

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: STN 50-482/85-07 Construction Permit: CPPR-147

Docket: STN 50-482

Licensee: Kansas Gas and Electric Company (KG&E)
P. O. Box 208
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: WCGS Site, Burlington, Kansas

Inspection Conducted: January 14-18, 1985

Inspector: *Russell Wise* *2/20/85*
for J. Blair Nicholas, Radiation Specialist, Date
Facilities Radiological Protection Section

Approved: *Blaine Murray* *2/20/85*
Blaine Murray, Chief, Facilities Radiological Date
Protection Section

E. E. Martin *2/23/85*
E. E. Martin, Chief, Project Section A Date
Reactor Project Branch 2

Inspection Summary

Inspection Conducted January 14-18, 1985 (Report STN 50-482/85-07)

Areas Inspected: Routine, announced inspection of the licensee's chemistry/radiochemistry program including review of outstanding open items, offsite corporate organization and qualifications, training program, primary chemistry program, secondary chemistry program, radwaste sampling system, postaccident sampling system (PASS), facilities and equipment, and quality assurance (QA) program of chemistry/radiochemistry activities. The inspection involved 40 inspector-hours onsite by one NRC inspector.

Results: Within the areas inspected, no violations or deviations were identified. Four previously identified open items were closed.

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DETAILS

1. Persons Contacted

KG&E

- *F. T. Rhodes, Plant Manager
- *G. D. Boyer, Superintendent Technical Support
- *D. A. Colwell, QA Technologist
- S. A. Henry, Chemistry Supervisor
- *C. J. Hoch, QA Technologist
- W. M. Lindsay, QA Systems Supervisor
- *R. L. Logsdon, Site Chemist
- L. K. Loney, Chemistry Technician
- *A. S. Mah, Training Supervisor
- G. A. McClelland, QA Auditor
- *F. D. McLaurin, Assistant Startup Manager
- T. S. Morrill, Radiochemist
- *M. M. Nichols, Site Health Physicist
- C. L. Palmer, Chemistry Supervisor
- *K. Peterson, Licensing
- C. G. Patrick, Quality Evaluations Supervisor
- B. D. Reischman, Senior Engineer (Nuclear Chemist), Nuclear Services
- W. J. Rudolph II, Manager, QA
- R. M. Stambaugh, QA Audit Supervisor
- *C. P. Swartzendruber, Radiological Services Manager
- *P. E. Turner, Nuclear Training Manager
- *M. G. Williams, Superintendent of Regulatory, Quality and Administration

Others

- *B. L. Bartlett, NRC Resident Inspector

*Denotes those present during the exit briefing on January 18, 1985.

2. Licensee Action on Previously Identified Open Items

(Closed) Open Item (482/8404-04): Primary Chemistry Program - This item involved the lack of approved procedures to implement a primary chemistry program as committed to in the Final Safety Analysis Report (FSAR). The NRC inspector found that the licensee had completed and approved all planned primary chemistry procedures. Radiochemistry analytical procedures and nuclear instrument operating and calibration procedures were also completed and approved. The licensee had completed calibrations on all primary chemistry laboratory analytical instruments and the quality control program was being implemented according to procedures. Primary chemistry analytical procedures had been verified using known standards. The licensee had written and approved procedures to provide surveillance of Technical Specification requirements in the primary chemistry area. The licensee had completed installation of the primary chemistry sampling

panel and traced and measured the sample lines as a basis for determining sample line flush times to produce representative samples. The licensee had written and approved sampling methods for all routine primary chemistry samples. The NRC inspector reviewed the licensee actions and determined that the licensee had completed the necessary actions to resolve this matter. This item is considered closed.

(Closed) Open Item (482/8404-05): Secondary Chemistry Program - This item involved the lack of necessary procedures to implement a secondary chemistry program as committed to in the FSAR. The NRC inspector found that the licensee had completed and approved all planned secondary chemistry procedures. The licensee had written and approved analytical procedures for the determination of the secondary chemistry parameters to meet operating requirements. Secondary chemistry analytical procedures had been verified for correctness using known standards. The licensee had completed calibrations on all the secondary chemistry laboratory analytical instruments and the quality control program was being implemented according to procedures. The secondary chemistry sample panel had been installed, tested, and demonstrated operational. The licensee had developed sampling procedures to operate and obtain representative grab samples from the secondary chemistry systems and had verified all sample points. The licensee had completed installation, preoperational testing, and calibration of all secondary chemistry inline process analyzers. The NRC inspector determined that the licensee had completed the necessary actions to resolve this matter. This item is considered closed.

