TU ELECTRIC

Log # TXX-88298
File # 10130
IR 87-35
IR 87-26
Ref. # 10CFR2.201

March 14, 1988

William G. Counsil
Executive Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
RESPONSE TO NRC INSPECTION REPORT NOS. 50-445/87-35
AND 50-446/87-26

Gentlemen:

TU Electric has reviewed your letter dated February 12, 1988, concerning the inspection conducted by Mr. L. E. Ellershaw and NRC consultants during the period December 2, 1987 through January 5, 1988. This inspection covered activities authorized by NRC Construction Permits CPPR-126 and CPPR-127 for CPSES Units 1 and 2. Attached to your letter were a Notice of Violation and a Notice of Deviation.

We hereby respond to the Notice of Violation and Notice of Deviation in the attachment to this letter.

Very truly yours,

W. G. Counsil

RDD/clk

Attachment

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

IE01
1/1

NOTICE OF VIOLATION
(445/8735-V-02)

Criterion V of Appendix B to 10 CFR Part 50, as implemented by Section 5.0, Revision 3, of the TU Electric Quality Assurance Plan (QAP), requires that activities affecting quality shall be prescribed by and accomplished in accordance with documented instructions, procedures, or drawings.

Section 7.7.1 of Revision 2 of Ebasco's Field Verification Method (FVM) CPE-EB-FVM-CS-033, states, in part, "The Walkdown Engineer will identify each type of support by comparison with Supplement I and/or 2323-S-0910 sketches or drawings, and will as-built the support on the applicable sketch or drawing . . . ." Paragraph K of this section of the FVM further states, "All dimensions and/or attributes shown will be verified . . . . If the designed dimensions/attributes are incorrect they shall be lined out and the actual dimension/attribute recorded." Also, Section 13.1, of this FVM further states, "Deficiencies identified in conjunction with the implementation of this procedure shall be documented on a Nonconformance Report (NCR) . . . . Examples of deficiencies are: . . . D. Missing washers on Hilti Bolts . . ."

Comanche Peak Engineering Procedure CPE-EB-FVM-CS-029, "Procedure For Seismic HVAC Duct and Duct Hanger As-Built Verification in Unit 1 and Common Areas," Revision 5 dated September 21, 1987, requires that welding shall be identified for type of weld (fillet, flare bevel, groove, etc.), weld length, and weld size.

Comanche Peak Engineering Specification 2323-MS-85, Revision 5 dated September 15, 1987, Appendix K, paragraph 4.6, requires that a galvanized coating shall be applied to areas where galvanizing has been removed due to welding or other fabrication/installation operations.

Engineering and Construction Procedure ECC 1.04, "Preparation, Issuance, and Control of Construction Department Procedures and Instructions," Revision 0 dated August 27, 1987, requires that any change to controlled construction procedures be made by formally revising the existing procedure.

Contrary to the above, the following conditions were identified:

1. On Conduit Support C13G04860-02, the walkdown engineer failed to note that there were no washers installed under the hex nuts on the Hilti Kwik bolts. Because of this, there was no NCR written to correct the situation as required by the FVM.

2. For Conduit Support C14G20243-01, the walkdown engineer reported the length of the support baseplate to be 9 7/8". The NRC inspector measured this dimension to be 9 1/2".

3. Conduit Support C14G11447-03, a No. 2323-S-0910 Type 1A support utilizing P5000 Unistrut members with one main member and three outriggers, supports two 3/4" conduits. For the westernmost end of the main Unistrut member to the centerline of the west conduit, the walkdown engineer reported this dimension to be 5 1/8" and the NRC inspector measured this dimension to be 5 7/8". For the center outrigger, the walkdown engineer reported 7 1/8" and the NRC inspector measured this dimension to be 8 5/8". For the

easternmost outrigger, the walkdown engineer reported it to be located 15/16" from the end of the main Unistrut member and the NRC inspector measured this dimension to be 1 1/4".

4. For Conduit Support C14G11447-04, the dimension locating the center outrigger was reported by the walkdown engineer to be 6 5/8" from the westernmost end of the main Unistrut member. The NRC inspector measured this distance to be 7 1/2".

5. On Conduit Support C14G11447-14, the walkdown engineer reported a total of eight Hilti Kwik bolts (HKBs) - two 1/4" HKBs in each of the three outriggers and two 3/8" HKBs in the main Unistrut member. The NRC inspector noted that there were actually nine HKBs (there were three 3/8" HKBs in the main Unistrut member and not two as reported).

