

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: STN 50-482/84-28      Construction Permit: CPPR-147

Docket: STN 50-482

Licensee: Kansas Gas and Electric Company  
P. O. Box 208  
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Burlington, Kansas

Inspection Conducted: August 27-31, 1984

Inspector:

Wesley L. Holley  
W. L. Holley, Radiation Specialist

11/1/84  
Date

Approved:

Blaine Murray  
Blaine Murray, Chief, Facilities Radiological  
Protection Section

11/1/84  
Date

L. E. Martin  
L. E. Martin, Chief, Project Section A,  
Reactor Project Branch 2

11/1/84  
Date

Inspection Summary

Inspection Conducted August 27-31, 1984 (Report STN 50-482/84-28)

Areas Inspected: Routine, announced, preoperational inspection of the licensee's radioactive waste (radwaste) program and transportation activities including: organization, training, liquid waste system, gaseous waste system, solid waste system, control of effluents, air cleaning systems, instrumentation, technical specifications, transportation activities, audits, and procedures. The inspection involved 39 inspector-hours onsite by one NRC inspector.

Results: Within the 12 areas inspected, no violations or deviations were identified

8411280220 841121  
PDR ADDCK 05000482  
Q PDR

REPRODUCED ORIGINAL

Carroll  
Rheanne Clark

DETAILS

1. Persons Contacted

Kansas Gas and Electric Company

- \*G. L. Koester, Vice President - Nuclear
- \*F. T. Rhodes, Plant Manager
- \*L. D. Arnold, Assistant Lead System Test Supervisor
- D. Bowman, Academic Coordinator
- \*G. D. Boyer, Technical Support Superintendent
- T. Coates, Instrumentation and Controls (I&C) Assistant Supervisor
- R. Farias, Startup Engineer
- J. Gilmore, Heating Ventilation Air Conditioning (HVAC) Startup Engineer
- \*S. Gifford, Training Specialist
- \*R. L. Hoyt, Emergency Plan Administrator
- \*J. M. Isom, Radwaste Coordinator
- H. Kats, Results Engineer
- R. Kline, Senior Engineering Specialist
- \*P. A. Lawson, Senior Nuclear Station Operator
- \*W. M. Lindsay, Quality Systems Supervisor
- \*R. L. Logsdon, Site Chemist
- V. J. MacTaggart, Results Engineering Supervisor
- \*O. L. Maynard, Licensing Supervisor
- \*J. M. McKinstry, Operations Coordinator
- \*M. H. Megehee, Safety Engineer
- \*T. S. Morrill, Chemistry Supervisor
- \*W. M. Nichols, Site Health Physicist
- \*C. L. Palmer, Chemistry Supervisor
- D. Parks, Training Specialist
- \*C. G. Patrick, Quality Evaluations Superintendent
- \*L. E. Paulson, Corporate Radwaste Engineer
- \*W. J. Rudolph II, Quality Assurance (QA) Manager
- \*R. M. Stambaugh, QA Supervisor Audits
- L. Stiffer, I&C Engineer
- \*B. Stright, Licensing
- \*C. A. Swartzendruber, Radiological Projects Supervisor
- R. G. Tarwater, HVAC Startup Engineer
- \*P. Turner, Nuclear Training Manager

Others

- \*B. Bartlett II, Resident Inspector, NRC
- \*H. Bundy, Senior Resident Inspector, NRC
- R. Siegrist, Gulf Atomics Corporation Field Service Engineer

\*Denotes those present at the exit interview on August 31, 1984.

2. Status of Open Items Identified During Previous Inspections

<u>Open Item</u>	<u>Description</u>	<u>Paragraph</u>	<u>Status</u>
482/8323-01	Station Radwaste Organization	3	Closed
482/8323-11	Transportation Activities	12	Closed
482/8323-13	Procedures	14	Closed

3. Radwaste Organization and Management Control

The NRC inspector examined the licensee's onsite organization regarding radwaste management to determine compliance with the Final Safety Analysis Report (FSAR) commitments.