(Closed) Open Item (482/8404-06): Radwaste Sampling System - This item involved the lack of a completed liquid effluent radwaste sampling system which would meet FSAR commitments. The NRC inspector verified that the liquid radwaste sample panel had been installed and preoperational testing had been completed. The licensee had written and approved a sampling procedure to operate the radwaste sample panel. The chemistry/radiochemistry section had completed the necessary procedures to meet the section's requirements. This item concerning the chemistry/radiochemistry section's responsibility is considered closed; however, the health physics section has been assigned the responsibility of radwaste control and will be working with plant engineering in determining radwaste tank recirculation times and sample line flush times to produce representative samples at each sample point. Open Item (482/8323-03) will continue to remain open pending completion of radwaste sample panel sample point verification and determination of radwaste tank recirculation times to produce representative sampling.

(Closed) Open Item (482/8404-11): Quality Assurance Program - This item involved the lack of an established and implemented approved surveillance and audit program for chemistry/radiochemistry activities. The NRC inspector reviewed the onsite QA surveillance and audit program, and found that the licensee had written and approved audit procedures and checklists for conducting audits in the chemistry/radiochemistry area. The audit procedures indicated that the licensee will have a technical specialist

with expertise in the area of the audit on the audit team. The licensee had conducted an audit of the chemistry/radiochemistry program in December 1984. The NRC inspector reviewed the audit checklist and report for scope and depth to ensure thoroughness of program evaluation and timely followup of deficiencies. The audit procedures and checklist appeared to be adequate and responses and corrective actions to audit findings were satisfactorily completed and documented in a timely manner. It was noted that the audit team included a technical specialist trained and knowledgeable in chemistry/radiochemistry activities at a nuclear power facility. This item is considered closed.

3. Corporate Chemistry/Radiochemistry Personnel Qualifications

The NRC inspector reviewed the qualifications of the corporate chemistry/radiochemistry personnel to determine agreement with FSAR commitments. The NRC inspector determined that the corporate organization had been recently changed in the area of radiological services and that the manager of radiological services is now responsible for the radiological services section duties and functions and reports to the manager of radiological and licensing services. The nuclear chemistry group reports to the manager of radiological services. The FSAR had not been updated to reflect the current organizational structure. The licensee informed the NRC inspector that KG&E management had elected not to include in the FSAR any positions below section managers and, therefore, the FSAR would not include qualification requirements for the technical support position of the corporate nuclear chemist.

The NRC inspector reviewed the current position descriptions for the manager of radiological services, senior engineer (nuclear chemist), and engineering specialist and noted that they did not indicate any requirements for having any prior operating nuclear power plant chemistry experience. The NRC inspector reviewed the resumes of the corporate chemistry technical support personnel and found the staff had only limited operating nuclear power plant chemistry experience. Since the previous NRC chemistry inspection, a senior chemistry technician from the WCGS chemistry section had been transferred into the corporate nuclear chemistry group to provide additional experience and expertise in the chemistry area. The NRC inspector determined that the position held by this person did not have an adequate position description describing duties and responsibilities. The licensee had not written detailed position descriptions for all corporate chemistry staff positions which define the specific duties and responsibilities of the respective positions. The licensee had not written a procedure which would provide definitive guidance on evaluation of personnel training and experience for determination of qualification for corporate technical support personnel to at least the recommendations of Regulatory Guide 1.8, ANSI N18.1-1971, and NUREG-0731. In followup conversations with the licensee, a projected date for resolution of these concerns was established to be on or before May 1, 1985.

Open Item (482/8440-01): Corporate Chemistry/Radiochemistry Personnel Qualifications - will remain open pending:

- Update the FSAR to include the current corporate chemistry organization and manager of radiological services position qualifications.
- Development of position descriptions for all corporate chemistry staff positions which define the specific duties and responsibilities of the position and incorporate at least as a minimum the ANSI N18.1-1971 personnel qualifications.
- Development and approval of selection and qualification criteria implementing procedures for the determination of qualified personnel for corporate chemistry technical support personnel.

No violations or deviations were identified.

4. Chemistry/Radiochemistry Training Program

The NRC inspector reviewed the licensee's chemistry/radiochemistry training program to determine compliance with FSAR commitments, 10 CFR Part 19.12 requirements, and the recommendations of ANSI N18.1-1971 and Regulatory Guide 1.8.

The NRC inspector discussed the training program for chemistry/radiochemistry personnel with the nuclear training manager. The nuclear training department had not yet hired a chemistry training instructor with expertise in nuclear power plant chemistry/radiochemistry. The new training division organization had been approved to provide for a chemistry training instructor. One of the chemistry supervisors was acting as the chemistry/radiochemistry section training coordinator and was maintaining section training records.

