U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION IV

Report No. STN 50-482/78-01

Category A2

Docket No. STN 50-482

Licensee: Kansas Gas and Electric Company
Post Office Box 208
Wichita, Kansas 67201

Facility Name: Wolf Creek, Unit No. 1 (SNUPPS)

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

Inspection conducted: January 4-6, 1978

Inspectors: for W. A. Crossman — 1/19/78 Date
C. R. Oberg, Reactor Inspector, Projects Section
(Paragraphs 1, 2, 3, 4, 5, 10 & 11)

L. D. Gilbert — 1/19/78 Date
L. D. Gilbert, Reactor Inspector, Engineering Support Section (Paragraphs 6 & 7)

for W. A. Crossman — 1/19/78 Date
T. L. Elsasser, Reactor Inspector, Region I
(Paragraph 8)

for W. A. Crossman — 1/19/78 Date
J. C. Mattia, Reactor Inspector, Region I
(Paragraph 9)

Approved: W. A. Crossman — 1/19/78 Date
W. A. Crossman, Chief, Projects Section

R. E. Hall — 1/19/78 Date
R. E. Hall, Chief, Engineering Support Section

Inspection Summary:

Inspection on January 4-6, 1978 (Report No. STN 50-482/78-01)
Areas Inspected: Internal audit reports; observation of containment base mat; review of quality records pertaining to the base mat concrete placement; review of Essential Service Water pipe welding records; observation of containment liner welding; review of QA procedures relating to safety related structures and supports; observation of work and review of quality records pertaining to the Auxiliary Building structural steel. The inspection involved seventy-eight inspector-hours on site by four NRC inspectors.
Results: Of the eight areas inspected, no apparent items of noncompliance were identified in seven areas; two items of noncompliance were identified in one area (infraction - failure to follow testing frequency for production Cadwelds, paragraph 4; infraction - failure to review as-built drawings, paragraph 5).

DETAILS

1. Persons Contacted

Principal Licensee Personnel

*J. O. Arterburn, Superintendent of Nuclear Development
*M. E. Clark, Manager, Quality Assurance, Site

Daniel International

*W. E. Hitt, Project Manager
*C. T. Kinney, Construction Manager
R. N. Key, Civil QC Supervisor
*D. L. Jones, QC Manager
*A. S. Harper, Engineering Manager
*C. L. Phillips, Project Civil Engineer
*G. W. Reeves, QA Engineer
D. J. Dennison, Assistant QC Manager
C. A. Sturgill, Acting Lead QC Mechanical/Welding Engineer
S. O. Tackett, QC Mechanical/Welding Engineer
J. A. Roach, Project Welding Engineer
I. Hussain, QA Manager
E. Dixon, Services QC Engineer
S. A. Johnson, Civil QC Inspector
J. C. Aldridge, Lead QC Receiving Inspector
S. Bender, QC Inspector

SNUPPS

R. D. Brown, Site Representative

Chicago Bridge & Iron

W. F. Hiser, Project Welding and QA Supervisor
C. L. Richards, Project Superintendent
L. W. Brook, Welding Inspector

The inspector also interviewed several other licensee and construction employees during the course of the inspection. They included members of the Document Control Section, QC inspectors and general office personnel.

*denotes those attending the exit interview.

Site Tour

The inspector walked through the various areas of the site to observe the construction activities in progress, to inspect the base mat placement subsequent to removal of the forms, to review the welding of the containment liner plate, and to check the general state of housekeeping during construction.

No items of noncompliance or deviations were identified.

Licensee Internal Audits

The inspector reviewed the following audit reports issued by Daniel:

Quality Assurance Report No. 26, 11/3/77

Quality Assurance Report No. 27, 12/8/77

Quality Assurance Report No. 28, 01/4/78

The inspector determined that Daniel International had conducted audits in the following areas related to base mat placement:

Concrete Pre-placement

Mechanical Splicing of Reinforcing Steel

Reinforcing Steel Placement

Civil Testing Lab Procedure (Destructive)

Concrete Placement

Concrete Batch Plant Qualification

Concrete Mixing and Delivery

Storage of Concrete Materials

Post Placement of Concrete

No items of noncompliance or deviations were identified.

