

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: STN 50-482/84-10

Construction Permit: CPPR-147

Docket: STN 50-482

Licensee: Kansas Gas and Electric Company
P.O. Box 208
Wichita, Kansas 67202

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Burlington, Kansas (WCGS site)

Inspection Conducted: May 14-18, 1984

Inspector: Blaine Murray 6/8/84
for R. E. Baer, Radiation Specialist Date

Approved: Blaine Murray 6/8/84
Blaine Murray, Chief, Facilities Radiation Date
Protection Section

W. D. Johnson 6/3/84
for W. D. Johnson, Chief, Project Section A, Date
Reactor Project Branch 2

Inspection Summary

Inspection Conducted May 14-18, 1984 (Report STN 50-482/84-10)

Areas Inspected: Routine, unannounced 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, procedures, and onsite storage facilities. The inspection involved 42 inspector-hours onsite by one NRC inspector.

Results: Within the 13 areas inspected, no violations or deviations were identified.

DETAILS1. Persons ContactedKansas Gas and Electric Company

- *F. T. Rhodes, Plant Manager
- L. D. Arnold, Startup
- *G. D. Boyer, Technical Support Superintendent
- *A. N. DiCesaro, Licensing Engineer
- J. C. Guimbellot, System Test Superintendent
- J. T. Holland, Nuclear Plant Engineering Engineer
- *R. L. Hoyt, Emergency Plan Administrator
- *J. M. Isom, Radioactive Waste (Radwaste) Coordinator
- *P. A. Lawson, Senior Nuclear Station Operator
- D. J. Lengel, Assistant Test Engineer
- *W. M. Lindsay, Quality Systems Supervisor
- *R. L. Logsdon, Chemist
- V. J. MacTaggart, Results Engineering Supervisor
- O. L. Maynard, Licensing Supervisor
- *B. McKinney, Instrument and Control Supervisor
- *T. S. Morrill, Chemistry Supervisor
- *W. M. Nichols, Health Physicist
- *C. L. Palmer, Chemistry Supervisor
- *W. M. Peterson, Staff Technical Specialist - Radwaste
- R. Riessen, Startup
- G. R. Smith, Training Specialist
- *C. J. Steinert, Quality Assurance Technician
- P. Turner, Nuclear Training Manager
- S. Werschnitzky, Assistant Test Engineer
- D. Walsh, Maintenance
- M. G. Williams, Superintendent of Regulatory Quality and Administration
- J. A. Zell, Operations Superintendent

Others

- W. D. Allen, Consultant, Allen Nuclear Associates
- W. C. Ball, Instrument and Control Technician, MATSCO Electrical Sciences, Inc.

The NRC inspector also interviewed several other licensee and contractor employees including radiation protection, construction, and startup personnel.

*Denotes those individuals present during the exit interview on May 18, 1984.

2. 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 and recommendations of Regulatory Guide 4.15.

The licensee had designated an individual to be the radwaste coordinator effective January 1984 and drafted a position description which defined the minimum qualifications, responsibilities, and authority. The licensee had also drafted Administrative Procedure ADM 03-950, "Radioactive Waste Program," which outlines the responsibilities for the radwaste coordinator and the operations, maintenance, and health physics departments. Both the position description and procedure were in the approval process.

The NRC inspector reviewed the draft copy of Procedure ADM 03-950 and discussed with licensee representatives the status of this procedure and interfaces with the corporate organization. The licensee was waiting management approval of this procedure before defining the stations interface responsibilities with the corporate organization.

The NRC inspector indicated that Open Item 482/3323-01 will remain open pending: a) approval of the position description and procedure mentioned above, and b) defining of the station responsibilities and interfaces with the corporate organization.

The licensee had initiated a radwaste working group which was comprised of members from various station departments to discuss radwaste problems and make recommendations to management. This group was successful in defining the responsibilities for the operation and maintenance departments regarding liquid waste filter changeout. Other system operational and maintenance problems had been identified and corrective recommendations were being pursued.

No violations or deviations were identified.