The NRC inspector reviewed the licensee's program for training and qualification of WCGS chemistry staff as described in Procedure ADM-04-004, "Chemistry Group Training," Revision 4, December 28, 1984, and found that it appeared to be satisfactory. It was determined that the chemistry section was training and qualifying its own personnel on analytical procedures and instrument operation. The chemistry/radiochemistry section individual staff on-the-job and shift qualification training records generated in accordance with the above procedure were reviewed and found to show that most of the staff had completed about 70 percent of the required training for shift qualification. The licensee stated during the exit briefing, that shift qualification training will be completed according to the above procedure prior to initial criticality or March 1, 1985, whichever comes first, for all chemistry/radiochemistry technicians onsite prior to May 1, 1984.

Open Item (482/8404-03): Chemistry/Radiochemistry Training Program - will remain open pending completion of shift qualification training of the technicians who were onsite prior to May 1, 1984.

No violations or deviations were identified.

5. Postaccident Sampling System

The NRC inspector reviewed the licensee's PASS to determine compliance with FSAR commitments and the requirements of NUREG-0737.

The NRC inspector inspected the areas in the plant where the PASS components were installed. The PASS sampling equipment, manual local control panel, remote computer operated control panel, and remote operated multichannel analyzer system were installed. The high purity germanium detector for the multichannel analyzer system was also installed. The licensee had completed operating procedures for the PASS and had trained the chemistry/radiochemistry technicians on the operation of the PASS as part of the shift qualification training. The inline instrumentation had been calibrated and the site acceptance testing was near completion. The licensee had not performed operability verification testing by collecting samples of reactor coolant and containment atmosphere under simulated accident conditions and performing comparative analyses on all required chemistry and radiochemistry parameters between the PASS and the normal routine sample points for reactor coolant and containment atmosphere. The licensee stated during the exit briefing that the required instrument calibrations and system testing including confirmatory measurements of chemistry and radiochemistry parameters will be completed prior to exceeding 5 percent power.

Open Item (482/8404-07): Postaccident Sampling System - will remain open pending completion and approval of site acceptance testing and verification of system operation by collecting samples of reactor coolant and containment atmosphere under simulated accident conditions and performing confirmatory measurements of all required chemistry and radiochemistry parameters prior to exceeding 5 percent power.

No violations or deviations were identified.

6. Facilities, Equipment, and Supplies

The NRC inspector inspected the facilities to be used by the chemistry/radiochemistry staff in performing their various chemistry responsibilities. The following facilities were inspected: water treatment laboratory, secondary chemistry laboratory and sampling area, primary chemistry laboratory and sampling area, radiochemistry counting room, postaccident sampling area, and radwaste laboratory and sampling area. The licensee had nearly completed construction in all the areas inspected. The water treatment laboratory, secondary chemistry laboratory, and primary chemistry laboratory were equipped with the necessary chemicals, labware, and analytical instrumentation to perform the required analytical procedures and were occupied and operational. The counting room was equipped and operational. The primary chemistry and secondary chemistry sample panels were completed and the equipment was calibrated and operational. The postaccident sampling area construction

was completed but the PASS instrumentation was not calibrated and operational. The radwaste laboratory and sampling area construction was near completion. Instrumentation had not been installed in the radwaste laboratory and the laboratory was not occupied and operational. The licensee stated during the exit briefing, that the radwaste laboratory instrumentation will be installed, calibrated, and operational and the laboratory occupied routinely and operational prior to initial criticality or March 1, 1985, whichever comes first.

Open Item (482/8404-09): Facilities, Equipment, and Supplies - will remain open pending radwaste laboratory instrumentation installation and calibration and routine occupancy and operation in the radwaste laboratory.

No violations or deviations were identified.

7. Status of the Chemistry/Radiochemistry Section

During this inspection, the NRC inspector reviewed the licensee's status in the areas of personnel qualifications, training, primary and secondary chemistry programs, radwaste sampling, PASS, QA program, and facilities and equipment and found the licensee's chemistry/radiochemistry section to be essentially complete in being able to provide satisfactory support to plant operations after initial criticality. Of the 12 open items originally identified during the initial preoperational chemistry/radiochemistry inspection conducted in February 1984 and the one open item identified during the inspection conducted in October 1984, nine are presently closed leaving four to be resolved. Based on the results of this inspection, it appears that the licensee's chemistry/radiochemistry section should be prepared to support plant operations.

8. Exit Briefing

The NRC inspector met with the licensee representatives and the NRC resident inspector identified in paragraph 1 of this report at the conclusion of the inspection on January 18, 1985. The NRC inspector summarized the scope of the inspection, discussed the closing of four open items, and presented the requirements for resolving the four remaining open items as discussed in paragraphs 3, 4, 5, and 6 of this report.