4. Review of Quality Records for Containment Base Mat Placement

The inspector reviewed the records associated with the concrete placement for the reactor base mat (Placement No. OC221507). The inspector examined the records for conformance to established procedures and determined that they reflect work actually accomplished. Specifically, the following records were examined:

a. Preplacement Checklists.

b. Delivery and Placement records including delivery of specified mix, batch (trip) tickets, records of required tests taken and placement inspection records.

c. Curing records - the records reviewed included concrete temperature, ambient temperature, duration of curing, and post placement inspection report.

d. Rebar Splicing - records reviewed included:

(1) Individual Cadweld splicer logs (September - November, 1977)

(2) Daily Cadweld Inspection Reports (August - December, 1977)

(3) Cadweld Test Report No. 1-31

(4) As-built drawings of Cadweld splices and rebar placement (see paragraph 5)

(5) Audits of Mechanical Splicing of Reinforcing Steel (QAR #26) (see paragraph 3)

The inspector also reviewed Deficiency Reports (DR) and Nonconformance Reports (NCR) relating to concrete placement as listed:

DR

C-00302, 297 and 288

NCR

1-00102, 103, 114 and 116-120

Specification No. 10466-C115, paragraph 7.2.1 requires Cadweld splices to be tested with a specific frequency. While reviewing the records for individual (team) splicer ID "N", the inspector observed that a horizontal sister splice (HH-135-S) had been tested in lieu of a required production splice.

This is considered an item of noncompliance.

5. As-Built Drawings for Cadweld Location

The inspector reviewed the as-built drawings which locate and identify original and replacement splices for those production splices removed for destructive testing. On drawings FD-C Cadweld 58, Rev. 0 and FD-C Cadweld 71, Rev. 0, it was noted that the Cadweld locations were not drawn in accordance with the location information supplied by QC (Daily Cadweld Reports). The same condition existed on all similar drawings. A review of the following Daniel Procedures was then made:

AP-III-02, Rev. 0 (9/13/76) As-Built Drawings

QCP-I-05, Rev. 1 (8/22/77) QC Processing of QA Records

QCP-IV-102, Rev. 1 (9/1/77) Mechanical Splicing of Reinforcing Steel

WP-IV-102, Rev. 1 (10/20/77) Mechanical Splicing of Reinforcing Steel

Section 17 B.1.6, Document Control, of the SNUPPS PSAR assigns responsibilities for the implementation of measures to control the review and approval of quality documents, including drawings.

The inspector concluded that the requirements of the above procedures did not provide for a quality review of Cadweld splice as-built drawings. This item was discussed with the licensee and his representatives.

This is considered an item of noncompliance.

6. Essential Service Water Piping

The inspector reviewed the quality records for weld No. F-074 of the Essential Service Water piping system identified on Daniel drawing No. 206. The open root, butt joint was welded by Daniel using a combination of the gas tungsten-arc and shielded metal-arc welding processes with E70S-2 and E7018 welding material. The completed weld was magnetic particle inspected, by a Peabody certified Level III MT inspector, to the requirements of ASME B&PV Code, 1974 edition ND 5000.

No items of noncompliance or deviations were identified.

7. Containment Liner

The inspector observed the work accomplished by Chicago Bridge and Iron (CB&I) in fabricating the reactor containment liner floor. The liner plate butt joints were welded with E6010 for the root pass and E7018 for the remainder, using General Weld procedure GWPS-SMA, Rev. 1 and weld procedure specification E7018/74-3750/59, Rev. 2. Welders were identified as qualified for the welding process, electrode and position

used for welding the liner floor. Fabrication of the liner by CB&I was found to be in accordance with Bechtel Technical Specification No. 10466-C151(Q), Rev. 10.

No items of noncompliance or deviations were identified.

8. Review of Quality Assurance Implementing Proceudres for Safety Related Structures and Supports

The inspector determined that appropriate and adequate procedures are included or referenced in the QA manual to assure that the following activities are controlled and performed according to NRC requirements and PSAR commitments:

- Procedures which identify where witnessing or inspecting is required during the erection of structural steel.
- Procedures for receiving inspection.
- Procedures for storage, protection, issue, identification and records of materials and components used for safety related structures.
- Procedure for QC inspection of installation of structures and supports.

The following specification, work procedure (WP), quality control procedures (QCPs) and Administrative procedures (APs) were reviewed by the inspector:

- Bechtel Specification No. 10466-C122(Q), Rev. 7, 9/9/77
- Daniel Work Procedures

  WP-I-01, Rev. 3, 8/8/77

  WP-IV-III, Rev. 0, 11/7/77
- Daniel Quality Control Procedures

  QCP-I-01, Rev. 1, 3/28/77

  QCP-IV-III, Rev. 0, 11/16/77
- Daniel Administrative Procedures

  AP-VI-08, Rev. 2, 9/29/77

No items of noncompliance or deviations were identified.

