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November 29, 1994

C. Lance Terry
Group 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 2.206 PETITION ON THERMO-LAG

REF: 1) Nuclear Information and Resources Service (NIRS) and Citizens for Fair Utility Regulation (CFUR) letter to Mr. James Taylor of U.S. Nuclear Regulatory Commission, dated September 26, 1994
2) NRC Inspection Report 50-445/93-42; 50-446/93-42, dated February 21, 1994
3) NRC Inspection Report 50-445/94-21; 50-446/94-21, dated October 19,1994
4) NRC letter to NIRS and CFUR from Mr. William T. Russell, dated November 2, 1994

Gentlemen:

On September 26, 1994, NIRS and CFUR submitted a petition under 10 CFR 2.206 requesting that the NRC immediately suspend the operating license for CPSES Unit 1 until: 1) additional destructive analysis of Thermo-Lag are performed to determine the degree of "dry joint" occurrence, and 2) fire tests are performed for "dry-joint" Thermo-Lag configurations (ref. 1). As discussed in the attached response, the petition does not identify any new information, is based upon faulty premises, and does not address a significant safety issue. Therefore, NRC should not hold an informal public hearing on the petition and the petition should be summarily denied.

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Relevant documentation is available at the Comanche Peak site for your review. If you have any questions, please call Obaid Bhatty at (817)897-5839.

Sincerely,

C. L. Terry

By: Nicholas Paleologos
N. C. Paleologos
Vice President of
Nuclear Operations

OB/bm

cc: Mr. L. J. Callan, Region IV
Mr. D. D. Chamberlain, Region IV
Mr. T. J. Polich, NRR
Mr. K. S. West, NRR
NRC Resident Inspectors

RESPONSE OF TU ELECTRIC TO 2.206 PETITION ON THERMO-LAG AT CPSES UNIT 1

1.0 Introduction

On September 26, 1994, the Nuclear Information and Resources Service (NIRS) and Citizens for Fair Utility Regulation (CFUR) (Petitioners) submitted a petition under 10 CFR 2.206 requesting that the NRC immediately suspend the operating license for Comanche Peak Steam Electric Station (CPSES) Unit 1. The basis for the Petition is NRC Inspection Report 93-42 for CPSES. This Inspection Report refers to a TU Electric Operations Notification and Evaluation (ONE) Form that identified an apparent instance of a "dry-joint" (i.e., lack of pre-buttering with trowel grade Thermo-Lag) of Thermo-Lag fire barrier overlays applied to pedestal hangers for electrical conduits. The Petitioners request that CPSES Unit 1 be shutdown until additional destructive analysis of CPSES Thermo-Lag are performed to determine the degree of dry-joint occurrence and additional fire tests are performed for dry-joint Thermo-Lag configurations.

NRC standards for evaluating 2.206 petitions are contained in the NRC Handbook 8.11, entitled "Review Process for 10 CFR 2.206 Petitions," which states that the NRC will not hold an informal public hearing on a 2.206 petition and will not grant a 2.206 petition unless the petition identifies new information related to a significant safety issue. As discussed below, the Petition does not identify any new information, is based upon a faulty premise, and does not address a significant safety issue. Therefore, the NRC should not hold an informal hearing on the Petition, and the Petition should be summarily denied.

2.0 The Petition Does Not Identify Any New Information

The sole basis for the Petition is NRC Inspection Report 93-42 for CPSES. The Petition does not identify or allege any facts in addition to those contained in Inspection Report 93-42, nor does it identify a new approach for evaluating the information contained in Inspection Report 93-42. Therefore, the NRC should not hold an informal public hearing on the Petition, and the Petition should be summarily denied.

3.0 The Petition Is Based On Faulty Premises

Based solely upon the information in NRC Inspection Report 93-42, the Petitioners conclude that a joint on a pedestal hanger for a conduit had not been pre-buttered, that dry-joints exist in other Thermo-Lag installations at CPSES Unit 1, and that dry-joints can only be determined by destructive analysis and not by walk-down inspections. As discussed below, Petitioners conclusions are not supported by Inspection Report 93-42 and are based upon faulty premises.

3.1 There Was No Dry-Joint On The Conduit Pedestal Hanger

The NRC inspector who prepared Inspection Report 93-42 did not personally observe any dry-joints an the pedestal hanger. Instead, his statements in Inspection Report 93-42 were based upon a TU Electric ONE Form. However, the ONE Form in question did not identify a dry-joint. Instead, the ONE Form identified a condition that was conservatively reported as an apparent dry-joint. Upon further evaluation of the ONE Form, TU Electric determined that the joint in question had in fact been pre-buttered with trowel grade Thermo-Lag. These facts are discussed in more detail below.

