

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/84-15

CP: CPPR-147

Docket: 50-482

Category: A2

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

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Wolf Creek Site, Coffey County, Burlington, Kansas

Inspection Conducted: May 22 to August 9, 1984

Inspectors:

J.E. Martin
for H. F. Bundy, Resident Reactor Inspector, 8/21/84
Operations, Wolf Creek Task Force, Date
(pars. 1, 2, 3, 4, 5, 6.b, 6.b(1), 6.a(2),
6.a(5), 6.a(6), 6.a(7), 6.c, 7 and 8)

R. Smith
for D. R. Carpenter, Resident Reactor Inspector, 8/31/84
Operations, Reactor Project Section 1A, Date
(pars. 6.b(6) and 6.b(7))

R. Smith
for B. Breslau, Reactor Inspector, Wolf Creek Task 8/31/84
Force, (pars. 6.b, 6.a(1), 6.a(2), 6.a(3), and Date
6.a(4))

Consultants: Also participating were D. Baxter and H. Stromberg of EG&G
Idaho, Inc. (par. 7)

Approved:

R. Smith
R. Smith, Team Leader, Wolf Creek Task Force 8/31/84
Date

J.E. Martin
L. E. Martin, Chief, Wolf Creek Task Force 8/31/84
Date

8411030332 840906
PDR ADOCK C5000482
Q PDR

Inspection Summary

Inspection Conducted May 22 to August 9, 1984 (Report 50-482/84-15)

Areas Inspected: Routine, announced inspection including site tours; review of preoperational test procedures; followup on allegations; observation of preoperational test performance; cleaning and insulation of piping; action on previous inspection findings; and quality concerning investigative activities. The inspection involved 309 inspector-hours by three NRC inspectors and 30 hours by two EG&G Idaho consultants.

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

DETAILS1. Persons ContactedPrincipal Licensee Personnel

G. L. Koester, Vice President - Nuclear, Corporate
 *F. T. Rhodes, Plant Manager
 *R. M. Grant, Director-Quality
 O. Maynard, Licensing Supervisor
 M. G. Williams, Supt. of Regulatory, Quality, and Administrative Services
 *W. M. Lindsay, Quality Assurance (QA) Systems Supervisor
 *F. D. McLaurin, Asst. Startup Manager
 *W. J. Rudolph, QA Manager, Site
 O. L. Thero, Quality First Supervisor
 *K. Ellison, Startup Technical Support Supervisor
 W. B. Norton, Reactor Engineering Supervisor
 W. Ryder, Reactor Engineer
 J. A. Bailey, Asst. Manager-Nuclear Plant Engineering
 J. Nelson, Supervisor, Construction Quality Control
 C. C. Hill, Quality First Team Member
 W. Stewart, System Startup Engineer
 T. Mitchell, System Startup Engineer
 D. Kinoshita, System Startup Engineer
 D. Woodfin, System Startup Engineer
 F. Faist, Asst. Lead Test Supervisor
 T. Mayes, Asst. Lead Test Supervisor
 J. Vaux, System Test Supervisor
 K. Clair, System Startup Engineer
 K. Yanuzis, System Startup Engineer
 D. Goodlove, Maintenance Supervisor
 L. Bugos, System Startup Engineer
 *C. J. Hoch, Technician
 *P. Dyson, Construction
 *R. Hoyt, Emergency Planning Administrator
 *H. K. Chernoff, Licensing Engineer
 *T. Dempster, QC Manager

Other Personnel

K. Brown, Field Quality Control Engineer, Owens Corning Fiberglass
 R. Faix, Manager of Site Engineering Team, Westinghouse Electric Corporation (W)

Other licensee and contractor personnel were also contacted during the course of this inspection activity.

*The above identified personnel attended the exit meeting held on August 9, 1984.

