

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

REGION IV

Report No. STN 50-482/79-19

Docket No. STN 50-482

Category A2

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

Facility Name: Wolf Creek Generating Station, Unit 1

Investigation at: Wolf Creek Site, Burlington, Kansas

Investigation conducted: October 22-25, 1979

Inspector: C. R. Oberg
C. R. Oberg, Reactor Inspector, Projects Section

12/14/79
Date

Approved: W. A. Crossman
W. A. Crossman, Chief, Projects Section

12/12/79
Date

Investigation Summary

Investigation October 22-25, 1979 (Report STN 50-482/79-19)

Areas Investigated: Allegations in regard to improprieties in documentation of Cadweld location records; sign off of preplacement check lists by unauthorized personnel; and lack of accountability of documents related to installation, operation, and maintenance manuals for safety-related equipment. The investigation involved nine inspector-hours by one NRC inspector.

Results: The allegations relative to inaccurate records of as-built Cadweld locations and unauthorized signing of preplacement check lists could not be substantiated.

The allegation concerning control of safety-related manuals appears to have some substance. However, the problem was known and corrective action had been started by the Constructor prior to the investigation.

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INTRODUCTION

Wolf Creek Generating Station, Unit No. 1, is under construction in Coffey County, Kansas, near the town of Burlington, Kansas. Kansas Gas and Electric Company, (KG&E), Wichita, Kansas, is the Construction Permit holder with Daniel International Corporation (Daniel) as the Constructor and Bechtel Corporation (Bechtel) as the Architect/Engineer.

REASON FOR INVESTIGATION

The Region IV Reactor Construction and Engineering Support Branch Office was contacted by individuals who alleged inaccurate records of as-built Cadweld location, unauthorized signing of concrete preplacement check lists and improper control accountability of equipment manuals.

SUMMARY OF FACTS

On January 13, 1979, Region IV was contacted by a former employee (Individual A) at the Wolf Creek site. The caller made the following allegations:

Allegation No. 1:

When Cadweld numbers were identified on the as-built drawings, they were not sure that the numbers were in the proper location.

Allegation No. 2:

The as-built drawings were filled in after concrete was placed and there was no way of checking the validity of the Cadweld locations.

Allegation No. 3:

When it came time to locate and identify specific Cadwelds, they were "pencil whipped" in.

Allegation No. 4:

When preplacement inspectors found things out of tolerance and would not sign the pour cards, the "superintendent" would sign the card and placement would proceed. This activity would have taken place around the second week in October 1978.

Allegation No. 5:

On October 8, 1979, Region IV received a telephone call (through the IE Headquarters Duty Officer) from a person (Individual B) who alleged that safety-related documents sent to Wolf Creek were being ignored and/or thrown away. These documents related to installation, operation and maintenance manuals involving safety-related equipment.

CONCLUSIONS

Allegation No. 1:

When Cadweld numbers were identified on the as-built drawings, they were not sure the numbers were in the proper location.

This allegation could not be substantiated nor refuted in that the Cadwelds concerned have been covered by concrete. However, according to the procedure followed, the number and location is first determined on the Cadweld Location Drawing by the Project Civil Engineer. It is then checked and recorded on a reproducible print and on the Daily Cadweld Inspection Report. Actual measurements are made by QC. All this information is reviewed by supervision and forwarded back to the Project Civil Engineer. All numbers checked by the IE inspector did not indicate a loss or error in recording.

Allegation No. 2:

As-built drawings were filled in after concrete was placed and there was no way of anyone checking the validity of the Cadweld location.

While in some instances this allegation is true, it does not reflect on the validity or accuracy of the as-built drawings. There is not sufficient evidence to show that this practice is a problem related to safety. The procedure calls for the checking of the drawings prior to release of concrete placement card. Although this is being done, there is a slowness in completing the Cadweld Location Drawings and transferring them to the Quality Control Documentation Section (QCDS).

Allegation No. 3:

When it came time to locate and identify specific Cadwelds, they were "pencil whipped" in.

This allegation was not substantiated.

The IE investigator could not find evidence to indicate that errors, whether deliberate or unintentional, had been made. It is the practice to use a pencil in recording of data on the reproducible Cadweld Location Drawing and other drawings as well. All Cadwelds were clearly identified on the drawings.

Allegation No. 4:

When preplacement inspectors found things out of tolerance and would not sign the "pour card", the superintendent would sign the card and placement would continue.

Of all the forty-one records examined, no instance could be found where a "superintendent" or other supervisor signed off a pour card except as a review function. It must be concluded that this allegation cannot be substantiated.

Allegation No. 5:

Safety-related documents sent to Wolf Creek were being ignored and/or thrown away.

