UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 2 1985

DOCKET NO.: 50-445/446

MEMORANDUM FOR: File

FROM: R. Lipinski, Comanche Peak Project, TRT

SUBJECT: TRIP REPORT TO CORPORATE CONSULTING & DEVELOPMENT CO., LTD, (CCL) ON NOVEMBER 13 and 14, 1985

Three members of the Comanche Peak Project TRT visited the CCL laboratory to witness the ongoing tests on electrical conduit clamps which are used at the Comanche Peak plant.

During the discussion proceeding the attendance of the tests the TRT staff was informed that the reasons for the tests are twofold:

(1) The vendor's items (connectors) did not have instructions for design considerations, and
(2) The installation methods and configuration of the Comanche Peak plant was different from the vendor's recommendations.

The purpose of the tests is to confirm the assumed allowables, or if the allowable in some cases was not provided by the vendor to establish the appropriate allowables. The tests are expected to establish the ultimate allowable load for the clamp bolts based on the factor of safety of 3.

The verification analysis for conduit supports for the train A, B and C is based on the AISI-1980 specifications. For train C conduits component tests are used, in contrast to the train A and B conduits where conduit supports are tested. If it will be necessary to perform a seismic analysis for the train C conduits and the conduit supports will be requalified, the stiffness used in the analysis will be that determined by the tests. The third-party, Comanche Peak Response Team (CPRT), is reviewing the procedures for the tests and it is expected that they will audit the calculations performed by the original designer, Gibbs and Hill (G&H).

For verification of the conduits in Unit 1, two samples have been selected: one random sample and one engineering sample. The conduits were located in Unit 1 and the common areas: Auxiliary Building, Electrical Control Building, and Fuel Building. The conduits walkdown was performed by the TUGCO site team. The isometric drawings describing the supports were prepared by the walkdown teams. The CCL presented the overview of the test program (see Reference 4). The tests for the safety-related conduit supports consist of two parts:

(a) Static Tests
The loads are supplied in three orthogonal directions. A minimum three meaningful tests are performed in each direction, and the failure loads and failure mode noted.

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(b) Cyclic Tests
The maximum load obtained from the static tests, divided by 3 is established as an allowable. The specimens are tested for the number of cycles expected during a seismic event.

The log of the tests witnessed is enclosed. (See Reference 5)

Observations of the TRT

The team observed the tests and concluded that they are performed in conformance with the CCL Procedure 1903.07-1, Rev. 3, dated 11-8-85. The calibration stickers of the instruments were verified. The team examined the personal qualifications of the staff participating in the tests and established that they have adequate background for the task. The responsible personnel have level III certification and hold professional engineering licenses. The other staff have either level I or level II certification. The team also examined the Instrument Log used for the tests and found it satisfactory. The various steps of the test procedure were confirmed by the Test Monitor Log. (Ref. 6)

At the conclusion of the visit the team expressed their comments regarding the tests which are as follows:

(1) The tests are performed on UNISTRUT P-1000 supports while those installed are UNISTRUT P-5000. The TRT requested to verify that the tests will reflect the characteristics of the installed material.

(2) The tests use a hand guided drill while in actual condition a mechanical device may be used. The TRT requested that the effect of different drill application be investigated.

(3) The TRT has been informed that both types of spring nuts, UNISTRUT and SUPERSTRUT, may have been used at the plant. The TRT expressed a concern that since these nuts could be intermixed and they may have different characteristics, both types should be tested and/or their characteristics investigated.

(4) Justification of the maximum number of 2439 cycles corresponding to the seismic event lasting 10.24 seconds was requested.

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Comanche Peak Project TRT

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References

1. Procedure No. 1903-03-01, Test Procedure, Rev. 2, dated 10/17/85.
2. Procedure No. 1903-07-1, Test Procedure, Rev. 3, dated 11/8/85.
3. Letter from Carson Blanton (CCL) to R. E. Lipinski (NRC) dated 11/15/85.
4. CCL Test Program - Overview..
5. Log of the tests witnessed by the TRT.
6. Test Monitor Log (3 sets).
7. List of attendees, November 13, 1985.

cc: L. Shao
D. Jeng
V. Ferrarini
E. Solla
T. Langowski

REFERENCE 7

MEETING WITH CCL

NOVEMBER 13, 1985

Eric Solla	TES/NRC
Rudy Boeutgen	TES/NRC
Keith McPherson	CCL
Gary Hughes	CCL
Jeff Bond	CCL
Steve McBee	TUGCO
Victor P. Ferrarini	EAS/NRC-TRT
Romuald E. Lipinski	NRC/TRT