6. A fillet weld 3/16" x 5/8" long, which exists at the location identified by note 3 on seismic duct hanger Drawing DH-1-844-1K-4F, Revision 1, was incorrectly identified by engineering personnel during the Post Construction Hardware Validation Program as a tack weld.

7. Five finished welds located on seismic Duct Hanger DH-1-844-1K-WP13 and portions of three welds located on seismic Duct Hanger Drawing DH-1-844-1K-1R did not have the required galvanized coating.

8. Administrative and technical information corrections were made to figure 7.6 of Construction Procedure CHV-106, Revision 1, a form used to document the results of an engineering qualitative walkdown of Duct Segment B-1-658-016 without performing a formal revision to the procedure (445/8735-V-02).

RESPONSE TO NOTICE OF VIOLATION (445/8735-V-02)

TU Electric agrees with the alleged violation and the requested information follows:

1. Reason for Violation

Items 1 through 5

These items resulted from errors on the part of personnel recording and checking conduit walkdown data.

Item 6

Walkdown Procedure CPE-EB-FVM-CS-029, Rev. 5, "Field Verification Method Procedure for Seismic HVAC Duct and Duct Hanger As-built Verification in Unit 1 and Common Areas," describes tack welds as including fillet welds less than 1/2 inch long. The procedure does not address welds that are longer than 1/2 inch. The walkdown engineer took a conservative approach and designated the subject weld as a tack weld, knowing that no credit is taken for tack welds during structural analysis.

1. Reason for Violation (cont'd)

Item 7

The failure to apply galvanized coating to five welds on hanger DH-1-844-1K-WP13 occurred because the craft workers misinterpreted a note concerning inspection requirements on the associated drawing. The failure to apply coating to portions of three welds on hanger DH-1-844-1K-1R resulted from inadequate painting by the craft workers and failure of the QC inspector to note the inadequate coating.

Item 8

The improperly controlled changes to figure 7.6 of procedure CHV-106, "Qualitative Walkdown of HVAC Supports & Ducts," were the result of errors on the part of personnel initiating the change. Although the changes were minor and technically acceptable, they were promulgated via a memo rather than a formal procedure revision as required by ECC 1.04, "Preparation, Issue and Control of Construction Department Procedures and Instructions."

2. Corrective Steps Taken and Results Achieved

Items 1 through 5

The discrepant conditions described in Items 1 through 5 of the NOV have been examined by Ebasco personnel and the NRC inspector's observations have been confirmed. The information contained on the applicable walkdown forms has been revised accordingly. None of the discrepancies affected the structural qualification of the support. Nonconformance Report (NCR) 87-04505 was written on the missing washers discussed in Item 1. Deficiency Report (DR) C-88-01176 has been initiated to document the discrepancies.

Item 6

Revision 6 to CPE-EB-FVM CS-029 has been issued stating that welds longer than 1/2 inch may be designated as tack welds. Based on this revision, no change to the subject walkdown data sheet was required.

Item 7

Nonconformance Reports (NCRs) 87-04198 and 88-00962 were written on the discrepancies on hangers DH-1-844-1K-WP13 and DH-1-844-1K-1R, respectively. The NCR on hanger DH-1-844-1K-WP13 was dispositioned "use-as-is" since the uncoated welds are not structural welds. It was determined that seven other hangers are covered by drawings containing the same note. These seven hangers were field checked and three of them were found to have uncoated non-structural welds. NCRs were written on these welds and were also dispositioned "use-as-is." The NCR on hanger DH-1-844-1K-IR was dispositioned to recoat all welds on the subject hanger.

2. Corrective Steps Taken and Results Achieved (cont'd)

Item 8

Deficiency Report (DR) C-87-0593 was issued to document the improperly controlled procedure change. Revision 2 has been issued to procedure CHV-106 to formally change figure 7.6.

3. Corrective Steps Which Will be Taken to Avoid Further Violations

Items 1 through 5

Appropriate Ebasco walkdown personnel have been retrained on the importance of documenting walkdown data completely and accurately. Similar walkdown discrepancies were identified in a previous Inspection Report (50-445/87-31; 50-446/87-23). We are investigating the generic implications of these discrepancies and will determine if any other actions are necessary. An update to this response will be submitted describing any additional actions.

Item 6

Appropriate walkdown personnel have been trained on Revision 6 to CPE-EB-FVM-CS-029.