9. Observation of Work and Review of Quality Related Records, Auxiliary Building Steel

The inspector verified that provisions of the Bechtel specification and the Daniel procedures referenced in paragraph 8 were being met in the following areas:

a. Storage

The inspector observed that the storage of several QC accepted structural beams (K 6710, 609-B1-124, 621-B1-123, 506-B7-101) for the Auxiliary Building was satisfactory. During this inspection, the inspector noted that the beams covered by deficiency report CR-141, 8/19/77, were segregated by the use of a rope-flag system. Further inspection revealed that several of the beams identified on the applicable tag were not inside the roped off area. Although the segregation of non-acceptable material was satisfactory, i.e., no green "acceptance" marking, the rope barricade had not been extended to define the full limit of the hold area. The licensee agreed to instruct QC personnel in the proper use of the rope barricade.

This item is considered unresolved and will be reviewed during a subsequent inspection.

b. Receipt Inspection

The inspector verified that the acceptable stored beams identified in paragraph a. above were properly inspected upon receipt at the site. For those and the following additional beams:

K 6711

50-B2-351

56-B1-361

114-B3

103-CA-NA

The documentation, as applicable, was reviewed:

Material Receiving Reports (7702, 5997, 4047, 3159, 3320)

Receiving Quality Control Inspection Reports

Material Test Reports

Nondestructive Examination Reports

No items of noncompliance or deviations were identified.

c. Observation of Completed Work

The inspector observed bolted connections for Auxiliary Building beam K 6710 114-B3 and column 103 C4 NA. The inspector verified that the bolts, nuts and load indicating washers were of the proper type. Final torquing and QC inspection had not been completed. The inspector verified the components were in the proper location per American Bridge drawing K 6710 E101, Rev. 1. The inspector also reviewed the QC inspector's records for inspections performed to date concerning erection of structural steel. The records adequately reflected the status of work and completed QC inspections.

No items of noncompliance or deviations were identified.

d. Qualification of QC Inspectors

The inspector reviewed the qualification records of a sample of civil QC inspectors to verify that qualification was in accordance with the provisions of ANSI N45.2.6 and Daniel procedure AP-VI-01, Rev. 1, 4/12/77. The inspector reviewed the qualification records for:

One QC Civil Inspector 1/

The QC Civil Field Supervisor

No items of noncompliance or deviations were identified.

e. Deficiency Reports

Deficiency reports pertaining to Auxiliary Building structural steel were reviewed by the inspector. The inspector ascertained that the records are legible, complete, retrievable and that corrective action had been specified. The following reports were reviewed:

Deficiency Report CR-047

Deficiency Report CR-141

No items of noncompliance or deviations were identified.

1/ Identification of the QC Civil Inspector is maintained in the Regional Office files.

10. 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. An unresolved item disclosed during the inspection is discussed in paragraph 9.

11. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on January 6, 1978. The inspector summarized the scope of the inspection and the findings. The licensee representative acknowledged the noncompliances identified by the inspector and stated that steps would be taken to correct the situation.

INSPECTION PLAN

IE Inspection Report No. STN 50-482/78-01

Licensee: Kansas Gas & Electric Company

Location: Wichita, Kansas

Facility: Wolf Creek, Unit No. 1

Type of Licensee: W, PWR, 1130 MWe (SNUPPS)

Type of Inspection: Routine, Unannounced

Dates of Inspection: January 4-6, 1978

Dates of Previous Inspection: December 12-14, 1977

Inspectors: Elsasser, Mattia (RI); Gilbert, Oberg

SCOPE OF INSPECTION

30703B Entrance & exit interview (all)- completed
92706B Independent inspection effort (all)- completed
47053B Observation of work - containment concrete (Oberg)- completed
47055B Review of Quality Records - containment concrete (Oberg)- completed
55053B 55051B Review of QA procedures - structural steel welding (Gilbert)- completed
55061B Review of QA procedures - safety related structures - welding (Gilbert) completed
48051B Review of QA procedures - steel structure and support - containment (Oberg, Elsasser & Mattia)- not completed
55081B Review of QA procedures - safety related piping - welding (Gilbert)- completed
48053B Observation of work - steel structure & support - containment (Oberg, Elsasser & Mattia)- completed
55083B Observation of work - safety related piping - welding (Gilbert) not completed
48061B Review of QA procedures - safety related structures - structural steel & supports (Elsasser & Mattia)- completed
48063B Observation of work- safety related structural steel & supports (Elsasser & Mattia)- completed

C. R. Oberg 12/29/77
Reactor Inspector Date

C. R. Oberg 12/29/77
for W. A. Crossman Date