

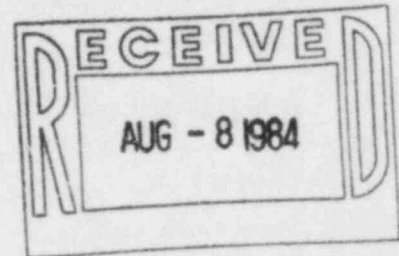


KANSAS GAS AND ELECTRIC COMPANY

GLENN L KOESTER
VICE PRESIDENT - NUCLEAR

August 6, 1984

Mr. E.H. Johnson, Acting Chief
Reactor Project Branch 2
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011



KMLNRC 84-128
Re: Docket No. STN 50-482
Subj: Final 10CFR50.55(e) Report -
Insufficient Torque on Structural
Steel Bolted Connections

Dear Mr. Johnson:

Attached is the final report submitted pursuant to 10CFR50.55(e)
concerning structural steel bolted connections.

Please contact me or Mr. Otto Maynard of my staff if you have
any questions concerning this report.

Yours very truly,

Glenn L Koester

GLK:bb
Attach
xc: RCDeYoung, w/a
PO'Connor, w/a
HBundy, w/a

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FINAL 10CFR50.55(e) REPORT
on
STRUCTURAL STEEL BOLTED CONNECTIONS
for
WOLF CREEK GENERATING STATION

KANSAS GAS and ELECTRIC COMPANY

July 1984

INDEX

- I. Introduction
- II. References
- III. Description of Problem
- IV. Analysis of Safety Implications
- V. Corrective Actions

I. INTRODUCTION

Through routine information exchange with other utilities, Kansas Gas and Electric Company (KG&E) became aware of a potential problem with structural steel bolted connections. As a result of that information, KG&E's Wolf Creek Constructor initiated a re-inspection program for bolted connections on structural steel to determine the condition of completed connections in the plant. This reinspection program identified some connections that appeared to be torqued less than specified. At that time KG&E reported this concern as a potential 10CFR50.55(e) and the Constructor initiated a Corrective Action Report (CAR 1-C-0026) to control and document the resolution of this matter. References 1, 2, and 3 provided interim reports on this subject to the Nuclear Regulatory Commission.

A subsequent NRC inspection of related areas raised additional concerns with procedural controls for making connections and the scope of this issue was expanded to include some of these additional concerns. Reference 4 documented these additional items and provided an update on the original Corrective Action Report Status.

The additional concerns on bolted connections have been evaluated and determined not to be reportable pursuant to 10CFR50.55(e). Reference 5 provided a detailed response to all of the questions raised during the NRC inspection audit.

II. REFERENCES

1. Interim Report KMLNRC 83-021 dated 3/3/83 from GLKoester, KG&E, to WCSeidle, NRC
2. Interim Report KMLNRC 83-076 dated 6/20/83 from GLKoester, KG&E, to WCSeidle, NRC
3. Interim Report KMLNRC 83-116 dated 9/9/83 from GLKoester, KG&E, to WCSeidle, NRC
4. Interim Report KMLNRC 83-169 dated 12/30/83 from GLKoester, KG&E, to JEGagliardo, NRC
5. Letter KMLNRC 84-051, dated 3/30/84, from GLKoester, KG&E, to JEGagliardo, NRC.

III. Description of Problem

Prior to the issuance of Corrective Action Report 1-C-0026 there were no procedural requirements for the crafts to notify Quality Control prior to the removal of any structural steel items which had previously been Quality accepted. Therefore the potential existed for a bolted connection to be reworked without being Quality accepted upon completion of the rework. A reinspection of bolted connections revealed that connections had been reworked and some of the Load Indicating Washers had not been compressed to the specified gap. Therefore the bolt torque was less than specified for the connection.

IV. Analysis of Safety Implications

Bolted connections consist of several bolts and although some connections were identified in which one or more of the bolts had not been torqued sufficiently to compress the Load Indicating Washer to its specified gap, none of the connections were "loose". However, rather than evaluate the adequacy of each bolted connection, KG&E elected to reinspect and, if necessary, rework the bolted connections in question.

V. Corrective Action

Corrective Action Report (CAR) 1-C-0026 was initiated to track the evaluation and resolution of this matter. The CAR defined a two phase plan of action to determine the condition of the bolted connections, correct those found to be insufficiently torqued, and prevent similar concerns for any future work.

Phase I of the action plan determined which connections had been altered subsequent to being Quality accepted and had those connections reworked. Phase II provided for a reverification of a sampling of connections to assure that Phase I was effective in identifying and correcting nonconforming connections. In addition procedures were revised to provide for the notification of Quality Control whenever connections need to be reworked. All corrective actions have now been completed.