3. Radioactive Waste Management Training Program

The NRC inspector reviewed the licensee's radwaste training program to determine compliance with FSAR commitments; 10 CFR Part 19.12 requirements; the recommendations of ANSI/ANS 55.1-1979, 55.4-1979, 55.6-1979; NUREG-0761; and Regulatory Guides 4.15, 8.8, 8.10, and 8.27.

The NRC inspector reviewed the status of equipment operator (EO) training. Fourteen EOs had completed the formal radwaste systems training. Qualification sheets for the liquid, gaseous, and solid waste system operation were being developed. The EOs would be qualified after

the systems were turned over from construction. The remaining EOs, along with utility helpers, will be trained in radwaste activities during the normal training cycle.

The NRC inspector discussed with licensee representatives the qualifications of training instructors. The licensee stated that the training would be performed by a knowledgeable operator with a qualified instructor observing. Future classes would be presented by the instructor while the operator observed for technical content. Instructors would be qualified in accordance with Procedure ADM 06-230, "Training Instructor Qualification and Certification," Revision 0, January 16, 1984.

The Operations Department had assumed the responsibility for filter replacement with maintenance support on equipment. Operations had started to develop the procedures necessary to perform this function. After completion of the procedures, a training course will be developed.

The NRC inspector expressed concern that all EOs would not have received training and been qualified in the radwaste systems prior to plant operation. The licensee representative stated that the shift supervisors would have documentation of training completed for EOs and would assign only those trained in radwaste systems to the radwaste watch station.

Open Item 482/8232-02 remains open pending completion of training for personnel involved in radwaste activities.

No violations or deviations were identified.

4. Solid Waste Management

The NRC inspector reviewed the solid radwaste management system including the spent resin system and dry active waste system to determine compliance with FSAR commitments and the recommendations of ANSI/ANS Standard 55.1-1979.

The NRC inspector reviewed Preoperational Procedures SU4-HC01, "Solid Waste System," Revision 0, April 11, 1984, and SU4-HC02, "Filter Handling System," Revision 0, April 13, 1984. Preoperational Procedure HC03, "Resin Transfer," was in draft and undergoing a complete rewrite at the time of this inspection.

The NRC inspector discussed with licensee representatives the status of an amendment to the FSAR to include the capability for using a portable solidification system. The licensee stated that they had an agreement with the office of Nuclear Reactor Regulation (NRR) that updated drawings of the as-built systems would be submitted to NRR within 90 days after fuel load and included in the first annual update to the FSAR. The licensee further stated that the design of the portable solidification piping was not complete, the final termination point for plant piping had not been resolved.

The NRC inspector discussed with the NRR project manager for WCGS the above noted agreement to submit updated system drawings within 90 days after fuel load. The project manager stated this was a standard working practice for minor changes to systems and that major changes are submitted during the construction phase normally three or four times a year.

The NRC inspector discussed with licensee representatives the ALARA review of the waste management systems previously discussed in NRC Inspection Report 50-482/83-23. The licensee had performed ALARA reviews of various segments of the waste system, but had not performed a systematic review of the entire system. The licensee stated that a systematic review would be performed.

Open Item 482/8323-06 remains open pending completion of the preoperational tests, verification of representative sampling, and completion of the ALARA review.

No violations or deviations were identified.

5. Liquid Waste Management

The NRC inspector reviewed the licensee's liquid waste management system to determine compliance with FSAR commitments, the recommendations of ANSI Standards N13.10-1974, 55.6-1979, and N323-1974, and NRC IE Bulletin 80-10.

The NRC inspector reviewed Preoperational Test Procedures SU4-HB01, "Liquid Radwaste System," Revision 0, March 7, 1984, and SU4-HB02, "Waste Evaporator," Revision 0, March 11, 1984. The NRC inspector noted that the chemical drain tanks were scheduled for preoperational testing as part of Procedure SU4-HC03. This procedure was under major rewrite at the time of this inspection.