2. Site Tours

The resident reactor inspector (RRI) toured the site at various times during the inspection period. Ongoing construction and test activities were observed to ensure conformance to applicable requirements or procedures. Prime inspection areas were:

- . Housekeeping
- . Fire Protection
- . Logbook Entries
- . Maintenance Activities
- . Tag Outs
- . Temporary Modification Control

No violations or deviations were identified.

3. Fuel Receipt, Inspection, and Storage

The RRI reviewed the following procedures for compliance with Materials License SNM-1923 and applicable NRC Rules and Regulations: FHP 01-001, Rev. 4; FHP 03-003, Rev. 0; FHP 03-008, Rev. 1; and FHP 03-010, Rev. 0.

The fuel receipt and storage facilities were examined for compliance with the materials license, housekeeping, and access controls.

Receiving of a shipment of seven fuel containers (95, 123, 136, 150, 163, 164, and 194) was observed. The shipping invoice was in error in that container number 123 actually contained assemblies 33491 and 33496 vice assemblies 32849 and 32858. However, the reactor engineer was in possession of a corrected invoice which had been telecopied from the point of origin subsequent to departure of the carrier. It appeared that correction fluid had been used to change the invoice. This is not an acceptable method for changing a record. The RRI observed removal of the fuel assemblies A06 and A28 from the container, inspection and placement in the new fuel storage racks. They were placed in the XX10 and XX9 positions, respectively. Subsequent transfer of a fuel assembly from New Fuel Storage Rack XX2 to Spent Fuel Storage Rack PP6 was observed.

In the areas inspected, receiving, inspection, and handling operations were performed in accordance with the materials license and applicable procedures. All personnel appeared to have a good understanding of the procedures and other requirements.

No violations or deviations were identified.

4. Pipe Cleanliness

The RRI performed an independent appraisal of the effectiveness of the Quality First Program in investigating and dispositioning an allegation (QCI-84-83W) concerning external cleanliness of stainless piping in the Loop 2 crossover leg. This allegation was received by the Quality First group on July 19, 1984. It was alleged that the cleaning contractor was directing the KG&E chemistry technicians where to take swipes to be analyzed for cleanliness acceptability. The Quality First personnel confirmed this allegation and recommended corrective action. Quality First established that if the pipe was cleaned, a program to maintain the required cleanliness until installation of insulation had not been provided. The RRI reviewed two violations and a deviation initiated by the Quality First investigator to obtain corrective action. The RRI also reviewed WCGS Nonconformance Report (NCR) M-205, which was initiated on July 27, 1984, by the KG&E site QA manager to obtain a technical disposition on exceeding the Westinghouse Electric Corporation acceptance criteria (Specification M-204 (Q)) for stainless steel piping external cleanliness as verified by additional swipe test results.

Letters KWCL0-84-730 and KWCL0-84-731 issued by the construction manager on July 26, 1984, to the insulation and cleaning contractors, respectively, transmit sufficient criteria to establish an adequate cleanliness control program. However, Quality First personnel established that these criteria had not been implemented on July 28, 1984. This was a concern in that the insulation contractor had continued to work an additional two days after the receipt of the letter without appropriately implementing the criteria. They advised the contractor to have additional swipes taken on the affected pipe to determine chloride contamination and to implement the revised cleanliness control criteria immediately. Swipes were taken, work was stopped, and the contractor provided training to workers on the revised procedures on first shift on July 29, 1984. The RRI reviewed Owens Corning Fiberglass Procedure 0401D and Technical Metals, Inc., Procedure PWI-501, both of which were approved on July 28, 1984, and found that they adequately incorporated the criteria transmitted in the above letters. The RRI verified appropriate field implementation of these procedures on July 30, 1984.