The licensee had developed a corporate policy concerning radioactive waste management and the minimization of radioactive waste. This is contained in the Nuclear Department Directive No. 30.0, "Low-Level Radioactive Waste Management and Minimization Directive," March 5, 1984.

The NRC inspector reviewed two WCGS approved procedures. ADM 03-950, "Radioactive Waste Program," Revision 0, August 27, 1984, defines the responsibilities of the various WCGS disciplines with respect to radwaste activities and ADM 03-008, "Site Radwaste Coordinator," Revision 0, August 25, 1984, defines the duties and responsibilities of the WCGS site radwaste coordinator. These procedures alleviate the NRC concerns in this area; therefore, Open Item 482/8323-01 is considered closed.

The NRC inspector attended a Radwaste Committee meeting. This working group is composed of representatives from maintenance, operations, health physics (HP) chemistry, results, startup, nuclear plant engineering, and corporate nuclear support, and is chaired by the radwaste coordinator with a representative from operations as the alternate chairman. This group is scheduled to meet monthly but had met more frequently to solve problems that had been identified.

No violations or deviations were identified.

4. Radioactive Waste Management Training Program

The NRC inspector reviewed the licensee's radwaste training program to determine compliance with WCGS FSAR commitments and 10 CFR Part 19.12.

The NRC inspector reviewed the status of the equipment operator training. Eight of the equipment operators had completed the training program and will be qualified radwaste operators after they adequately pass an oral examination and their qualification cards have been signed by

the operations superintendent. The licensee has plans to qualify eight more radwaste operators before fuel load. The licensee will have two levels of competency in this area below that of radwaste operator, radwaste roving station operator and solidification area operator.

Open Item 482/8323-02 remains open pending completion of radwaste training.

The NRC inspector discussed with licensee representatives the need for retraining in the radwaste training program as well as stronger administrative controls to assure consistency of training in the future.

No violations or deviations were identified.

5. Liquid Radioactive Waste System

The NRC inspector reviewed the licensee's liquid waste management system to determine compliance with FSAR commitments and Inspection and Enforcement (IE) Bulletin 80-10.

The NRC inspector reviewed ADM 04-020, "Chemistry Surveillance Program," Revision 3, May 13, 1984, which contained the sampling schedule for various systems including those for IE Bulletin 80-10 and ADM 04-023, "Radioactive Releases," Revision 0, June 30, 1984, which addressed IE Bulletin 80-10 concerns. NRC Report STN 50-482/84-10 identified that the operations department performed a review of the liquid waste systems operating procedures for valving errors which could result in the contamination of noncontaminated liquid systems. The licensee stated that a liquid waste systems review had been completed per IE Bulletin 80-10 by the chemistry department. Therefore, it appears that the licensee had satisfied IE Bulletin 80-10 for liquid radwaste systems.

The NRC inspector reviewed an ALARA report including recommendations of ANSI-55.6-1979 performed by the licensee on the liquid radwaste systems. This ALARA report appeared to be adequate. The NRC inspector determined the licensee had completed Procedures SYS HC-131, "Manual Filter Handling Operations," Revision 0, June 20, 1984, and SYS HC-130, "Remove Filter Handling Operations," Revision 0, June 12, 1984.

The NRC inspector discussed with licensee representatives the status of tank volume verification, preoperational tests, representative sampling, discharge flow rates, and recorder readings. The NRC inspector determined the tank volume verification was almost completed with the remainder of the tasks to be initiated. Open Item 482/8323-03 remains open pending the completion of these tasks.

No violations or deviations were identified.

6. Gaseous Radioactive Waste System

The NRC inspector reviewed the licensee's gaseous waste system to determine compliance with the FSAR commitments and IE Bulletin 80-10.

The NRC inspector reviewed ADM 04-020, "Chemistry Surveillance Program," Revision 3, May 13, 1984, which contained the sampling schedule for various systems including those for IE Bulletin 80-10, and ADM 04-023, "Radioactive Releases," Revision 0, June 30, 1984, which addressed IE Bulletin 80-10 concerns. The licensee stated that the operations department performed a review of the waste systems operating procedures for valving errors and the chemistry department performed a waste systems review per IE Bulletin 80-10. Therefore, it appears that the licensee had satisfied IE Bulletin 80-10 for gaseous radwaste systems.

