APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

Report: STN 50-482/82-22

Docket: STN 50-482 Category A2

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

Facility Name: Wolf Creek Generating Station

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

Inspection Conducted: December 1 - 31, 1982

Inspector: W. S. Schum 1/24/83
W. S. Schum, Resident Reactor Inspector, Operations, Reactor Project Section C — Date

Approved: W D Johnson 2/10/83
W. D. Johnson, Chief, Reactor Project Section C — Date

Inspection Summary

Inspection During December 1 - 31, 1982 (Report STN 50-482/82-22)
Areas Inspected: Routine, announced inspection by the Resident Reactor Inspector (RRI) (Operations) of the following areas: site tours; review of pre-operational test procedures; observations of pre-operational test performance; station clearance order procedures; review of Daniel International Corporation (DIC) and Kansas Gas and Electric Company (KG&E) audits; lay up maintenance procedures; and steam generators and pressurizer in place maintenance. The inspection activity involved 89 inspector-hours by the RRI.

Results: Of the seven areas inspected, four violations were identified in two areas (station clearance order procedure, paragraph 5, and three violations involving steam generators and pressurizer maintenance, paragraph 7).

Two unresolved items were identified, one in paragraph 7, steam generator maintenance and the other in paragraph 3, review of pre-operational test procedures.

## DETAILS

1. Persons Contacted

Principal Licensee Personnel

*D. W. Prigel, QA Manager, Wolf Creek Generating Station (WCGS)
*J. A. Zell, Operations Supervisor, Kansas Gas and Electric (KG&E)
*G. D. Boyer, Technical Support Supervisor, KG&E
*N. L. Hill, Startup Manager, KG&E
*G. L. Fouts, Construction Manager, WCGS
*N. W. Hottel, QC Supervisor, Startup, KG&E
S. W. Semmes, Startup Engineer, KG&E
T. Gardner, Systems Test Supervisor, KG&E
B. Hairfield, Startup Engineer, KG&E
*H. M. Handfinger, Assistant Manager, Startup, KG&E
*O. L. Thero, QA Surveillance Supervisor, KG&E
*J. Godleski, Startup QC, KG&E
K. Harvey, Startup QC, KG&E
*F. T. Rhodes, Plant Superintendent, KG&E
*T. D. Keenan, Director-Nuclear, Operations, Corporate, KG&E
*D. R. Smith, Plant Support Supervisor, KG&E
*J. L. Stevenson, Secretary, Operations, KG&E
*G. W. Reeves, Assistant QA Manager, WCGS
M. Johnson, Nuclear Engineering Manager, Corporate, KG&E
*G. L. Koester, Vice President-Nuclear, Corporate, KG&E
*M. D. Rich, Maintenance Supervisor, KG&E

Other Personnel

*M. Williams, Quadrex, Consultant
G. Egan, Aptech Corporation
E. Williams, Westinghouse Nuclear Services
G. Glasbergen, Westinghouse, Site Project Manager

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

*The above listed personnel attended one or more of the exit meetings held on December 2, 9, and 16, 1982.

2. Site Tours

The RRI conducted tours of the majority of the site facilities during the course of this inspection. During one of these tours, a review of the clearance order book was conducted. This area is the subject of paragraph 5 of this report.

3. Review of Pre-operational Test Procedures

The RRI continued the ongoing procedure review with the following observation:

A. (NK) 125 Volt DC (Class 1E) System

The review of the changed procedure prompted questions on the completeness of the test effort associated with the battery chargers. The licensee presented manufacturer's test data, for all the chargers involved with the NK system. This data is comprehensive and complete and gives good assurance of the characteristics and performance capability of the chargers. The review of this procedure further revealed that the acceptance criteria associated with the chargers ability to recharge the Class 1E battery within 12 hours after a test discharge relied upon battery charger output indication; i.e., the charger current stablized for 3 hours. This procedure should also include a check of the battery condition to insure its charged state. The licensee has agreed to review this position.

The RRI's review of this and other test procedures revealed a lack of clear identification of temporary modifications in the restoration section of the pre-operational tests. The Final Safety Analysis Report (FSAR) and the IEEE Standard 336 require clear identification to ensure removal. When this was brought to the attention of the licensee, assurances were given that the procedures were changed to add this information.

