



TU ELECTRIC

Log # TXX-89588  
File # 10110  
907  
Ref. # 10CFR50.55(e)

August 24, 1989

William J. Cahill, Jr.  
Executive Vice President

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

SUBJECT: COMANCHE WAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NO. 50-445 AND 50-446  
DEGRADATION OF CLASS 1E CIRCUITS  
SDAR: CP-87-085 (SUPPLEMENTAL REPORT)

Gentlemen:

On September 3, 1987, TU Electric verbally notified the NRC of a deficiency involving the degradation of Class 1E circuits. This deficiency was subsequently determined to be reportable as stated in TXX-7124, dated December 23, 1987. The latest report was logged TXX-89568, dated August 4, 1989. This report is being submitted to provide additional information, revised corrective actions, and a change in reportability for this issue.

In TXX-7124, TU Electric indicated that the non-Class 1E Safety System Inoperable Indication (SSII) panel was directly connected to Class 1E circuits without isolation devices or an appropriate analysis. In addition, the cable which makes these connections was discovered to be routed with Class 1E cable without appropriate qualification documentation. This condition is contrary to the requirements of Regulatory Guide 1.75 for isolation and cable qualification.

The corrective action as described in TXX-7124 was to consist of the addition of approved isolation devices between the SSII panel and the affected Class 1E circuits, or an appropriate analysis to demonstrate why the absence of isolation devices would not result in the potential degradation of the Class 1E circuits. An analysis demonstrating why an isolation device is not required between the non-Class 1E circuits in the SSII logic panel and the associated cable that is connected to the field device is provided below.

The output of the SSII power pack is 115V DC which is protected by a 0.5 amp fuse. The circuit to the individual field contact is current limited at the logic card to a value of 0.767 amp by means of a series resistor. In addition, logic panel input power is protected by two 3 amp fuses in series. Field contacts at Class 1E devices are rated for 250V DC and 5 amp, which is more than adequate to handle the current. As such, a fault at the logic panel will not affect the Class 1E field contacts or devices.

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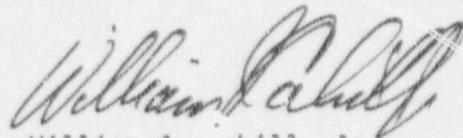
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The multiconductor cable between the SSII logic panel located in the control room and the termination cabinet in the cable spreading room meets the requirements of Regulatory Guide 1.75, Revision 1, Regulatory Position C.4, except for environmental qualification. The cable insulation materials meet IEEE 383-1974 for the attributes of flame and radiation resistance. The cable is installed in a mild environment. One cable is used per Engineered Safeguards Feature (ESF) train. The insulation is rated at 600V. Any individual conductor is sized at a minimum #18 AWG while carrying a maximum 0.767 amps (current is limited at the SSII logic card as noted above). The system is protected by a 0.5 amp fuse at the 115 VDC SSII power supply. Based on this analysis, a fault at the SSII logic panel will not impact the availability of adjacent Class 1E cables with which these associated cables are routed. This supports the exception taken to environmental qualification for these associated cables.

Given the above analyses, the present installation configuration is considered acceptable and no corrective actions are required. The analyses for the circuits/equipment described above have been documented by advanced FSAR submittal, logged as TXX-89576, dated August 15, 1989.

Since the installed configuration is acceptable, this issue has been determined to be not reportable under the provisions of 10CFR50.55(e). This completes the evaluation of this issue.

Sincerely,



William J. Cahill, Jr.

FAM/vrd

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