The NRC inspector reviewed an ALARA study performed by the licensee on the gaseous radwaste systems. This study included recommendations of ANSI/ANS 55.4-1979.

The NRC inspector discussed with licensee representatives the status of tank volume verification, preoperational tests, representative sampling, discharge flow rates, and recorder readings. The NRC inspector determined that the tank volume verification was almost completed with the remainder of the tasks to be initiated and completed. Open Item 482/8323-04 remains open pending the completion of these tasks.

No violations or deviations were identified.

7. Solid Radioactive Waste System

The NRC inspector reviewed the solid radwaste system to determine compliance with FSAR commitments.

The NRC inspector noted a pressure differential gauge was installed across the filter on the exhaust of the dry active waste compactor in the radwaste building which partially satisfies a concern mentioned in NRC Report STN 50-482/83-23.

The NRC inspector discussed with licensee representatives the status of the solid radwaste system ALARA review, preoperational tests, and representative sampling. The NRC inspector determined these tasks had been initiated, but not completed. Open Item 482/8323-06 remains open pending the completion of these tasks.

No violations or deviations were identified.

8. Controls for Effluent Releases

The NRC inspector reviewed the licensee's procedure for controlling releases of radioactive liquids and gases to the environment.

The NRC inspector reviewed various procedures including:

- ADM 04-023, "Radioactive Releases," Revision 0, June 30, 1984
- CHM 03-140, "Preparation of Radioactive Liquid Release Permit,"  
Revision 0, July 13, 1984
- STS-SP-001, "Process Radiation Monitoring System Source Check,"  
Revision 0, April 30, 1984
- SYS HA-204, "Gaseous Radwaste System Decay Tank Release Procedure,"  
Revision 0, June 11, 1984
- SYS HB-125, "Waste Monitor Tanks Operation," Revision 0,  
September 19, 1983
- GEN 00-020, "Liquid Waste Processing," Revision 0, July 7, 1984

The NRC inspector noted that the functional testing of isolation valves had not been included in the release procedures; therefore, Open Item 482/8323-05 remains open pending the inclusion of this testing in the release procedures.

No violations or deviations were identified.

9. Air Cleaning Systems

The NRC inspector reviewed the licensee's air cleaning systems to determine compliance with FSAR commitments.

The NRC inspector determined that the licensee had recently completed the performance of iodine removal efficiency tests for the charcoal adsorbers. At the time of this inspection, the test results were unavailable for review.

The licensee indicated the air cleaning systems preoperational testing would begin in September 1984.

Open Item 482/8323-07 will remain open pending the completion of preoperational testing and evaluation of the performance test criteria and results.

No violations or deviations were identified.

10. Radiation Monitoring Instrumentation

The NRC inspector reviewed the licensee's inplant radiation monitoring systems for compliance with WCGS FSAR commitments.

a. Area Radiation Monitoring System (ARMS)

The ARMS SD-1 consists of five monitors installed in the fuel building. These monitors had their preoperational tests completed and had been transferred to the WCGS operations department.

The remainder of the ARMS is designated as SD-2 and the monitors are installed throughout the plant. The licensee indicated that three more component tests were to be completed before the preoperational tests are initiated. The NRC inspector noted that the preoperational test Procedures SU4-SD01 and SU4-SD02 were written and approved.

Open Item 482/8323-08 will remain open pending the completion of preoperational tests, calibration, surveillance, and operating procedures.

No violations or deviations were identified.

b. Process and Effluent Radioactivity Monitoring System

The licensee had installed this system physically in the various locations throughout the plant, but some of the monitors had not been connected to their respective collection systems. Component testing on these monitors is underway and approximately 20% complete and will be finished before the preoperational testing begins. The NRC inspector noted that preoperational test Procedure S43-SP01 had been written and approved.

The NRC inspector determined that the I&C surveillance and calibration procedures are in the process of being approved by WCGS management.

