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January 11, 1988

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Executive Vice President

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  
6.9 KV CONTROL CIRCUIT VOLTAGE DROPS  
SDAR: CP-87-88 (FINAL REPORT)  
125 VDC TO SUPS VOLTAGE DROP  
SDAR: CP-87-89 (FINAL REPORT)  
UNINTERRUPTIBLE POWER SUPPLY  
SDAR: CP-87-95 (FINAL REPORT)

Gentlemen:

On September 3, 1987, we verbally notified your Mr. H. S. Phillips of the three subject deficiencies involving inadequate design of power and control cables connected to the 125 VDC vital buses. Our latest interim reports were logged TXX-6796, TXX-6801, and TXX-6794, which were all dated October 5, 1987. After further evaluation we have concluded the deficiencies associated with SDARs CP-87-88, CP-87-89 and CP-87-95 are not reportable under the provisions of 10CFR50.55(e).

The design basis utilized for sizing the Class 1E 125 VDC batteries is based on a four hour period, after which the batteries are to have an end-of-duty cycle voltage of 105 volts. This end-of-duty cycle voltage of 105 volts was utilized as a design basis for components powered/activated from the 1E 125 VDC buses. Design reviews indicated that operation of some components can not be assured during the final minutes of the four hour duty cycle, due to voltage drop in associated power and control cables.

The components affected for each 125 VDC system are the four Class 1E static uninterruptible power supplies (SUPS) (SDAR CP-87-89), the four uninterrupted power supplies (UPS) (SDAR CP-87-95) and control circuits to actuate the 6.9 kV switchgear (SDAR CP-87-88).

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The circumstances under which the subject deficiencies could adversely affect safe operations are outside the design basis specified by 10CFR50 Appendix A General Design Criteria (GDC) 17 "Electric Power Systems". GDC 17 states "The onsite electrical power supplies, including the batteries, and the onsite electrical distribution system, shall have sufficient independence, redundancy and testability to perform their safety functions assuming a single failure."

In an accident situation, degradation of the Train A or Train B batteries to an end-of-duty cycle voltage of 105 volts would be the result of the single failure (Loss of Offsite Power coincident with failure to start (or subsequent loss) of an emergency diesel generator, or failure of normal and standby battery chargers associated with a single battery). Simultaneous loss of both Class 1E 125 VDC batteries is not credible.

Since the voltage drops constitute a deficiency only at the end of the four hour duty cycle, they would not have caused the single failure, and could not cause a common mode failure between trains.

Based on the above, we have concluded that, had this condition not been discovered, no adverse affect on the safety of plant operations would have occurred, and that the deficiencies are not reportable under 10CFR50.55(e).

This is our final report on this issue. Supporting information is available at the CPSES site for your inspector's consideration.

Very truly yours,



W. G. Council

WJH/grr

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