The NRC inspector discussed with licensee representatives the status of a sampling program for nonradioactive plant systems, the review of liquid waste operating procedures, the verification of tank volumes and representative sampling, and the radioactive liquid release piping. The licensee stated that a sampling program had been included in a chemistry procedure and that the operations department had performed a review of operating procedures to identify valving errors which could result in the contamination of noncontaminated liquid systems. The licensee had started to measure tanks to verify volumes. The licensee had not yet defined the mathematical equation for determining the volume of four different types of tanks used at the plant. The licensee stated that the radioactive liquid release piping had been covered with an environmental protective wrapping.

Open Item 482/8323-03 remains open.

No violations or deviations were identified.

6. Gaseous Waste Management

The NRC inspector reviewed the licensee's gaseous waste management system to determine compliance with FSAR commitments and the recommendations of ANSI Standards N13.1-1969, N13.10-1974, 55.4-1979, and N323-1978; Regulatory Guides 1.21, 1.97, and 1.143; and NRC IE Bulletin 80-10.

The NRC inspector determined that Preoperational Test Procedure SU3-HA01, "Gaseous Waste System," was still in draft form and that tank volume verification had not yet been completed.

The NRC inspector discussed with licensee representatives the review of operating procedures regarding the potential for contaminating nonradioactive systems. The NRC inspector cautioned the licensee that check valves are not considered positive closures, as some leaked at other facilities. The licensee stated they did not rely on check valves to isolate systems. The licensee was still in the process of evaluating representative sampling at the effluent monitor and the sampling/analysis program for gaseous systems.

Open Item 482/8323-04 will remain open.

No violations or deviations were identified.

7. Air Cleaning Systems

The NRC inspector reviewed the licensee's air cleaning systems to determine compliance with FSAR commitments, the recommendations of ANSI Standards N509-1980 and N510-1980, and Regulatory Guides 1.140 and 1.52.

The NRC inspector reviewed Preoperational Test Procedure SU3-0006 (draft), "HEPA Filter/Adsorber Test." The NRC inspector noted that this test referenced Energy Research and Development Administration (ERDA) Standard RDT M16-IT, 1977, for adsorbent media testing. The NRC inspector reviewed performance tests for adsorbent and visually inspected the adsorbent in storage. The adsorbent was identified by the manufacturer's Lot 4 and Batch Numbers 73, 74, and 75. Performance tests were identified by the manufacturer's Batch Numbers C-290, C-291, C-313, C-314, and C-315. The NRC inspector was unable to correlate the performance test results to adsorbent batch number. The licensee committed to contact the manufacturer for clarification. The NRC inspector noted that the criteria used for performance testing was not consistent with ERDA Standard RDT-M16-IT, 1977. The licensee was also reviewing these data.

Open Item 482/8323-07 will remain open pending approval of the preoperational test procedures, completion of preoperational testing, resolving the adsorbent performance test identifications, and evaluating the performance test criteria.

No violations or deviations were identified.

8. Controls for Effluent Releases

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

The licensee had drafted Procedure ADM 04-023 for controlling effluent releases. The NRC inspector noted that this procedure did not address functional testing of the radioactivity monitors and isolation valves, or verification of dilution flow rates and valve lineups.

Open Item 482/8323-05 will remain open pending approval of the effluent release procedure.

9. Instrumentation

The NRC inspector reviewed the licensee's in-plant radiation monitoring systems for compliance with FSAR commitments; requirements of NUREG-0737; and the recommendations of ANSI/ANS Standards 6.8.1-1981, N13.1-1969, N13.10-1974, and N323-1978.

The licensee had not completed development of Preoperational Test Procedures for area, process, and effluent monitoring systems. The licensee was in the process of developing the first of 26 identified procedures for the calibration and functional testing of these radiation monitors.

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

No violations or deviations were identified.

10. 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 NRR for review. The licensee stated that NRR had informed them that the RETS would be reviewed after a plant of the same design, further into construction than WCGS, was approved.

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

No violations or deviations were identified.

11. 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 reviewed approved procedures developed to support the licensee's transportation activities. There were three additional procedures in the approval process at the time of this inspection.