The NCR M-205 was dispositioned on July 30, 1984, and reviewed by the RRI with the KG&E Assistant Manager of Nuclear Project Engineering. The technical basis for the acceptance criteria of Specification M-204 (Q) was discussed with the manager of the Westinghouse Site Engineering Team on August 2, 1984. He was asked under what circumstances and by how much the criteria for free surface chloride contamination could be exceeded without generation of technical concern. He answered that exceeding the

criteria would only be a concern if the surface contamination plus the total leachable fluorides and chlorides in the insulation should exceed the limits relative to leachable sodium and silicate levels identified in NRC Regulatory Guide 1.36. Meeting of this condition was confirmed by calculations performed in support of dispositioning the NCR. Based on this answer the Use-As-Is disposition of NCR M-205 appears appropriate.

Final resolution of this problem will require proper dispositioning of the Quality First violations and deviation discussed above.

No violations or deviations were identified.

5. Quality Concern Investigative Activities

The RRI reviewed the Quality First program for viability and effectiveness. Procedures reviewed include QAP C15.4, Quality Concern Investigations, and QAP W18.2, WCGS Audit Procedure. The program appears procedurally sound. Several allegation files were reviewed including the following:

QCI-84-02	QCI-84-10	QCI-84-14(Y)	QCI-84-18
QCI-84-23	QCI-84-29	QCI-84-31	QCI-84-42W
QCI-84-44	QCI-84-49	QCI-84-66T	QCI-84-67
QCI-84-83W	HOT-84-03	HOT-84-11	

Actions to resolve concerns were clearly identified and assigned in each file. Also, individual concerns were cross referenced to a generic concern list. However, concern was expressed to management regarding timeliness of responses by the action parties. There were at least 31 individual concerns identified in the startup area and some had been open for several months. One allexer stated to the RRI that while he was satisfied with the program, he was not satisfied with the timeliness of responses. Top management personnel informed the RRI that they have reemphasized the importance of providing accurate and timely responses to queries from the Quality First team.

The Quality First program appears to have widespread acceptance and confidence of the employees. In a few cases, employees have identified their concerns to the Quality First team for response and also informed an NRC inspector. In one instance, a former employee wished to pursue his concerns with an NRC inspector after first making the Quality First team aware of them. An item which was pursued further by the RRI after first being identified in the Quality First program is identified in paragraph 4 of this report.

The RRI established a periodic schedule with the Quality First team for reviewing the status of allegations and findings.

No violations or deviations were identified.

6. Preoperational Test Procedure Review and Test Witnessing

a. Tests Reviewed and Witnessed

The NRC inspectors reviewed the following test procedures and witnessed selected parts of test performance as described to ascertain compliance with Final Safety Analysis Report (FSAR) commitments, test program administrative requirements and procedural compliance.

(1) SU3-EJ01, RHR Cold Preoperational Test

The RRI observed the following steps:

- . 7.7.3 to 7.7.11
- . 7.7.21 to 7.7.28
- . 7.7.30 to 7.7.33
- . 7.9.13 to 7.9.30

Concern was expressed to startup management by the RRI regarding the acceptance criteria in Step 7.7.11. It requires Valve FCV 610 to close at 803 + 30 gpm. However, the indicator has 25 gpm increments marked. It is important that all required indications can reasonably be read on the available instrumentation to instill confidence in the test procedure. Another concern was expressed regarding closeout of a Test Discrepancy Log entry for calibration of FIS-610. The calibration document was not listed when the item was closed out. It could be difficult to trace the calibration sheet at a later date. It was observed that Sheet 13 of 79 of TCN #001 was not numbered per ADM 14-200, Rev. 6, Section 4.2.1.4.7. Also, supplementary signature identification sheets were not marked "controlled" per ADM 14-200, Rev. 6, Section 4.3.6.2. The test data appeared valid.

(2) SU3-EM02, Safety Injection Flow Verifications

The RRI observed the following steps:

- . 7.1.16 to 7.1.30
- . 7.3.6 to 7.3.22
- . 7.4.56 to 7.4.58

The following observations were made regarding the test data:

- . In Step 7.1.16, EM HV8882 failed to give a close indication per the Chronological Test Log. No TD was written.
- . For Step 7.1.27, the Chronological Test Log indicates it was necessary to close vice open throttle valves to obtain desired pressure. No TD nor TCN was assigned.

