

Log # TXX-92567
File # 10010
905.4
Ref. # 10CFR50.34(b)

TUELECTRIC

December 3, 1992

William J. Cahill, Jr.
Group Vice President

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
ADVANCE FSAR SUBMITTAL - RCS COOLDOWN TIME AFTER
RHR INITIATION

Gentlemen:

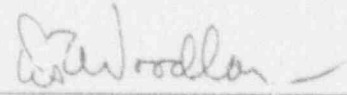
The attachment to this letter provides an advance CPSES FSAR submittal to facilitate the NRC Staff review of the subject area in support of licensing Unit 2. The attachment is organized as follows:

1. A description/justification of each change.
2. A copy of the revised FSAR pages (changes are indicated in the margin by the word "DRAWN").

The attached material will be incorporated in CPSES FSAR Amendment 87 which is currently scheduled for December, 1992. If you have any questions regarding this submittal, please contact Mr. Manu Patel at (214) 812-8298.

Sincerely,

William J. Cahill, Jr.

By: 
D. R. Woodlan
Docket Licensing Manager

MCP/vld
Attachment

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

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400 N. Olive Street L.B. 81 Dallas, Texas 75201

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5.4-51	2	Change sentence 2 of paragraph 2 from: ". . . 350 degree F to 140 degree F within 24 hours." to ". . . 350 degree F to 140 degree F within 28 hours." Revision : The Safe Shutdown Impoundment (SSI) temperature profile has been re-calculated and found to differ from temperature profile used in the original Westinghouse RHR cooldown calculations. Accordingly Westinghouse has utilized the latest temperature profile and revised the RHR cooldown capabilities. These changes reflect the revised RHR cooldown capabilities based on the revised SSI temperature profile. Change Request Number : SA-92-811.1 Commitment Register Number : Related SER : 5.4.3.2 SSER :22 5.4.3.2 SER/SSER Impact : No
5.4-51	2	Change first sentence of paragraph 3 from: "... 350 degrees F to 200 degrees F within 21 hours." to "... 350 degrees F to 200 degrees F within 23 hours." Revision : See Justification from SA-92-811.1. Change Request Number : SA-92-811.2 Commitment Register Number : Related SER : 5.4.3.2 SSER :22 5.4.3.2 SER/SSER Impact : Yes SSER 22, Section 5.4.3.2, "Cooldown Time With One Train," states "... the RHR system is capable of reducing the temperature of the reactor coolant from 350 degrees F to 200 degrees F (cold shutdown) within 21 hours."
5.4-51	2	Change last sentence of paragraph 3 from: "... 350 degrees F to 212 degrees F is 11.9 hours." to "... 350 degrees to 212 degrees F is within 12 hours." Revision : See Justification for SA-92-811.1. Change Request Number : SA-92-811.3 Commitment Register Number : Related SER : 5.4.3.2 SSER :22 5.4.3.2 SER/SSER Impact : No
Table 5.4-7	2	Change "Cooldown time" from 24 hours to 28 hours. Revision : See Justification for SA-92-811.1. Change Request Number : SA-92-811.4

CPSSES - FINAL SAFETY ANALYSIS REPORT (FSAR)
AMENDMENT / REVISION 87
DETAILED DESCRIPTION

Page 2

Prefix Page
(as amended)

Group Description

Commitment Register Number :
Related SER : 5.4.3.2 SSER :22 5.4.3.2
SER/SSER Impact : No

Figure 5.4-9

- 2 A new figure reflects the revised RHR system cooldown capabilities.
Revision :
See Justification for SA-92-811.1.
Change Request Number : SA-92-811.5
Commitment Register Number :
Related SER : 5.4.3.2 SSER :22 5.4.3.2
SER/SSER Impact : Yes
FSAR Figure 5.4-9, "Single Train RHR Cooldown," has been revised.

CPSES/FSAR

Nuclear plants employing the same RHRS design as the CPSES are given in Section 1.3.

5.4.7.1 Design Bases

RHRS design parameters are listed in Table 5.4-7.

The RHRS is placed in operation approximately 4 hours after reactor shutdown when the temperature and pressure of the RCS are approximately 350°F and 425 psig, respectively. Assuming that two heat exchangers and two pumps are in service and that each heat exchanger is supplied with component cooling water at design flow and maximum temperature, the RHRS is designed to reduce the temperature of the reactor coolant from 350°F to 140°F within 28 hours. The time required, under these conditions, to reduce reactor coolant temperature from 350°F to 212°F is 2.8 hours. The heat load handled by the RHRS during the cooldown transient includes residual and decay heat from the core and reactor coolant pump heat. The design heat load is based on the decay heat fraction that exists at 20 hours following reactor shutdown from an extended run at full power.

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Assuming that only one heat exchanger and pump are in service and that the heat exchanger is supplied with component cooling water at design flow and maximum temperature, the RHRS is capable of reducing the temperature of the reactor coolant from 350°F to 200°F within 23 hours. The time required under these conditions, to reduce reactor coolant temperature from 350°F to 212°F is 12 hours.