Although it could not be substantiated that documents related to installation, operation and maintenance of safety-related equipment sent to Wolf Creek were being ignored and/or thrown away, it was established that, during early stages of construction, some vendor manuals were issued to craft personnel rather than sent to the Document Control Section. Consequently, the Document Control Section was not aware of receipt or distribution of the manuals. Currently, all vendor manuals are sent to Bechtel, Gaithersburg, for inventory and distribution to all SNUPPS units.

DETAILS

1. Persons Contacted

Individual "A"
Individual "B"
KG&E Assistant QA Manager, Site
KG&E QA Engineer
Daniel Civil Engineer
Daniel Document Control Supervisor
Daniel Document Control Supervisor (Drawings)
Daniel Document System Supervisor (Drawings)
Daniel Document Control Technician

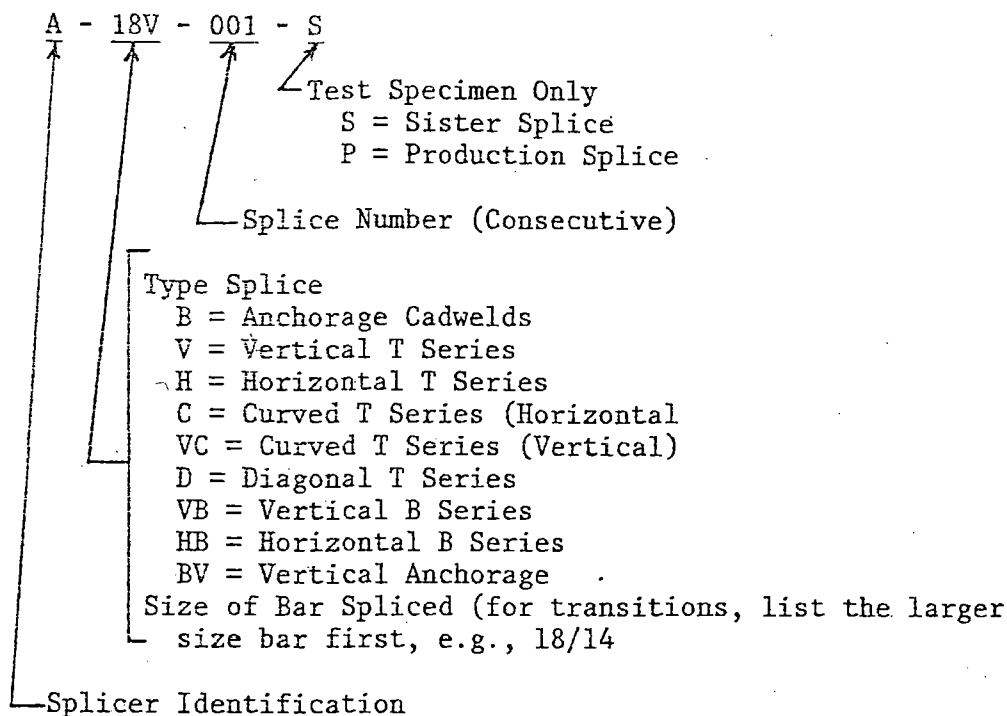
2. Cadwelding Operations

"Cadwelds" are mechanical splices of reinforcing steel made by specially trained personnel who are qualified to perform Cadweld splices. The Cadwelder's work is periodically checked by physical destructive tests. Records of Cadwelds made and tests conducted are an official QA record.

The work performance of Cadwelding is controlled by two Daniel Construction Procedures and one Bechtel Specification:

- a. Work Procedure WP-IV-102, "Mechanical Splicing of Reinforcing Steel"
- b. Quality Control Procedure QCP-IV-102, "Mechanical Splicing of Reinforcing Steel"
- c. Bechtel Specification 10466-C115(Q), "Performing Mechanical Splicing of Reinforcing Bars (SNUPPS)"

The Daniel procedures give detailed instructions for the recording of Cadweld locations and their identification. Each Cadweld splice is assigned a unique alpha-numeric number as follows:



Individual alpha-numeric numbers are assigned at the start of each Cadwelding day by the QC (Cadwelder) inspector.

The Project Civil Engineer reviews vendor placing drawings for Cadweld locations and, on drawings where Cadwelds are shown, a reproducible is made and locations for each Cadweld identified.

The qualified splicer marks each Cadweld made by him with the uniquely assigned number. This number is verified by the QC inspector (Cadweld). The QC inspector completes the Daily Cadweld Inspection Report and marks up the copy of the Cadweld location drawing to show the following information prior to forwarding the Daily Cadweld Inspection Report to the lead QC inspector (Rebar) at the end of each day:

- a. Cadweld identification numbers
- b. location where sister test splices were made and test splice identification numbers
- c. location where production test splices were made and test splice identification numbers
- d. location of any extra splices included in the pour
- e. actual location of any splice moved from the theoretical location as required by drawings and/or specifications

The QC inspector then forwards the copy of the applicable marked-up Cadweld Location Drawings to the Project Civil Engineer.