- . The QCW initials entered in Step 7.1.35 were not found on the signature identification list.
- . For Step 7.1.54, the Chronological Test Log indicates valves were closed vice opened per procedure. No TD nor TCN was assigned.
- . In TCN #1, page 7 of 22, the procedure page number was not numbered per ADM 14-200, Rev. 6, Section 4.2.1.4.7.
- . Several typographical errors were identified in the procedure, but no TCN had been initiated.
- . In the TCN Log, TCN-005 did not have the description/remarks section filled in.
- . In the Discrepancy Log, TD-001's associated resolution document was listed as TCN-004. TCN-004 does not address TCN-001. This is apparently the result of untimely issuance of TCNs causing confusion in the numbering.
- . Steps 7.7.40 and 7.7.41 were skipped. This requires issuance of a TCN prior to continuing the test per ADM 14-200.

(3) SU3-BG03, Charging System

The following observations were made regarding the test data:

- . Step 7.2.1 reads, "Verify the fail position of the valves listed on data sheet 8.2 and Appendix F fail safe test data." In addition to obtaining required data, test personnel measured close/open stroke time and recorded data on Appendix F. They later realized stroke time measurements were required later under dynamic conditions. They then lined through all entries and recorded fail safe test accomplishment incorrectly in test failed column. The Appendix F data sheet was extremely difficult to read.
- . TCN-004 was not recorded in the TCN log and was placed behind the third page of procedure vice in TCN section of procedure as required by ADM 14-200, Rev. 6, Section 4.6.1.
- . TD-009 was not logged on Chronological Test Log as required by ADM 14-200, Section 4.6.1.
- . The initial positioner on the Appendix C valve line up sheet did not sign the Signature Identification List.

(4) SU3-BG05, Boric Acid Blending System

A portion of the test was witnessed. No specific observations were made.

(5) SU3-SA01, Engineered Safety Features Actuation System

Observed the following steps:

- . 7.9.2 to 7.9.11.2
- . 7.6.6.2 to 7.6.8.5
- . 7.3.6
- . 7.3.7

A portion of the test observed was performed insofar as possible in accordance with the procedure. Test discrepancies were properly logged and dispositioned. The startup program administrative controls were implemented. In Step 7.9.5, the system startup engineer inadvertently placed the wrong channel in the TEST BYPASS Mode. When the required responses were not received in Step 7.9.6, the switch position error was discovered. This indicates a need for a program to ensure that all channel switches are positioned correctly prior to plant startup.

(6) SU3-KJ01, Diesel Generator Mechanical

The procedure satisfactorily meets the stated purpose of the test and verifies the mechanical portions of diesel generator operation. Included are diesel trip, starts, coming up to speed and interlocks. The NRC inspector witnessed performance of portions of this test on diesel generator B. Section 7.2 was satisfactorily completed. Problems encountered during the test were dispositioned and documented per ADM 14-200, Rev. 6.

The NRC inspector found two statements indicating failure to adhere to ADM 14-200 in the Chronological Test Log. No action had been taken on these items for three days. The NRC inspector brought this to the attention of the system test supervisor and the test was stopped.

One statement indicated that the test was started without the Test Start Authorization signed. This was correct. The valve lineup was completed and signed off on the test data sheet the day before the test was authorized to start. Another valve lineup and independent verification was performed with no discrepancies noted subsequent to formal authorization of test start. A review of the portion of the test completed indicated no impact on validity.

The other statement dealt with instrument calibration support and was resolved before restart of the test. KG&E reiterated to all test engineers the requirements of ADM 14-200 and the need for compliance. Subsequent review of the Chronological Test Log shows great improvement and compliance. System test supervisors and QC personnel were directed to improve their test and log reviews.