The RRI will monitor this aspect of the pre-operational tests in the future to ensure it is adequately addressed. This is an unresolved item. (482/8222-05)

4. Observation of Pre-operational Test Performance

A. (NB) 4160 Volt (Class 1E) System

The RRI observed various steps in the conduct of the NB system pre-operational test (pre-op). Due to construction activities and

design changes, several portions of this test could not be accomplished. These portions (undervoltage relays and their effects on the load shed/load sequencer, computer point verification, and actions associated with the engineered safety features activation system) will be completed at a later time in retest portions of the pre-op.

During the course of this test a few problems were encountered. The "trouble shooting"; i.e., problem location and cause, was performed in a logical, controlled safe manner. The group of technicians conducting the trouble shooting have definite bounds within which they will work and they appear to have excellent knowledge of the systems and equipment they are testing.

One problem identified by this trouble shooting method was a dirty set of contacts that would not allow proper indicating light operations. This problem was corrected by discussion and agreement between the system startup engineer, maintenance technicians, and operations personnel as to the correct course to follow. This was recorded in the chronological test log. Action taken to correct the problem was successful and the test was continued.

This pre-operational test was conducted in accordance with the approved procedure.

5. Review of Clearance Order Procedures (Tag Out System)

On December 8, 1982, during a tour of the plant, the RRI reviewed the Clearance Order Log Book located in the control room. The RRI identified the following examples of failure to properly follow Administrative Procedure ADM 02-100, "Clearance Order Procedure":

- ADM 02-100 requires the tagging requestor to identify himself/herself by name in the requestor's space. On the following clearance orders and on all "boundary tag" clearance orders, the requestor was not identified by name, only by title: Clearance Order Numbers 82-594, 82-593, 82-590, and 82-589. The space provided for the requestor to sign acknowledging the tagging, and for the person who must sign that work is complete and authorizing tag removal was filled in with the words "shift supervisor". The ADM requires the person requesting the tag out to either supervise the work or perform the work, which would put him in a position to know if work is complete.

- ADM 02-100 requires the requestor to sign the appropriate space after tags are hung. On Clearance Orders 82-1368, 82-1229, and 82-459, the requestor had not signed the clearance order after tagging was complete.

. ADM 02-100 requires that the requestor/requestors that have "signed on" the clearance order must "sign off" acknowledging completion of work and requesting tag removal. On Clearance Order No. 82-1236, although the requestor had "signed on" with his signature which acknowledged the tags were hung and allowed him to start work, someone had printed his name in the block requesting clearance of the tags.

The above are multiple examples of failure to properly follow procedures as required by 10 CFR Part 50, Appendix B, Criterion V which requires, in part, that activities affecting quality shall be prescribed by procedures and shall be accomplished in accordance with these procedures. This is an apparent violation. (482/8222-01)

6. Review of Audits

The RRI reviewed the following KG&E and DIC audits and surveillances in the course of this inspection.

. DIC - Quality Audit Report (QAR) No. 79 - Quality Verification of Maintenance, March 1982

. DIC - QAR No. 75 - Preservation of Safety-Related Materials, November 1981

. DIC - QAR No. 73 - Handling, Storage and Shipping of Equipment, September 1981

. DIC - QAR No. 69 - Receipt, Storage, and Preservation of Safety-Related Material, May 1981

. DIC - QAR No. 63 - Storage and Maintenance of Motorized Limitorque Valve Actuators, November 1980

. DIC - QAR No. 57 - Material Storage, May 1980

. DIC Surveillance: TE57061-K70 of June 14, 1982, of Mechanical/Welding Surveillance Audit

. KG&E Audit: TE57953-K006 of September 21, 1982, on KG&E Operations Corrective Action

The following KG&E Surveillance Reports were reviewed:

- S-226 - 6/22/80 - WP-I-01 NSSS Component Reviewing and Storage Criteria
- S-535 - 7/22/82 - Westinghouse Maintenance and Storage Program
- S-330 - 6/17/81 - Storage and Maintenance of Motor Operated Valves, Pumps, and Motor Control Centers
- S-350 - 8/05/81 - Equipment Storage and Maintenance; Space Heaters
- S-436 - 1/19/82 - Reactor Coolant Pump Maintenance
- S-441 - 1/19/82 - Constructor Valve Maintenance Program
- S-515 - 6/23/82 - Storage of NB Switchgear, Configuration of NK Battery System
- S-578 - 9/29/82 - Maintenance of Reactor Coolant Component Supports

No violations or deviations were identified.