On November 25, 1992, a speed memo was written by a contractor identifying "apparent unsatisfactory conditions on Unit I commodities." This memorandum identified "an apparent" dry-joint on an oversize coupling section (on top of a pedestal hanger). The speed memo also stated that, "we have decided that the best vehicle to call attention to these apparent deficiencies would be a letter to your attention for further evaluation of the situation....." The letter was forwarded to the appropriate TU Electric engineering section.

The cognizant TU Electric engineer immediately performed a walkdown of the described areas, and evaluated the commodities. He conservatively initiated a ONE Form (the process used by TU Electric to report problems and develop resolution for the identified problems). A comprehensive evaluation of this condition determined that the joint had been pre-buttered. Therefore, the engineering resolution for this condition was that "this is not a deficient condition, and there are no generic implications."

The originator of the speed memo initially believed that the condition in question was an apparent dry-joint because of the appearance of the joint. During alignment of Thermo-Lag panels, the leading edge of one panel contacts the outer edge of a preceding panel and forces most of the trowel grade along the initial contact edge toward the inside of the Thermo-Lag envelope. Subsequent shrinkage of the trowel grade in the joint can give the appearance of a "dry-joint," because the trowel grade material is not visible.

These facts were clearly presented in NRC Inspection Report 93-42, which states on page 6:

> The licensee's investigation and disposition of the condition stated that, "Upon critical examination of the conduit mating surfaces, however, there were clear indications on the surface of the exposed conduit sections and on the one intact overlay to-verify that the joints had been buttered per specification 2323-MS-38H prior to assembly." The ease of removal was probably due to "... the formation of a skim coat on the surface of the trowel grade material prior to the joints' initial assembly." However, "Engineering investigation reveals that the joints did require tools and leverage to separate them. Therefore, adhesion between

mating surfaces did occur, even though it was not as much as other joints."

Thus, contrary to Petitioners' conclusion, the Thermo-Lag on the conduit pedestal hanger did not contain a dry-joint. Notwithstanding, the apparent "dry-joint" area was removed and reworked.

3.2 Other ONE Forms Did Not Identify Dry Joints

NRC Inspection Report 93-42 does not support the Petitioners' conclusion that dry-joint deficiencies appear in other areas of CPSES Unit 1. Instead, the Inspection Report states as follows on page 6:

> During the inspection conducted November 2-5 and 23-24, 1993, the inspector interviewed several people involved in the engineering, quality control inspection, and installation of the Thermo-Lag upgrades for Unit 1. These interviews confirmed the licensee's conclusions for this specific problem and determined that there were no widespread occurrences of "dry joint" identification. The pre-upgrade walkdowns and subsequent rework have identified a variety of non-conforming conditions that are the result of original installation, aging, and inadvertent damage from work in the areas. A review of the ONE Forms issued for the identified problems with the Unit 1 Thermo-Lag upgrade work did not reveal any widespread "dry joint" problem. One or two instances of "dry joint" were identified in other areas; however, after reviewing the disposition and observing the field conditions, it was the inspectors opinion that they could be considered isolated cases of installation error due to access or personnel technique.

In response to the Petition, TU Electric has performed an electronic search of the ONE Form data base. This search did identify additional ONE Forms related to dry joints. However, Thermo-Lag rework crews and the Quality Control inspectors at CPSES have used the term "dry joints" and "no visible trowel grade material" synonymously. Upon further investigation of these ONE Forms, it was determined that, trowel grade material had in fact been applied to the joints in question. Therefore, these ONE Forms were also dispositioned as 'not a nonconforming condition.'

Additionally, further inspections by NRC reached similar conclusions. Specifically, as stated in NRC Inspection Report 94-21 for CPSES, an NRC inspector observed 29 items identified in ONE Forms as having "dry joints". With the exception of one case where the inspector could not see trowel grade material due to a protrusion of a Thermo-Lag panel over a joint on a hanger, the inspector determined that trowel grade material had been applied to the joints in question. NRC inspection Report 94-21 for CPSES concludes that "there were no confirmed instances of dry joints, in the fire barrier envelope of cable trays or conduits identified during this inspection."

Thus, contrary to Petitioners' conclusion, there is no evidence of other dry-joints at CPSES Unit 1.