The NRC inspector noted that the following chemistry calibration procedures for the monitors were completed:

- ADM 04-005, "Chemistry Calibration Program," Revision 7, July 23, 1984
- CHM 03-015, "Calibration of Liquid Process and Effluent Monitors," Revision 0, August 2, 1984
- CHM 03-016, "Calibration of the Particulate Channel for Gaseous Process and Effluent Monitors," Revision 0, August 6, 1984
- CHM 03-017, "Calibration of the Iodine Channel for Gaseous Process and Effluent Monitors," Revision 0, August 6, 1984

- CHM 03-018, "Calibration of the Gaseous Channels for Gaseous Process and Effluent Monitors," Revision 0, August 13, 1984

The NRC inspector discussed with the licensee the status of representative sampling, and plate out testing for the effluent monitoring systems. The licensee stated they were planning to use that data which had been obtained at the Callaway Nuclear Plant (CNP). The NRC inspector stated that if the licensee used the CNP plate out study data it would be necessary to provide supporting documentation that the two (CNP and WCGS) installed systems are similar; e.g., length of pipe runs, pipe bends, monitor to sample point locations, etc.

Open Item 482/8323-09 will remain open pending completion of preoperational testing, calibration, surveillance, and operating procedures, and representative sampling.

#### 11. Technical Specifications

The licensee had developed radiological effluent technical specifications (RETS) and a process control program (PCP) for the solidification of waste and submitted them to the Office of Nuclear Reactor Regulation (NRR). Subsequently, NRR had asked the licensee for a revision of their PCP which was expedited and returned to NRR for review.

Open Item 482/8323-10 remains open pending approval of the RETS and PCP.

No violations or deviations were identified.

#### 12. Transportation Activities

The NRC inspector reviewed the licensee's transportation activities to determine compliance with 10 CFR Parts 20, 61, and 71 and 49 CFR Parts 100-199.

The NRC inspector determined that the licensee had purchased a training program for transportation activities from a vendor-contractor and was committed to the training of personnel with this program and also retraining in this area. This training program will be initiated shortly and consists of 40 hours of instruction including 24 hours in the classroom and 16 hours of system equipment "hands-on" training.

The NRC inspector noted the completion of three procedures developed for transportation activities which are:

- HPH 09-501, "Classification of Waste," Revision 0, June 5, 1984



- HPH 09-510, "Handling of Low Level Filters," Revision 0, June 5, 1984
- HPH 09-520, "Determination of Shipment Type," Revision 0, June 5, 1984

The licensee designated the radwaste coordinator to be specifically responsible for transportation activities.

With the completion of the above tasks, Open Item 482/8323-11 is considered closed.

No violations or deviations were identified.

### 13. Audits and Reviews

The NRC inspector reviewed the licensee's internal audit/review program regarding radwaste management and transportation activities to determine compliance with WCGS FSAR commitments and requirements of 10 CFR Part 50, Appendix B and 10 CFR Part 71.

The NRC inspector discussed with the licensee's site QA representatives that audits must be performed in accordance with written procedures/instructions, utilizing checklists, and that the auditing team must include individuals that had been appropriately trained in this area being audited or are technically knowledgeable of the activity being audited. Also, these individuals must not have direct responsibilities in the areas being audited.

Open item 482/8323-12 remains open pending completion of audit procedures, checklists, and performance of an audit for radwaste and transportation activities.

No violations or deviations were identified.

### 14. Procedures

The NRC reviewed the licensee's procedures to determine compliance with 10 CFR Parts 20, 61, and 71 and 49 CFR Parts 100-199 requirements.

The NRC inspector reviewed Procedures HPH 09-501, HPH 09-510, and HPH 09-520, which were referenced in paragraph 12. These completed procedures satisfy the NRC concern in Open Item 482/8323-13; therefore, Open Item 482/8323-13 is considered closed.

No violations or deviations were identified.

15. Exit Interview

The NRC inspector met with licensee representatives identified in paragraph 1 at the conclusion of the inspection on August 31, 1984. The NRC inspector discussed the scope and findings of the inspection. The NRC inspector stated that the remaining open items identified in this report were critical path items which must be resolved before the issuance of an operating license and that a considerable amount of work remains to be completed in these areas.