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908.3
Ref. # 10CFR50.55(e)

William G. Council
Executive Vice President

January 11, 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
BATTERY CHARGER OVERHEATING
SDAR: CP-88-11 (INTERIM REPORT)

Gentlemen:

We are hereby reporting a significant deficiency involving battery charger overheating under the provisions of 10CFR50.55(e). The required information follows.

DESCRIPTION

Battery charger BC1ED1-1 and BC1ED1-2 overheated during preoperational testing. Charger BC1ED1-1 tripped the 480V ac input breaker 1 hour following test initiation and again 1 hour and 47 minutes after resetting the breaker. Station Battery BT1ED1 was then transferred from charger BC1ED1-1 to charger BC1ED1-2 for recharging.

During recharging, BC1ED1-2 entered the "current limiting state" accompanied by a pungent odor of overheated electrical insulation.

The battery charger operating manual (provided by the manufacturer, Power Conversion Products, Inc.), specifies that the units are self-cooled and operate up to a maximum ambient temperature of 50 degrees C (122 degrees F). The preoperational testing was performed at an ambient room temperature of 102 degrees F (39 degrees C), well below the specified upper limit.

This deficiency was caused by the failure of the battery charger manufacturer to supply chargers in accordance with the applicable specification requirements. This deficiency affects all battery chargers in safety related applications supplied by Power Conversion Products.

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SAFETY IMPLICATIONS

Loss of these battery chargers would result in the discharge of battery BT1ED1 after approximately 4 hours, resulting in the loss of the 125V dc switchboard 1ED1 (CP1-EPSWED-01) and battery back-up to all the Class 1E equipment associated with switchboard 1ED1.

This issue represents a significant deviation from performance specifications, such that the chargers cannot operate properly to meet the requirements and bases stated within the FSAR.

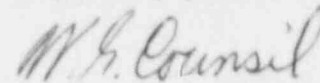
CORRECTIVE ACTION

The design criteria for battery charger ambient temperature requirements have been documented in Design Basis Document DBD-EE-044, "DC Power System". In addition, a test was performed utilizing a temporary fan during charger operation. The effective result was a 27 degrees F operating temperature reduction from 150 degrees F to 123 degrees F and the unit operated continuously.

Therefore, to achieve the proper charger operation, the installation of permanent fans or other cooling means will be coordinated with the battery charger vendor. Other chargers supplied by the same vendor on both Unit 1 and Unit 2 will be evaluated to determine if the same problem exists. A schedule for the completion of these corrective actions will be provided in our next report.

Our next report on this issue will be submitted no later than April 26, 1988.

Very truly yours,



W. G. Council

WJH/grr

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