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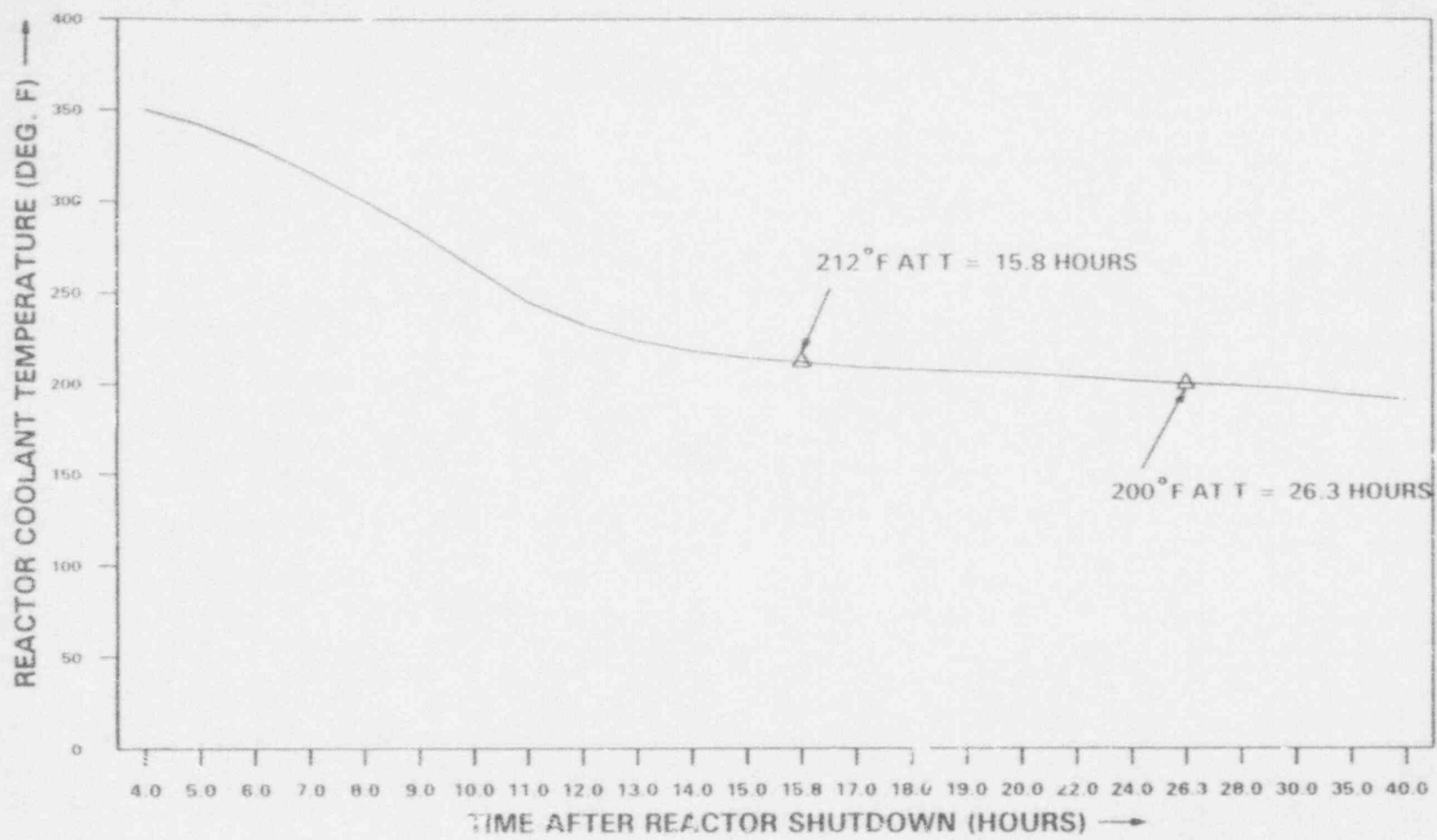
The RHRS is designed to be isolated from the RCS whenever the RCS pressure exceeds the RHRS design pressure. The RHRS is isolated from the RCS on the suction side by two motor operated valves in series on each suction line. Each motor operated valve is interlocked to prevent its opening if RCS pressure is greater than 425 psig. The RHRS is isolated from the RCS on the discharge side by two check

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CPSES/FSAR
TABLE 5.4-7

DESIGN BASES FOR RESIDUAL HEAT REMOVAL SYSTEM OPERATION

Residual Heat Removal System startup	-4 hours after reactor shutdown	
Reactor Coolant System initial pressure (psig)	-425	
Reactor Coolant System initial temperature (°F)	-350	
Component cooling water maximum temperature (°F)	122	68
Cooldown time (hours after initiation of Residual Heat Removal System operation)	28	DRAFT
Reactor Coolant System temperature at end of cooldown (°F)	140	
Decay heat generation at 20 hours after reactor shutdown (Btu/hr)	78.2×10^6	



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COMANCHE PEAK S.E.S.
FINAL SAFETY ANALYSIS REPORT
UNITS 1 AND 2
SINGLE TRAIN RHR COOLDOWN
FIGURE 5.4-9