He also forwards the Daily Cadweld Inspection Reports to Quality Control Documentation Section (QCDS) for further processing and reviews the original Cadweld Location Drawings produced by engineering for completeness and accuracy prior to concrete placement.

The Project Civil Engineer records the Cadweld number from the information given by Quality Control (as they appear on Cadweld Location Drawings). After the Cadwelds are located and identified on the drawings, they are given a final engineering review. Upon completion of the review, the Project Civil Engineer initials the drawing as being checked and forwards it to QCDS for further filing in Document Control.

The Daily Cadweld Inspection Report is reviewed and signed by the Lead QC inspector for accuracy and completeness.

3. Investigation

Allegations No. 1, 2 and 3:

When Cadweld numbers are identified on the as-built drawings, they are not sure the numbers are in the proper location, as-built drawings are filled in after concrete is placed, and location and identification of Cadwelds are "pencil whipped" in.

The IE inspector examined as-built Cadweld Location Drawings in the Document Control Room (vault). He also examined: (a) Cadweld Operation Qualification test records; (b) Daily Cadweld Inspection Reports; and (c) Individual Splicer Cadweld Logs for those operations conducted in and around October 1978. He discussed the procedures with the Daniel Civil Engineer assigned the responsibility for as-built Cadweld drawing records. On a random selection, a sample of eleven Cadwelds were traced thru the system (as described above). No discrepancies were identified. All Cadwelds were located on the drawings in the proper location as verified by the QC inspector. During the course of the investigation, it was found that there is a slowness in transferring the completed Cadweld Location Drawings to the QCDS.

The IE inspector also determined that a check of the Cadweld location documentation is made by the QC inspector prior to concrete placement. This is documented on the Preplacement Check List.

Allegation No. 4:

When preplacement inspectors found things out of tolerance and would not sign the "pour card", the superintendent would sign the card and the placement would continue.

The IE inspector reviewed forty-one records of safety-related placements made during September-October, 1978. No record could be identified where a superintendent or a supervisor signed off on individual items of a preplacement check list. The licensee QA engineers verified the initials on the check lists and it was concluded that no forgeries were evident on the cards. Supervisors do sign the concrete placement cards as a review function.

It was determined during the course of the examination of the Preplacement Check Lists, that some signing (for review) of the check lists occurred after the placement had been made. This was verified by the KG&E QA engineer, as well as the IE inspector, to be a common occurrence. A specific example was noted for placement No. OC361W08. Daniel Procedure QCP-IV-106, "Concrete Pre-Placement, Placement, and Post-Placement," paragraph 4.1.16 requires that the review and signing of the Pre-Placement Inspection and Concrete Placement Card by the Civil QC Supervisor take place prior to the placement of concrete. Failure to do so is contrary to the requirements of 10 CFR 50, Appendix B, Criterion V. This item was documented in a KG&E Surveillance Report S-135 TE53359, dated October 24, 1979. It had been previously identified by the Daniel QC organization and made the subject of a memorandum (QCM 313, dated April 12, 1979).

This item is considered unresolved and will be examined in a later inspection.

Allegation No. 5:

Safety-related documents sent to Wolf Creek are being ignored and/or thrown away.

The IE inspector held discussions with Daniel personnel directly associated with the handling of safety-related documents. They were questioned concerning any problems related with documents, manuals and/or specifications and changes thereto.

Construction Procedure AP-IX-03, Revision 8, of September 24, 1979, "Document Control," was reviewed. This document contains the methods used by Daniel for control of documents identified as controlled documents, received and/or site generated. These documents include drawings, specifications, procedures, design control documents, Quality Control and Quality Assurance records and vendor data.

The following documents were also reviewed as they are applicable to safety-related documentation and its control:

- a. KG&E Audit Report, KQWLC-325 TE 57061-K28, dated June 7, 1979, "Audit Activities." This audit was concerned with technical manuals not being supplied with equipment for complete routine maintenance instructions.
- b. Daniel International Site Audit Report, QAR No. 47 PQA 79-8-01, dated August 4, 1979. This audit was concerned with control of Vendor Technical and/or Instruction Manuals.

The IE inspector verified the adequacy of control of documents by tracking a series of documents through the system. Control of prints and specification changes are satisfactory, and no deficiencies were identified. There have been problems in the control and issue of changes to vendor technical manuals. During the early phases of construction, vendor manuals were supplied to the site when the equipment was delivered. These manuals were sometimes issued from the warehouse to the craft personnel for information and later use. The Document Control Section was not aware of the receipt or distribution of the manuals.

Currently, all vendor manuals are sent to Bechtel, Gaithersburg, for inventory and distribution to all SNUPPS units. When changes to the manuals previously distributed by the warehouse arrived in Wolf Creek Document Control Section, there was confusion as to what was required. The problem was identified in the above audit reports and now appears to have been solved.

This item is considered unresolved until action taken has been verified by the NRC inspectors to be effective.