



Log # TXX-88146
File # 10110
910.3
Ref. # 10CFR50.55(e)

William G. Coansil
Executive Vice President

January 29, 1988

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
INSTRUMENTATION INSTALLATIONS
SDAR: CP-86-19 (FINAL REPORT)

REF: SDAR CP-86-16, "Fire Effects on Instrument Tubing"
SDAR CP-86-50, "Unistrut Spring Nuts on Instrument Supports"
SDAR CP-86-70, "Elevated Temperature Effects on Tubing"
SDAR CP-86-77, "Instrument Tubing Minimum Wall Thickness"

Gentlemen:

On March 20, 1987, we notified you via TXX-6332 of the expansion in scope for pressure instrumentation installations SDAR CP-86-19 to include the evaluation of four (4) related issues (see Reference). These other four issues were previously determined to be reportable under the provisions of 10CFR50.55(e). With the exception of SDAR CP-86-16, our evaluations of these SDARs are complete. To permit submittal of a report on the completed issues, SDAR CP-86-16 will be discussed in a separate report to be submitted no later than March 3, 1988.

This is our final report for SDAR CP-86-19 and the issues covered by SDARs CP-86-50, CP-86-70 and CP-86-77.

Pressure Instrumentation Installation (SDAR CP-86-19)

On May 23, 1986, our report, logged TXX-4824, notified you of a reportable deficiency under the provisions of 10CFR50.55(e), concerning the installation of steam service pressure transmitters.

Specifically, we were concerned that where steam service pressure transmitters were installed above the root valves without steam traps or wet legs, condensation flashing could result in erratic, high or low analog outputs from the transmitters to the Engineered Safeguards Features Actuation System (ESFAS) or Power Operated Relief Valve (PORV) logic. This deficiency was attributed to inadequate design by the design organization.

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The engineering effort to provide wetlegs for instruments in steam service which were mounted above their root valves is nearing completion. Under project Procedure NEO 9.17, Design Modification (DM) 86-140 has been converted to DMRC 87-1-010. Conduit and instrument tubing routing and support isometric changes for safety related instruments will be completed by February 29, 1988, with a construction completion date of March 11, 1988. The completion schedule for the field validation of this issue will be commensurate with the schedule for the Post Construction Hardware Validation Program (PCHVP).

DMRC-87-1-158 has been issued to evaluate/correct deficiencies involved with the non-safety related steam systems. We anticipate a completion date prior to the individual systems being released for testing.

DMRC-87-2-109 has been approved to evaluate Unit 2 installations and will provide corrective action similar to that which has been developed for Unit 1. It has been evaluated for its impact on system completion/turnover schedules by Unit 2 Project Management and has been released for implementation. This issue will be completed prior to Unit 2 Fuel Load.

Unistrut Spring Nuts on Instrument Supports (SDAR CP-86-50)

On October 10, 1986, our report, logged TXX-6019, notified you of a reportable deficiency under the provisions of 10CFR50.55(e), concerning nut alignment and torque requirements for Unistrut Spring Nuts on instrument mounts.

Specifically, improperly torqued/aligned nuts could result in loose connections and affect the safety of operations due to the potential for common mode failure of instrument supports during or after a seismic event. This issue could impact all safety related instrument tubing supports. This deficiency is attributed to less than adequate design specifications resulting in incomplete construction and QC inspection procedures.

The drawings and specifications for instrument racks, and instrument and tubing support details have been revised to incorporate specific torque values and spring nut alignment criteria. Field Verification Method (FVM) Post Construction Hardware Validation Program (PCHVP) Construction/Quality Control Reverification CPE-SWEC-FVM-EE/ME/IC/CS-086, Rev. 2, has been issued to perform a complete inspection of bolts, torquing and spring nut alignment for instrument tubing supports. The implementation of the FVM will resolve any existing spring nut deficiencies.

The completion schedule for the field validation for this issue will be commensurate with the schedule for the Post Construction Hardware Validation Program (PCHVP).

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Elevated Temperature Effects on Tubing (SDAR CP-86-70)

On January 16, 1987, our report, logged TXX-6067, notified you of a reportable deficiency under the provisions of 10CFR50.55(e) concerning the effects of elevated temperatures on instrument supports and tubing. Specifically, we were concerned with the potential that temperatures produced during a HELB or LOCA would be detrimental to instrument supports and tubing rendering them incapable of performing their safe shutdown function.

Preliminary engineering evaluations which prompted this conservative reportability call have been completed and it has been determined that this reportability call was premature. Engineering Evaluation Report No. 01-0210-1065, Rev. 4, documents recently completed tests and calculation results which confirm that the elevated temperature effects of a HELB or LOCA on instrument tubing are adequately accounted for in the methodology and conservatisms of existing design criteria.

Since no construction or design deficiency exists which would adversely impact the safe operation of the plant, TU Electric has now concluded that issue is not reportable under the provisions of 10CFR50.55(e).

Instrument Tubing Minimum Wall Thickness (SDAR CP-86-77)

On January 21, 1987, our report, logged TXX-6228, notified you of a reportable deficiency under the provisions of 10CFR50.55(e) concerning the specification of minimum wall thickness in instrument tubing which may not meet the stress allowables required by the ASME B&PV Code, Section III.

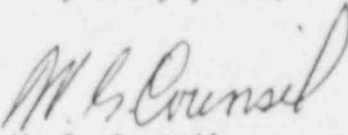
Specifically, a review of Design Change Authorization (DCA) 13346 to Specification 2323-MS-625, "Instrument Tubing and Fittings," and Construction Procedure ICP-4, "Instrument Tubing Installation and Inspection," identified a concern in that 0.035 inch wall thickness was approved for use in all instrument tubing sizes. For certain size tubing in high temperature and pressure reactor coolant applications, this wall thickness may be insufficient to meet ASME Code stress allowables thereby jeopardizing the tubing's ability to perform its safety function during accident conditions. This deficiency was attributed to less than adequate design consideration by the design organization.

Instrument tubing minimum wall thickness calculation number 16345/6-IC-(B)-001, Rev. 1 was issued July 31, 1987, to supply adequate wall thickness criteria. The information was added to the instrument installation Specification, CPES-I-1018, by Revision 1 of DCA 48527, dated September 16, 1987. FVM CPES-SWEC-IC-FVM-090 was issued in early August for QC to perform necessary reinspections within the Post Construction Hardware Validation Program (PCHVP).

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This concludes our reports on these issues. Records will be available for your inspectors review upon completion of the CPSES Post Construction Hardware Validation Program.

Very truly yours,


W. G. Council

GLB/grr

c-Mr. R. D. Martin, Region IV
Resident Inspectors, CPSES (3)