7. Steam Generators and Pressurizer in Place Maintenance

During discussion with the licensee on December 14, 1982, the RRI learned that a problem had been identified with the care and maintenance of the four Westinghouse steam generators and the pressurizer. The issues involved are discussed below:

A. Steam Generators

A review of maintenance records of the steam generators reveals that by September 18, 1980, all steam generators had the nitrogen pressure released. This was apparently done to permit attachment of the various piping systems to the steam generators. However, no maintenance or inspections were performed on the steam generators since that time. These vital components have been open to the atmosphere with no controls on internal environment, and no inspections performed for a period in excess of two years. In addition, the records reveal a note from Mr. Bill Suvak of Westinghouse dated December 8, 1981, addressed to Daniel International Corporation (DIC) that states: "With Reactor Vessel, Steam Generators, and Pressurizer installed in containment building, Westinghouse does not require areas where carboline paint has come off to be repainted".

Based upon this memo DIC stopped maintaining the exterior shells of the steam generators.

However, the "Receiving and Maintenance Instructions" (RMI) still requires the monthly inspection and paint touch up of exterior surfaces. The RMI's agree in this requirement with the SNUPPS released Westinghouse Technical Manual for Steam Generators No. 1440-C306 of June 1979.

This is an apparent violation.
(482/8222-02)

Comparison of the RMI's and the Westinghouse Technical Manual revealed that the RMI requires the exterior maintenance but does not address any internal environment conditions. The technical manual requires contact be established with Westinghouse Tampa, Florida, for specific requirements for interior environment after removal of the nitrogen purge. The RRI has been unable to locate any correspondence showing that this requirement has been met. When the lack of maintenance or inspection was identified, the licensee promptly contacted the vendor and an outside consultant (Aptech Engineering Services) to conduct inspection in the various steam generators and the pressurizer. At the time of this writing, the reports from these sources have not been published and this will be addressed in a later report. However, the interior surfaces were not badly rusted and little if any damage appears to have occurred.

This is an unresolved item. (482/8222-06)

During the course of the above inspections two loose items were located in the steam generators.

1. A steel wedge 3 1/2 inches long, 2 inches wide, 1 7/16 inches thick at the large end and 1/2 inch thick at the small end, weighing 30.03 ounces was located in the 'B' steam generator on the lower deck plate between the dished head and the swirl vane tubes.

2. In a similar location in the 'C' steam generator, a steel file measuring 8 1/16 inches overall, 1/8 inch thick, 5/8 inch wide at its widest point and weighing 79.29 grams was located.

Also in the 'B' steam generator there is loose debris from some apparent vendor cleaning effort of the welds inside the steam generator. This debris is being analyzed by the licensee to determine the exact nature, but it would appear to be filings and grinding material, wire brush wires, some sponge-like material, and some wood chips.

The above items may have been left from fabrication of the steam generators.

B. Pressurizer

A review of the pressurizer storage and maintenance requirements and maintenance records showed the following:

1. There are no requirements to maintain nitrogen on the unit after erection. Prior to erection the technical manual and the RMI both require nitrogen pressure to be maintained and recorded on a weekly basis.

2. After installation there is a monthly requirement in the RMI to inspect the exterior of the pressurizer shell for damage, and prior to July 28, 1982, there was a requirement to touch up the carboline paint when required.

Review of maintenance records reveal no record of pressurizer maintenance was maintained from February 6, 1980, until August 19, 1980, and from January 25, 1982, through September 20, 1982, in accordance with equipment maintenance requirements.

