



Log # TXX-92400
File # 10130
IR 91-202
IR 91-201
Ref. # 10CFR2.201

September 25, 1992

William J. Cahill, Jr.
Group Vice President

U. S. Nuclear Regulatory Commission
Attn: Document Control Des.
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
NRC INSPECTION REPORT NOS. 50-445/91-202; 50-446/91-201
UNRESOLVED ITEM 50-445/91-202-01; 50-446/91-201-01
AUTOMATIC TRANSFER OF FAULTED MOTOR CONTROL CENTERS
(MCCs) BETWEEN UNITS

REF: TU Electric letter logged TXX-92143 from William J. Cahill, Jr. to
the NRC, dated March 31, 1992

Gentlemen:

In the referenced letter, TU Electric provided the response to
the subject unresolved item identified in the inspection report. This
response addressed the compliance to GDC 5 of 10CFR50 Appendix A and
identified that an evaluation was in process regarding implementing a
modification to prevent automatic transfer of a faulted 480V common MCC from
one unit to the other. TU Electric hereby provides the CPSES evaluations
associated with the subject unresolved item in the attachments to this letter.

Attachment 1 is the evaluation of the automatic transfer switch operation and
its compliance to GDC 5 of 10CFR50 Appendix A. Attachment 2 is the CPSES
response to Regulatory Guide 1.81 positions C2 and C3 regarding "Sharing of AC
Electrical Power Systems."

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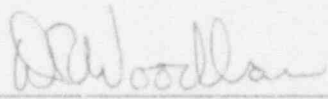
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The above evaluations do not identify any new commitments or suggest any changes to the 480V automatic transfer switch design but confirm the adequacy of the existing design in complying with GDC 5 requirements.

Sincerely,

William J. Cahill, Jr.

By: 
D. R. Woodlan
Docket Licensing Manager

MK/RHS/tg
Attachments

c - Mr. J. L. Milhoan, Region IV
Mr. T. A. Bergman, NER
Mr. B. E. Holian, NRR
Resident Inspectors, CPSES (2)

480V AC Automatic Transfer Switches

Automatic transfer switches are used to automatically transfer power source to the common MCCs from one unit to the other. The transfer switches and common MCCs are shared by both Units 1 & 2.

GDC.5 Requirements

"Structures, systems and components important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units."

The evaluation of transfer switch operation against GDC 5 of 10CFR50 Appendix A is performed below:

There are six Class 1E common MCCs (3 for each train) provided with automatic transfer switches. The preferred and alternate feeds are taken from Unit 1 and Unit 2 480 volt switchgears which have adequate capacity and capability to carry continuous load and to interrupt the maximum available short circuit current. Both Units 1 and 2, 6.9kV buses, offsite power sources and diesel generators have been designed to adequately supply these loads as required.

Two redundant trains of common MCCs are provided to serve redundant common loads. These MCCs are normally manually aligned to the preferred source. When the voltage on the preferred source falls below 70 percent of nominal for a set time (15 seconds), the transfer switch motor drives the breaker from the preferred source to the alternate source. The 15 second time delay prior to transferring the 1E buses is long enough to allow the emergency diesel generator to pick up the common bus avoiding unnecessary transfer and also to allow the residual voltage at the common MCC to decay for a smoother transition.

A mechanical interlock provided in the switch does not allow both power source circuit breakers to be closed at the same time.

The Class 1E automatic transfer switches are provided with non automatic circuit interrupters. External short circuit protection against a common bus fault is provided by the upstream load center circuit breakers. It may be noted that the MCC branch circuit breakers are fully coordinated with the switchgear breaker feeding the MCC. Any faults in the MCC branch circuits are selectively isolated by tripping of the branch circuit breaker, because this fault does not cause loss of voltage to MCC. Therefore, MCC transfer switch does not activate and the MCC remains available to power other loads.

The coordination between unit operators to perform maintenance and testing of common MCCs is minimized because:

- o There are two redundant trains of common MCC's;
- o Each common MCC has capability to be fed from either Unit; and
- r Complete status of common MCC power source is available in the control room.

Position C2.f

Complete information regarding the status of the shared systems should be provided for each unit operator.

Response

Indication regarding which unit (Unit 1 or Unit 2) is powering the common MCC's is provided on a status light panel in the control room.

Position C2.g

The design should conform to the recommendations contained in Regulatory Guides 1.6 (Safety Guide 6), 1.9 (Safety Guide 9), and 1.47.

Response

CPSES meet the recommendation of these Regulatory Guides. Conformance to the Regulatory Guides is discussed in the CPSES FSAR as listed below:

- Regulatory Guide 1.6 - FSAR section 8.3.1.2.1 item 3
- Regulatory Guide 1.9 - FSAR section 8.3.1.2.1 item 4
- Regulatory Guide 1.47 - FSAR section 7.1.2.6 and 8.3.1.2.1 item 12

Position C3

In the case of multi-unit nuclear power plants for which the construction permit application was made on or after June 1, 1973, each unit should have separate and independent onsite emergency and shutdown electric systems, both a.c. and d.c. capable of supplying minimum ESF loads and the loads required for attaining a safe and orderly cold shutdown of the unit, assuming a single failure and loss of offsite power.

Response

The CPSES design is in compliance with this position. Refer to CPSES FSAR Section 8.3.1.2.1 item 8 for compliance to Regulatory Guide 1.81.