Item 7

Appropriate craft personnel have been reinstructed on the need to apply adequate coating to all welds specified by the controlling document and that an exemption from inspection requirements on nonstructural welds does not constitute an exemption from coating requirements. The QC inspector has been made aware of the error by copy of the NCR.

Item 8

The personnel involved in the improperly controlled change to procedure CHV-106 will be reinstructed in the requirements of procedure ECC 1.04 regarding procedure changes.

4. Date When Full Compliance Will be Achieved

An update to this response describing any additional actions regarding conduit walkdown discrepancies (Items 1 through 5) will be submitted no later than May 15, 1988.

Full compliance has been achieved for Item 6.

Recoating of welds per Item 7 will be completed no later than May 15,1988. Reinstruction of personnel described in Item 8 will be completed no later than May 15, 1988.

NOTICE OF DEVIATION
ITEM A (445/8735-D-01)

A. Appendix A to Project Instruction (PI) PI-0210-053-001, Revision 6, "Checking Procedures," states, in part, "The purpose of an engineering check is to provide assurance that a task is performed and documented thoroughly and that the results are correct and reasonable . . . ."

Further, Section F of this appendix to the PI, states, in part, "Once an item has been checked and approved, it should not be altered without issuing a revision of the item."

Contrary to the above,

1. In the calculation package for the Level 5 support evaluation A02454, on pages 15 and 16 of 39, the person checking the calculations dated them March 10, 1987, prior to the date of the calculations (March 11, 1987). The support load calculations in this package were performed on March 20, 1987, and checked on March 23, 1987. The summary of loads on page 19 of 39 was dated March 9, 1987, and checked on March 10, 1987, which is before the date indicating when the calculations were performed.

2. On page 1a of 63, of Calculation A-02151 for Room 148B, entitled "Open Items", the checker indicated that his work was completed on January 6, 1987; however, the preparer signed and dated this document on January 7, 1987 (445/8735-D-01).

RESPONSE TO NOTICE OF DEVIATION
ITEM A (445/8735-D-01)

TU Electric agrees with the alleged deviation and the requested information follows:

1. Reason for Deviation

Regarding the discrepancies on the Level 5 calculation and check dates (NOD Item 1, first part and NOD Item 2), the individuals involved in the checking process are no longer on site. We believe that the personnel checking the calculations inadvertently entered the wrong date at the time the check was performed.

Regarding the discrepancy between the support load calculation dates and the load summary sheet dates (NOD Item 1, second part), additions were made to support load calculation data after the load summary sheet had been initially prepared and reviewed. The load summary sheet was updated to reflect these changes, but the preparation and check blocks were not updated.

2. Corrective Steps Taken and Results Achieved

Deficiency Report C88-01174 has been written to document the discrepancies.

Calculation A-02454 was re-reviewed and no technical discrepancies were identified. The support load calculation data sheets and the load summary sheet have been annotated to indicate this re-review. Calculation A-02151 was re-reviewed and no technical discrepancies were identified. The open item sheet has been annotated to indicate this re-review.

3. Corrective Steps Which Will be Taken to Avoid Further Deviations

The importance of checking for inconsistencies in dates has been re-emphasized to all Train C personnel in the Impell Structural Integrity Group. Adherence to procedures for data review as set forth in Appendix I-A of Impell Project Instruction PI-0210-053-001, "Multi-Level Screening Criteria for Train C Conduit (2-in and under) at CPSES," has been stressed.

To identify similar inconsistencies in dates, as well as other similar administrative concerns, Impell has developed and implemented a comprehensive administrative checklist. This checklist is being used to perform a 100 percent review of previously approved structural integrity calculations as part of Impell's record turnover process. For new calculations, this checklist will be used to identify administrative inconsistencies prior to calculation approval. If discrepancies are identified, appropriate actions will be taken.

4. Date When Full Compliance Will be Achieved

Full compliance has been achieved.

NOTICE OF DEVIATION
ITEM B (445/8735-D-03)

B. Section 4.1, "Walkdown Guidelines," to Project Instruction PI 0210-052-004 provides checklists for documentation, tolerances for dimensions, and guidelines for performing the conduit routing walkdowns. The instruction requires an as-built sketch be drawn, lengths and sizes of structural members be identified, and supports be identified.

