TEXAS UTILITIES SERVICES INC.
2001 BRYAN TOWER DALLAS, TEXAS 75201-3050

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October 11, 1983

Mr. Harold R. Denton
Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
HEATUP AND COOLDOWN CURVES

Dear Mr. Denton:

Texas Utilities Generating Company has been requested by the NRC Staff to submit new heatup and cooldown curves for Comanche Peak Unit 1 draft Technical Specifications. We were specifically asked to address recent changes to 10CFR50 Appendix G and Appendix H.

Enclosed is a copy of the new curves and a justification for their remaining the same in view of the changes to the above Appendixes.

Sincerely,

J. H. Marshall for

H. C. Schmidt

RAW:grr
Enclosure

cc: Ed Alarcon
Fred Madden
Fred Anderson (NRC)
Spottswood Burwell (NRC)

B001
1/1 Per Pm

Enclosure

JUSTIFICATION

Westinghouse has used a finite element stress analysis to show that the Comanche Peak Unit 1 heatup and cooldown curves are not impacted by the new 10CFR50 rule which addresses the metal temperature of the closure head flange. Specifically, the 10CFR50 rule states the minimum metal temperature of the closure head flange should be RT_{NDT} + 120°F for pressure above 621 psig which is 20 percent the preservice hydro-test pressure of 3106 psig. This minimum temperature for the closure head flange is 160°F since the RT_{NDT} is 40°F.

In addition, 10CFR50 states that exceptions to this new rule can be taken provided the NRC is in agreement with the analysis techniques used.

Westinghouse has used the same analysis techniques the NRC used to develop the new 10CFR50 rule. The only difference is that Westinghouse used a finite element analysis and obtained stresses which were less than the 40 ksi conservatively assumed by the NRC. The resultant total stress intensity factor K_I obtained by Westinghouse is approximately 50 percent of the K_I used by the NRC to obtain the RT_{NDT} + 120°F rule. Therefore, the Westinghouse analysis showed that the closure head flange region is less limiting than the Comanche Peak Unit 1 heatup and cooldown curves which are based on the beltline region.

MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT% (ACTUAL CONTENT = 0.05 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F (ACTUAL RT_{NDT} = 20°F)

RT_{NDT} AFTER 16 EFPY : 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR HEATUP RATES UP TO 60°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS

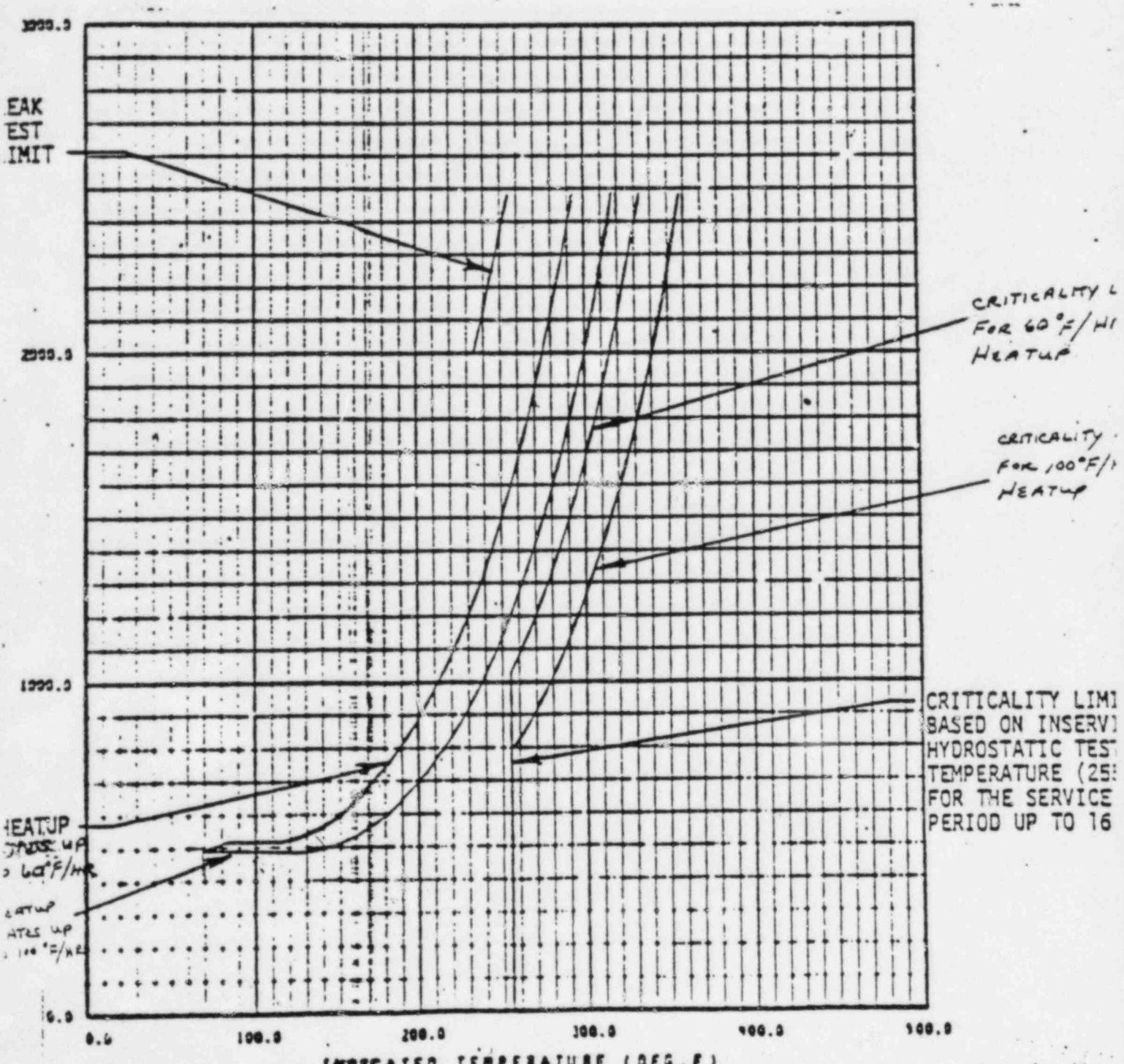

Figure 1 COMANCHE PEAK UNIT 1 Reactor Coolant System Heatup Limitations Applicable up to 16 EFPY