The NRC inspector discussed with licensee representatives the training program for persons involved with radioactive material transportation activities and the method the licensee was using to keep current with federal, state, and burial site regulations. The licensee stated that the training program was in draft and they had issued a purchase order for a commercial service which provides the current regulations with periodic updates as regulatory changes are proposed and made.

Open Item 482/8323-11 remains open pending approval of procedures and training program.

No violations or deviations were identified.

12. Audits and Reviews

The NRC inspector reviewed the licensee's internal audit/review program regarding radwaste management and transportation activities to determine compliance with FSAR commitments; the requirements of 10 CFR Part 50, Appendix B, and 10 CFR Part 71, Subpart H; the recommendations of ANSI Standard N18.7-1976; and Regulatory Guides 1.33, 1.144, 1.146, and 4.15.

The NRC inspector discussed with licensee representatives the assignment of responsibilities for performing audits of the radwaste and transportation activities. The licensee stated that the quality assurance department had been assigned this responsibility and had an existing program for conducting audits. The NRC inspector stated that the 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 the area being audited or are technically knowledgeable of the activity being audited.

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

No violations or deviations were identified.

13. Onsite Storage Facility

The NRC inspector discussed with licensee representatives the licensee's plans concerning an onsite low-level radwaste storage facility. The licensee had prepared an engineering study report with recommendations for an interim onsite radwaste storage facility. At the time of this inspection, no formal commitment had been made as to the allocation of funds for or the type of facility that would be constructed.

No violations or deviations were identified.

14. Procedures

The NRC inspector reviewed the licensee's procedure to determine compliance with 10 CFR Parts 20, 61, and 71, and 49 CFR Parts 100-199 requirements; recommendations contained in Regulatory Guides 1.33, 4.15, 8.8, and 8.10; ANSI Standards N13.1-1969, N13.10-1974, N18.7-1976, 55.1-1979, N101.1-1972, N199-1976, N323-1978, N509-1980, and N510-1980; and NUREG-0761.

The NRC inspector reviewed the following approved procedures:

- HPH 09-502, "Curie Content Determination," Revision 0, April 25, 1984
- HPH 09-503, "Collection and Transfer of Radwaste," Revision 0, April 24, 1984
- HPH 09-504, "Packaging of Compactible Solid Waste," Revision 0, April 24, 1984
- HPH 09-505, "Packaging of Noncompactible Solid Waste," Revision 0, April 24, 1984
- HPH 09-506, "Packaging of High Level Filters," Revision 0, April 24, 1984
- HPH 09-507, "Packaging of Wet Solid Waste," Revision 0, April 25, 1984
- HPH 09-509, "Handling and Storage of Radwaste Containers," Revision 0, April 25, 1984
- HPH 09-511, "Handling of Low Level Filters," Revision 0, April 16, 1984
- HPH 09-512, "Incoming Vehicle Survey," Revision 0, April 20, 1984
- HPH 09-513, "Outgoing Vehicle Survey," Revision 0, May 3, 1984
- HPH 09-514, "Transport Vehicle Inspection," Revision 0, April 16, 1984
- HPH 09-521, "Shipment of Limited Quantity Materials," Revision 0, April 16, 1984
- HPH 09-522, "Shipment of LSA Materials," Revision 0, April 25, 1984
- HPH 09-523, "Shipment of Type A Material," Revision 0, April 26, 1984

- HPH 09-524, "Exclusive Use Shipment of Type B or HRC Material,"
Revision 0, April 25, 1984
- HPH 09-525, "Shipment of Empty Packages," Revision 0, April 24, 1984
- HPH 09-530, "Shipping Documents," Revision 0, May 3, 1984
- HPH 09-531, "Advance Notification," Revision 0, May 8, 1984
- HPH 09-532, "Radwaste Reports," Revision 0, May 3, 1984
- HPH 09-540, "Handling Initial Fuel Receipt Waste, Revision 0,
April 25, 1984

Open Item 482/8323-13 will remain open pending completion of the balance of the necessary procedures.

