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Ref. # 10CFR50.55(e)

William G. Council
Executive Vice President

January 20, 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
DIESEL GENERATOR GOVERNOR HEAT EXCHANGER
SDAR: CP-87-137 (FINAL REPORT)

Gentlemen:

On December 30, 1987, we verbally notified your staff of a deficiency involving the diesel generator (DG) governor heat exchanger which could reduce the cooling capacity of the heat exchanger. We have conservatively deemed this issue reportable pursuant to the provisions of 10CFR50.55(e). The required information follows.

DESCRIPTION

The diesel generator governor oil cooler consists of two concentrically wound helical coils with water flowing through the inner coil and oil through the outer coil. A baffle plate prevents water flow through the center area (core) of the cooler and causes the water to flow through the inner helical coil. In a specific installation (the Unit 1 Train "B" Diesel Generator) the baffle plate was observed to be loose.

The baffle plate directs coolant flow into the inner helical path for more efficient cooling of the governor oil. Although cooling water would continue to flow through the core of the heat exchanger instead of through the inner coil, if the baffle plate had failed in the (worst case) horizontal position inside the core of the inner helical coil, it is indeterminate whether or not the required amount of heat transfer would occur.

The cause of this condition appears to be an error in vendor design or fabrication of the cooler and internal baffle plate (which was soldered or brazed in place). This joint failed and the baffle plate broke loose.

This condition was potentially applicable to other similar safety-related governor oil coolers of the same design and manufacturer. Our evaluation has confined the deficiency to the affected DG installation and the turbine driven auxiliary feedwater pump turbine governor.

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SAFETY IMPLICATIONS

A loss of diesel generator governor oil heat exchanger cooling capacity affects governor oil temperature and the speed control of the diesel generator. These conditions could result in the inability of the diesel generator to supply emergency electrical power to safety-related components following postulated accidents. Speed control of the turbine driven auxiliary feedwater pump may also have been affected and resulted in the loss of auxiliary feedwater under some accident conditions.

CORRECTIVE ACTION

The deficient JG heat exchanger has been replaced with a heat exchanger utilizing internals with a revised design developed by the vendor. The remaining installations will be replaced during the next scheduled governor oil changes. No further actions are required.

Very truly yours,

W. G. Council

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By: *D. R. Woodlan*

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