This failure to adequately maintain records of pressurizer maintenance is an apparent violation. (482/8222-03)

Additionally, the requirements for the pressurizer outer shell from receipt until the RMI was changed with Revision 7 July 28, 1982, was to inspect and touch up the paint as necessary. Contrary to those requirements the paint was not touched up. The records reveal statements that the paint will be "touched up" at the end of construction. This is an additional example of failure to properly follow procedure. (482/8222-02)

C. Corrective Action

The preceeding sections of this paragraph address care and maintenance of safety-related equipment. During the course of this inspection it was found that the problem of inadequate maintenance requirements has previously been identified by quality engineering in surveillance conducted in November 1981. As result of this surveillance, a Daniel International Corporation Corrective Action Report No. 1G0011 of November 15, 1981, was initiated. This

corrective action required quality to review all completed maintenance records in the document room (DIC). It further required the DIC construction department to review all RMI's issued to date (March 4, 1982) to assure that all vendor requirements had been incorporated. These corrective actions were recorded as complete on November 29, 1982.

A review of maintenance records and RMI's associated with the pressurizer and the steam generators shows that this corrective action was inadequate.

The licensee's failure to take appropriate and adequate corrective action in response to identified conditions adverse to quality is an apparent violation of Criterion XVI of 10 CFR Part 50. (482/8222-04)

8. Inspection of Preventive Maintenance Program During Startup Testing

The RRI reviewed the requirements of Administrative Procedures ADM 08-150, Revision 0, "QC Interface and General Program Description For Lay Up Maintenance at WCGS" and ADM 08-151, "Lay Up Mode Maintenance Program". From the equipment turnover from DIC to the KG&E startup organization; until the equipment is in its final operational mode, the care and maintenance of equipment is controlled by the ADM's.

This maintenance is scheduled, performed, and documented by the Newport News Industrial Company (NNIC) under the director of the KG&E maintenance supervisor.

The RRI reviewed these procedures with the following findings.

1. ADM 08-150 refers to the KG&E lay up maintenance program and the next sentence refers to the NNIC lay up maintenance program. These should be the same program.

2. ADM 08-150, paragraph 5.3.1 specifically states when NNIC assumes responsibility and then NNIC will scope the system and determine its maintenance requirements. By waiting to determine scope and activities until turnover, the possibility of exceeding maintenance intervals is increased.

3. ADM 08-150 requires NNIC QC inspectors to qualify to ADM (11-006) while ADM 08-151 requires QC inspectors to qualify to two different ADM's (09-008 and 11-003).

4. ADM 08-150 required QC inspectors to qualify to a QC inspection procedure.

The above items are all being corrected by the licensee at this time.

The RRI upon completion of the procedure review held discussions with the personnel of NNIC who are tasked with generating maintenance requirements, and the NNIC QC supervisor. These discussions and inspection revealed the following.

. NNIC has been charged with the lay up maintenance since October 25, 1982, and they are still in the early stages of program implemenation.

. There is at present no vehicle by which NNIC can know when equipment changes status and therefore, maintenance requirements may change without their knowledge.

. Discussion held with the QC supervisor shows a need for more intimate knowledge of the maintenance surveillance program on the part of QC.

. At the time of this inspection, the KG&E maintenance supervisor had not approved the various maintenance requirements.

. A review of selected maintenance documents associated with the NNIC maintenance showed:

1. There were items in the Master Component Activity List (MCAL) that were not in the master lay up maintenance files, specifically (NB) 4160 volt Class 1E breakers.

2. There were items on the automated work request that were not on the MCAL.

3. A review of the NK (DC Class 1E Battery) Lay Up Maintenance (LUM) list showed 10 annual maintenance requirements. However, the work request run off had only 6 items.

4. Review of several work requests identified the need to key the work request to a revision number of the MCAL and possibly the date of the work request. This is needed to prevent use of outdated work requests getting maintenance signed off on new requirements.

The licensee and NNIC are still in the process of establishing this system and when complete the lay up maintenance program should be more than adequate.

No violations or deviations were identified.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in paragraphs 3 and 7.

10. Exit Meetings

The RRI held exit meetings with various personnel on December 2, 9, and 16, 1982, and met with management personnel on December 30, 1982, to discuss the findings of this inspection.