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. The NRC inspector discussed the scope and findings of the inspection. The NRC inspector indicated that open items identified in NRC Inspection Report 50-482/83-23 should be resolved before the NRC Regional office would recommend issuance of a Facility Operating License.

INSPECTOR'S REPORT
Office of Inspection and Enforcement

BAER, RONALD E
REVIEWER
BLAINS, MURRAY

INSPECTORS
RE. BAER

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT		NEXT INSP. DATE	
			NO.	DATE	MO.	YR.
KANSAS GAS & ELECTRIC CO	<input checked="" type="checkbox"/> I - INSERT	05000982	8910	A		
	<input type="checkbox"/> M - MODIFY			B		
	<input type="checkbox"/> D - DELETE			C		
	<input type="checkbox"/> R - REPLACE			D		

PERIOD OF INVESTIGATION/INSPECTION						INSPECTION PERFORMED BY			ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 0530 "Manpower Reporting" for code)					
FROM			TO			1 - REGIONAL OFFICE STAFF			OTHER			REGION	DIVISION	BRANCH
MO	DAY	YR	MO	DAY	YR	2 - RESIDENT INSPECTOR						4	B	A
05	19	89	05	18	89	3 - PERFORMANCE APPRAISAL TEAM								

REGIONAL ACTION (Check one box only)		TYPE OF ACTIVITY CONDUCTED (Check one box only)													
<input type="checkbox"/> 1 - NRC FORM 501	<input checked="" type="checkbox"/> 2 - REGIONAL OFFICE LETTER	<input checked="" type="checkbox"/> 02 - SAFETY	<input type="checkbox"/> 03 - INCIDENT	<input type="checkbox"/> 04 - ENFORCEMENT	<input type="checkbox"/> 05 - MGMT. AUDIT	<input type="checkbox"/> 06 - MGMT. VISIT	<input type="checkbox"/> 07 - SPECIAL	<input type="checkbox"/> 08 - VENDOR	<input type="checkbox"/> 09 - MAT. ACCT.	<input type="checkbox"/> 10 - PLANT SEC.	<input type="checkbox"/> 11 - INVENT. VER.	<input type="checkbox"/> 12 - SHIPMENT/EXPORT	<input type="checkbox"/> 13 - IMPORT	<input type="checkbox"/> 14 - INQUIRY	<input type="checkbox"/> 15 - INVESTIGATION

INSPECTION/INVESTIGATION FINDINGS (Check one box only)				TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS				ENFORCEMENT CONFERENCE HELD				REPORT CONTAIN 2790 INFORMATION				LETTER OR REPORT TRANSMITTAL DATE					
<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	A	B	C	D	A	B	C	D	A	B	C	D	NRC FORM 501 OR REG LETTER ISSUED		REPORT SENT TO HQ FOR ACTION			
1 - CLEAR				2 - VIOLATION				3 - DEVIATION				4 - VIOLATION & DEVIATION						JUN 7 1989			

MODULE INFORMATION														MODULE INFORMATION													
REC. ORD.	MODULE NUMBER INSP.				PRIORITY	DIRECT INSPECTION EFFORTS IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED	STATUS	MODULE REG. FOLLOWUP				REC. ORD.	MODULE NUMBER INSP.				PRIORITY	DIRECT INSPECTION EFFORTS IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED	STATUS	MODULE REG. FOLLOWUP					
TYPE	NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER					LEVEL	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	TYPE	NUMBER	PHASE	MANUAL CHAPTER					PROCEDURE NUMBER	LEVEL	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	03	3	07	03	B	A					B	03	3	04	5	2	A	B	50								
B	03	3	05	2	B	A	B	50			B	03	3	08	9	8	B	A	B	50							
B	03	3	04	5	2	B	A	B	50		B	03	3	03	5	2	B	A	B	50							
B	03	3	04	5	2	B	A	B	50		B	03	3	04	5	2	B	A	B	50							

* CIRCLE SEQUENCE IF VIOLATION OR DEVIATION