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Ref. # 10CFR50.55(e)

William G. Council
Executive Vice President

January 18, 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
DG FUEL OIL TANK VENT MISSILE PROTECTION
SDAR: CP-87-25 (FINAL REPORT)

Gentlemen:

On June 29, 1987, we verbally notified your Mr. Shannon Phillips of a deficiency involving failure to provide missile protection for the diesel fuel oil storage tank vent piping. Additionally, portions of the vent piping were not seismically designed as required. Our last interim report was logged TXX-6953 dated November 20, 1987. We are reporting this issue under the provisions of 10CFR50.55(e). The required information follows.

Description

The design validation process revealed that the vent piping systems for the fuel oil day tank (CPI-DOATDT-01-02) and the fuel oil storage tank (CPI-DOATST-01-02) were not designed and installed as safety-related systems. The piping is Class 5 but lacks proper seismic support and missile protection. This design is contrary to the criteria required for safety-related piping systems under which the fuel oil system is classified in the Final Safety Analysis Report (FSAR).

The apparent cause of this deficiency appears to have been a design error. This condition could potentially apply to all safety-related tanks with open vents susceptible to missiles. Therefore, all safety-related tank vents have been evaluated to ensure that appropriate missile protection is provided. No other cases of tank vents had improper missile protection features.

Safety Implications

In the event of a missile strike or a seismic event, a mode of failure (e.g., crimping) can be posulated to render the venting system ineffective. Provisions are required to preclude or mitigate a possible failure of the system as required by the FSAR. This represents a significant deficiency in final design as approved and released for construction.

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Should failure (e.g., crimping) preclude the storage and day tank vent air intake from sufficiently replacing the fuel volume extracted from the tanks, a subsequent shutdown of the emergency diesel generators could occur due to a vacuum in the fuel oil lines.

The emergency diesel generators are utilized during postulated accidents to achieve and maintain a safe shutdown condition in case of loss of offsite power. In the event that the identified condition had remained uncorrected, the safe operation of the plant could have been adversely affected.

Corrective Action

To correct this condition, the following actions will be taken:

1. Seismic Support - Perform engineering review to establish the modifications to the fuel oil day tank vent piping necessary to satisfy FSAR criteria. The fuel oil day tank overfill line effectively vents the fuel oil storage tank. Therefore, no changes or reanalysis of the fuel oil storage tank vent piping is deemed necessary.
2. Missile Protection - Provide a vacuum relief valve on the fuel oil day tank vent piping system. The relief valve would be seismically qualified and located within the missile-protected area. Again, due to the day tank overfill line, adding the vacuum relief valve for the fuel oil storage tank is unnecessary.

The design criteria imposing required missile protection has been included in the Design Basis Document DBD-ME-215, "DG Fuel Oil Storage and Transfer System."

The above corrective actions are scheduled for completion by no later than fuel load for the respected units.

Very truly yours,



W. G. Council

HAM/grr

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