Contrary to the above,

1. In Room 76, RFI-E5-1-0118, Appendix A to Calculation A-00628, page 4 of 4 of this appendix is the as-built drawing which forms the basis of this calculation. On this drawing, the engineer who performed the walkdown reported that the Unistrut bolts being used to secure the junction box to the Unistrut member were 3/8" in diameter; however, the NRC inspector found these bolts to be 1/2" in diameter. Also, on the same drawing, the walkdown engineer reported that the HKB on the north side of the junction box was located 1 1/2" away from the junction box. The NRC inspector measured this distance to be 1 1/8".

2. In Room 148B on the isometric drawn to depict the conduit runs being evaluated as part of calculation A-02151, and shown on page 24 of 43 of this calculation, the dimensional data and orientation for Conduits C-1PA-CR2 and C-1FD-A180, south of the Type 6 support tagged NQ-19688/A-02156 have been reversed, therefore, the isometrics for both conduit runs are incorrectly depicted. The dimension north of the Type 6 support tagged NQ-06005/A-02157 to the change in elevation is not shown on the isometric for the Conduit Run C-1PA-A265.

3. In Room 148B, the distance from the Type 6 support tagged NQ-06004/A-02158 to the rise in elevation of the conduit to the bolted junction box tagged NQ-08650 was documented by the walkdown engineer to be 22". The NRC inspector measured this length to be 13".

4. In Room 148B, the overall length of the P1001 Unistrut member of the Type 7 support tagged NQ-06002/A-02160, shown on page 26 of 43 for calculation A-02151 was documented by the walkdown engineer to be 10". This length was measured to be 8" by the NRC inspector (445/8735-D-03).

RESPONSE TO NOTICE OF DEVIATION
ITEM B (445/8735-D-03)

TU Electric agrees with the alleged deviation and the requested information follows:

1. Reason for Deviation

The discrepancies identified in the Notice of Deviation (NOD) resulted from inaccurate recording and checking of Train C (non-safety related) two-inch and under conduit walkdown data on the part of personnel involved.

2. Corrective Steps Taken and Results Achieved

Impell personnel examined the discrepant conditions described in the NOD and confirmed the NRC inspectors observation. The applicable walkdown forms and calculations have been revised to correct the identified discrepancies. In all cases the revisions to the calculations did not alter the qualification status of the associated conduit supports. Deficiency Report (DR C-88-01191) has been written to document the walkdown discrepancies.

3. Corrective Steps Which Will be Taken to Avoid Further Deviations

Those engineers that are still onsite and are involved in the subject walkdowns, as well as all other personnel involved in the Impell structural integrity group have been retrained on this subject, emphasizing the importance of error free walkdown data.

The Comanche Peak Manager of Civil Engineering has met with several groups involved in structural walkdowns, including the Impell Train C personnel. Examples of recently identified walkdown discrepancies were presented and the importance of accurate recording and checking of walkdown data was reemphasized.

Impell Train C project instructions have been reviewed for areas that could be misinterpreted which potentially affect the accuracy of field measurements. Clarifications have been made to instructions to improve measurement consistency when measuring spans with bends. Instruction has also been given to Train C project personnel regarding the need for documenting the use of conservative values when exact values are difficult or impossible to obtain.

To assess the generic implications of walkdown discrepancies identified by the NRC, Impell has conducted a study and issued a report on the accuracy and adequacy of Train C walkdown data. The study included a review of audits and surveillances performed by various independent organizations. It was noted that no major deficiencies have been identified and that none of the deficiencies affected the qualification status of any Train C supports. The study also included a sample reinspection which covered 76 supports and encompassed a total of 5,271 attributes. The attribute discrepancy rate was found to be approximately 1.9% of which only 0.7% were unconservative. None of the discrepancies resulted in the

3. Corrective Steps Which Will be Taken to Avoid Further Deviations (cont'd)

disqualification of the affected conduit systems. Furthermore, it was demonstrated that Train C conduit systems generally exhibit large safety margins between actual loading and ultimate capacity. Based on these results TU Electric does not consider additional reinspection to be warranted. However, we are concerned with such errors and are endeavoring to reduce personnel errors through the training described above.

4. Date When Full Compliance Will be Achieved

The correction of identified walkdown discrepancies was completed by February 24, 1988.

The Impell retraining of Train C walkdown personnel was completed by December 18, 1987.

The meeting of walkdown personnel with the Manager of Civil Engineering was held January 20, 1988.

The Impell Accuracy and Adequacy of Walkdown Information Report was issued January 26, 1988.