MATERIAL PROPERTY BASIS

COPPER CONTENT : CONSERVATIVELY ASSUMED TO BE 0.10 WT% (ACTUAL CONTENT = 0.05 WT%)

RT_{NDT} INITIAL : CONSERVATIVELY ASSUMED TO BE 40°F (ACTUAL RT_{NDT} = 20°

RT_{NDT} AFTER 16 EFPY : 1/4T, 110°F
3/4T, 87°F

CURVE APPLICABLE FOR COOLDOWN RATES UP TO 100°F/HR FOR THE SERVICE PERIOD UP TO 16 EFPY AND CONTAINS MARGINS OF 10°F AND 60 PSIG FOR POSSIBLE INSTRUMENT ERRORS

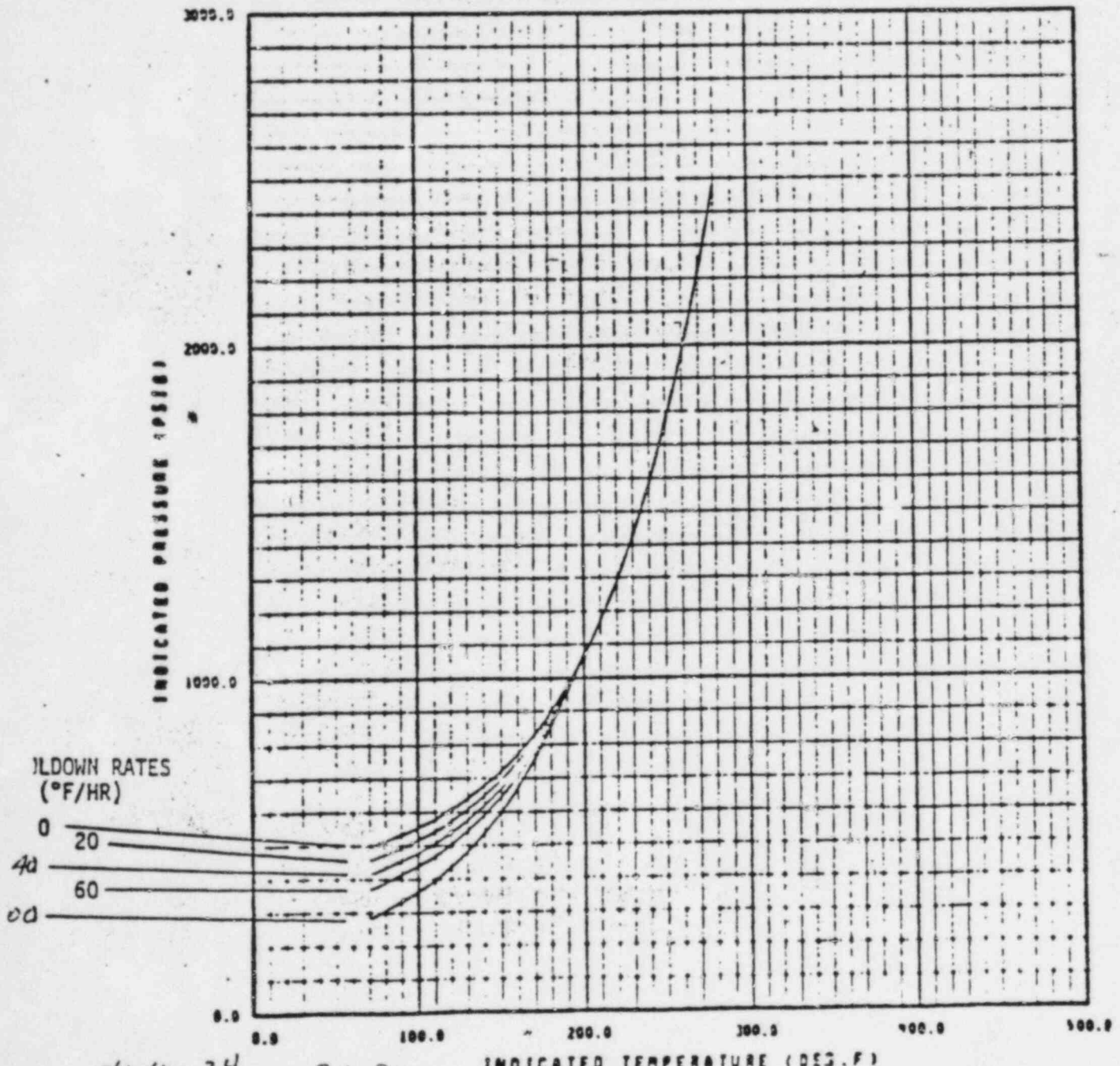

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Figure 3.4-3 COMANCHE PEAK UNIT 1 Reactor Coolant System Cooldown Limitations Applicable up to 16 EFPY