3.3 TU Electric's Inspections and Surveillances Were Sufficient To Identify Thermo-Lag Deficiencies

The procurement, installation and inspections of Thermo-Lag for CPSES were conducted under the auspices of 10 CFR 50 Appendix B program at CPSES. The final installation for these joints was inspected by Quality Control inspectors. Therefore, TU Electric has reasonable assurance that the joints were pre-buttered with trowel grade material, and that deficiencies in the Thermo-Lag installations have been identified for corrective action.

NRC Inspection 93-42 does not identify any Thermo-Lag installation deficiencies that had not been previously identified through TU Electric inspections and surveillances. In fact, Inspection Report 93-42 concludes that TU Electric's in-process inspections and surveillances have been effective, as demonstrated from the following passages on pages 5 through 7 of the report:

> The inspector noted that the pre-work walkdowns and in-process surveillance coverage had resulted in what appeared to be a large number of deficiencies with the installed fire barriers. Based on obvious external damage, such as gouge, and water damage, etc., it was the inspector's opinion that many of these deficiencies should have been identified during the normal surveillance inspection of fire barrier conditions required by the licensee's fire protection program. The inspector reviewed completed data packages from the last completed inspection under FIR-311, "Fire Rated Assembly Visual Inspection," Revision 1, dated April 12, 1993. Comparing the results of this surveillance activity with the results of the pre-work walkdowns and in-process problem identification showed that the FIR-311 inspections had identified similar deficiencies.
>
> The pre-upgrade walkdowns and subsequent rework have identified a variety of nonconforming conditions that are the result of original installation, aging, and inadvertent damage from work in the areas . . . The licensee was apparently documenting and dispositioning all problems identified with the original Thermo-Lag installation in an appropriate and complete manner.
>
> Documentation, disposition, and resolution of identified problems were appropriate and appeared complete.

Thus, contrary to Petitioners' conclusions, TU Electric's in-process inspections and surveillances were sufficient to identify installation deficiencies such as a lack of pre-buttering, and these inspections and surveillances were effective in identifying installation deficiencies. There is no evidence that these inspections and surveillances overlooked any cases of dry-joints in Thermo-Lag.

Additionally, the Thermo-Lag upgrades recently installed in CPSES Unit 1 replicate the configurations tested at Omega Point Laboratories in San Antonio. The same quality assurance controls used to install the upgrades at CPSES Unit 1 were also used to construct the test specimens. Therefore, there is reasonable assurance that the Thermo-Lag configurations installed in CPSES Unit 1 have been appropriately qualified by testing.

4.0 The Petition Does Not Address a Significant Safety Issue

As discussed in Section 3.0 above, the Petition is based upon faulty premises and does not identify any dry-joints in the Thermo-Lag at CPSES Unit 1. Therefore, the Petition does not identify any significant safety issue and should be denied.

In this regard, the Petitioners previously submitted similar 2.206 petitions which requested the suspension of the operating license for CPSES Unit 1 and based upon alleged manufacturing and installation deficiencies in Thermo-Lag. Those petitions were denied by the NRC because they did not address a safety issue sufficiently significant to warrant license suspension. As stated in Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Units 1 and 2), DD-93-11, 37 NRC 402, 418 (1993):

> With regard to the requests made by the Petitioners, the institution of proceedings pursuant to 10 C.F.R. § 2.206 to shut down certain facilities using Thermo-Lag fire barrier material is appropriate only where substantial health and safety issues have been raised. *See Consolidated Edison Co.* of New York (Indian Point, Units 1, 2, and 3), CLI-75-8, 2 NRC 173, 175 (1975), and *Washington Public Power Supply System* (WPPSS Nuclear Project No. 2), DD-84-7, 19 NRC 899, 923 (1984). With respect to the issues discussed in this Final Director's Decision, I find no basis for taking such actions. Rather, on the basis of the review efforts by the NRC Staff, I conclude that no substantial health and safety issues have been raised by the Petitioners. Accordingly, the Petitioners' requests for action pursuant to section 2.206 are denied.

The NRC should similarly dispose of the Petitioners' current 2.206 petition.

5.0 Conclusions

The Petition is based solely on an NRC Inspection Report and does not identify any new information. Furthermore, the conclusions in the Petition are based on premises that are faulty and contrary to the information in the Inspection Report. As a result, the Petition does not identify a significant safety issue and the Petition should be summarily denied without an informal public hearing.