Testing was resumed. The NRC inspector witnessed the completion of Section 7.2 for the B diesel generator.

(7) SU3-BB05, Reactor Coolant System Hot Preoperational Test

The NRC inspector reviewed the test procedure, supporting documents, schedules and physical preparedness for the test start. No major problems were noted.

The procedure was reviewed for technical adequacy and interfaces with support tests and plant conditions. The procedure is a skeleton document for controlling plant conditions, evolutions, and support tests that will heat up the plant and operationally check reactor coolant system equipment and instrumentation. The procedure seems acceptable as a guide for completing the stated requirements. Some steps in the procedure do however require the performance of certain activities that are not specifically directed by a referenced document; for example, do you draw a bubble in the pressurizer, if so, what procedure? Performance of SU3-BB05 will require great attention and specificity of details during its performance because of its skeletal nature and its reliance on supporting test and operational procedures.

The RRI observed selected installation activities performed in preparation for SU3-BB05 performance among which were the following:

- . Installation of the lower internals per Wolf Creek Work Request 9015-84.
- . Installation of the reactor vessel head per Wolf Creek Work Request 9153-84.

The procedures appeared to be acceptable and the work was properly performed and documented.

b. Common Documentation Discrepancies

Certain test data reviewed did not totally comply to the letter with the strict requirements of Startup Administrative Procedure ADM 14-200, Rev. 6, Preoperational Test Program Implementation. These discrepancies were discussed with KG&E management and they indicated an intent to comply strictly with ADM 14-200. To this end, they conducted retraining for all test personnel which emphasized the requirements of ADM 14-200 and the need for strict compliance. Some of the common documentation discrepancies observed are as follows:

- . A few Test Discrepancies (TDs) were not listed in the Chronological Test Log.
- . Entries to the Chronological Test Log explaining why the TDs would not invalidate subsequent steps/sections were not always made.
- . TCNs were not always written in a timely manner. In one instance, the intent was expressed to proceed with the test and combine several minor discrepancies into one TCN to be written after that particular section of the test was completed. In another instance, this resulted in a duplication of TCN numbers.
- . In a number of instances, the system startup engineer entered explanations in the Chronological Test Log in lieu of generating TDs when expected responses were not obtained.

Examples of these observations are provided in Sections 6.a(1) through (4) above. For other test data reviewed, none of the above discrepancies were observed, e.g., Sections 6.a(5) through (7) above. None of the discrepancies observed appeared to have potential of invalidating test results. Test data reviewed by NRC inspectors subsequent to the retraining of test personnel showed a compliance with ADM 14-200.

c. Test Procedures Reviewed

The NRC inspectors reviewed the following test procedures to ascertain compliance with FSAR commitments:

- . SU3-EG01, Rev. 1, Component Cooling Water System
- . SU3-EF01, Rev. 2, Essential Service Water System

Enforcement action on these items in paragraph 6 will be taken in a subsequent NRC Inspection Report STN 50-482/84-20.

7. Action on Previous Inspection Findings

The actions in response to the following violations have been reviewed and appear adequate; therefore, these items are closed:

(Closed) Violation (STN 50-482/8222-02): Failure to properly follow procedures in that the pressurizer exterior was not maintained after installation in the containment. This apparent violation occurred as a result of inadequate Routine Maintenance Instruction (RMI) documentation control. Adequate clarification that the RMI requirement was not applicable after installation was received from the vendor but the RMI was not revised to reflect this clarification. Corrective actions have been taken to ensure all RMI's are being complied with completely. The licensee actions appear complete and continuing.

(Closed) Violation (STN 50-482/8222-03): Failure to maintain adequate quality records in that the pressurizer maintenance log was not completed or signed as required. Additional documentation was provided to ensure the pressure was maintained during the period in question. Additional corrective actions have been taken to prevent recurrence of similar record keeping requirement breakdown. These actions appear to be adequate.

