspection. The inspectors found that the emergency preparedness program had not been completed in the areas of personnel assignments and training, prompt public notification system, news media training and emergency personnel call-out procedures. The NRC inspectors determined that the licensee's schedule for completion of the program had not been achieved as planned.

2. Conclusion

The licensee's emergency preparedness program was not completed in accordance with the schedule planned. This appeared to be due to a late start in program development and a tight schedule for completion of major elements of the program. The licensee's top management appeared to have been involved and supportive of the emergency preparedness program development; however, it appeared that middle management had not been adequately involved or aware of all of the program requirements and completion status prior to the NRC preoperational inspection which started September 17, 1984. The licensee is considered to be in Category 3 in this area.

3. Board Recommendations

a. Recommended NRC Action

An increased level of NRC inspection effort will be necessary during the preoperational period to review licensee actions to resolve the significant deficiencies identified during the preoperational inspection.

b. Recommended Licensee Action

The current level of management attention to completion and implementation of the emergency preparedness program should continue. Additional attention should be given by the licensee staff involved in completion of all elements of the program.

V. Supporting Data and Summaries

A. <u>Violations</u>	Functional Areas	<u>Severity Levels</u>					
		I	II	III	IV	V	
1.	Containment and Other Safety-Related Structures			1	1		
2.	Piping Systems and Supports					3	
3.	Safety Related Components						
4.	Support Systems Including HVAC and Fire Protection						
5.	Electrical Power Supply And Distribution				2		
6.	Instrumentation and Control Systems						
7.	Preoperational Testing					3	
8.	Licensing Activities						
9.	Quality Assurance				2	2	
10.	Management Control				2	3	
11.	Design Control						
12.	Plant Operations					1	
13.	Maintenance				1	3	
14.	Security And Safeguards						
15.	Radiological Controls						
16.	Emergency Preparedness						
				Totals	1	8	15

B. Licensee Report Data

1. Part 21 Reports During this Assessment Period, the Licensee did not submit any reports applicable to 10 CFR Part 21
2. Construction Deficiency Reports
 - a. Tube-Line
 - b. Gould-Rundell Handswitches
 - c. PSA Snubbers
 - d. Exposed Threads on Seal Welder Connectors
 - e. Cracked Edge Connectors on Westinghouse 7300 Process System
 - f. Improper Fitting on MSIV
 - g. HVAC
 - h. Polar Crane Testing
 - i. Cable Termination Lugs
 - j. I Beams
 - k. Code Welding
 - l. Pipe Schedule

- m. Pipe Pulsation Dampers
- n. Field Procurement
- o. Butterfly Valves
- p. Containment Spray Pump
- q. Laundry and Hot Shower Charcoal Absorber
- r. Limitorque SB-2-80 Actuator Gear Damage
- s. Lube Oil Piping System

C. Licensee Activities

During this appraisal period the construction of the plant has essentially been completed. Preoperational testing is approximately 80% complete and Hot Functional Testing is in progress. The licensee is forecasting a fuel date between December 31, 1984, and January 31, 1985.

D. Inspection Activities

During the appraisal period of August 1, 1983 to September 30, 1984, a total of 4198 inspector hours were expended on inspections/investigations as follows: (1) 1618 inspector hours by the Resident Inspectors included in 12 inspections (2) 2580 inspector hours by Region IV inspectors, investigators, and Wolf Creek Task Force included in 32 inspections.

E. Investigation and Allegations Review

Four investigations were performed during this appraisal period and numerous allegation reviews. KG&E has implemented a Quality First Organization that is specifically charged with all allegations identified to the Licensee.

F. Escalated Enforcement Actions

Three separate Escalated Enforcement Actions were initiated by NRC Region IV during this assessment period. They are as follows:

Severity Level 2 - Intimidation/Harrassment
of a Quality Assurance Employee. NRC Report
50-482/EA-84-87 (OI) (Pending Appeal)

Severity Level 3 - Failure to implement QA
Procedures involving the turnover from construction of the
Refueling Water System. NRC Report 50-482/84-02

Severity Level 3 - Failure to properly
inspect structural steel welding. NRC Draft Report
50-482/84-22