(Closed) Violation (STN 50-482/8222-04): Inadequate corrective actions in that CAR 1G011 of November 17, 1981, did not identify or correct the inadequate control or performance of RMI W 130 for the pressurizer or RMI W 120 for the steam generators. Additional revisions to procedures have been made to ensure adequacy of all corrective actions and to ensure timely completion of all corrective actions. These actions appear complete and continuing.

(Closed) Violations (STN 50-482/8312-01): Failure to follow construction procedures. The weld in question was reradiographed and 579 Dravo Corporation pipe weld radiographs were reviewed. No other deficiencies were found, therefore, this is considered to be an isolated case. The licensee actions appear complete in evaluating the problem.

(Closed) Violation (STN 50-482/8312-02): Failure to follow construction procedures. The weld in question was reradiographed, ground down, and rewelded. Three additional welds were identified as having been welded using the same procedure as the weld for which the violation was issued. These were also reradiographed and repaired as required. Procedures are now in place to prevent the recurrence of similar incident. These steps appear to resolve the problem and procedures were available in a timely manner.

(Closed) Violation (STN 50-482/8401-01): Failure to control nonconforming material. To adequately control nonconforming materials, procedures were implemented that ensured proper authorization was attained for the nonconforming item usage and that the item's usage was recorded for disposition. The nonconforming items in place were reviewed for required authorizations and paperwork per the new procedure. These steps appear to adequately address the problem.

(Closed) Violation (STN 50-482/8325-01): Failure to follow quality requirements. The Piece A on the hanger in question has been scrapped and a new piece installed. Other Piece A's with abandoned holes which were welded utilizing the same procedure have been accepted "as is." Daniel has conducted retraining for all welders and foreman to emphasize contacting weld superintendents or engineering when questions arise as to which technique to use for a specific weld. This action should preclude any future violations.

(Closed) Violation (STN 40-482/8302-02): Failure to adequately control activities affecting the quality of safety-related work in that the system turnover program was not accurately documenting all deficiencies in the system being turned over. The licensee committed to completion of the following items prior to system turnover to operations.

- . Complete the implementation of the Daniel procedural changes, training, and organizational changes and the key recommendations of the Task Force on quality documentation.
- . Complete the revised turnover and verification process on a trial basis for a safety-related system.
- . Establish a schedule for the verification of safety-related systems already turned over.
- . Complete the BN01 Surveillance Report evaluation and implement corrective action.

- . Issue a letter to all Wolf Creek personnel and conduct followup quality emphasis meetings by senior management personnel.
- . Establish a schedule for completion of the Daniel and KG&E management assessment audits.
- . Implement the revised 10 CFR 50.55(e) procedure.

The licensee has incorporated and is continuing to apply the necessary actions and procedures necessary to ensure their quality program is a sound one. The licensee's actions appear complete and continuing.

(Closed) Violation (STN 50-482/8405-01): Failure to provide control of the use of nylon screws in electrical terminations. An inspection program was initiated to identify wire terminated with nylon screws. Procedures were implemented to control the use of nylon screws and permanently terminate wires. These steps appear to have resolved this problem.

(Closed) Violation (STN 50-482/8409-01): Failure to control activities affecting quality. KG&E has instituted controls on buildings and rooms that appears to give adequate assurance quality will be maintained.

(Closed) Violation (STN 50-482/8336-02): Failure to follow procedures. The documents in question were updated as required and the procedures were revised. These steps appear to have adequately addressed the problems delineated in the violation.

(Closed) Deviation (STN 50-482/8336-03): Failure to comply with FSAR commitment to ANSI N45.2.12-1977. The reports in the KG&E record room had the field notes attached which had the positive finding in them. The procedure was revised to require that positive and negative findings are reported. These steps appear to adequately address the problems identified.

8. Exit Meeting

The RRI met with licensee personnel on August 9, 1984, to discuss the scope and findings of this inspection.