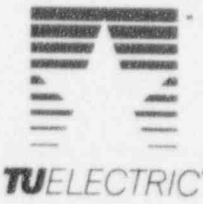

Log # TXX-96490
File # 10119
Ref. # NRCB 96-01

October 28, 1996

C. Lance Terry
*Group Vice President*

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
SUPPLEMENTAL RESPONSE TO NRC BULLETIN NO. 96-01
CONTROL ROD INSERTION PROBLEMS

REF: 1) TU Electric letter logged TXX-96096 from C. L. Terry to the NRC dated April 8, 1996.

2) TU Electric letter logged TXX-96126 from C. L. Terry to the NRC dated April 30, 1996.

Gentlemen:

TU Electric responded to NRC Bulletin 96-01 via References 1 and 2. Requested Action (3) from the bulletin required that TU Electric measure and evaluate at each outage of sufficient duration during calendar year 1996 (end of cycle, maintenance, etc.) the control rod drop times and rod recoil data for all control rods, and if appropriate plant conditions exist where the vessel head is removed, measure and evaluate drag forces for all rodded fuel assemblies.

Requested Action (4) from the bulletin required that for each reactor trip during calendar year 1996, TU Electric verify that all control rods promptly fully inserted (bottomed) and obtain other available information to assess the operability and any performance trend of the rods.

TU Electric obtained rod drop times and rod recoil data for Unit 2, Cycle 3 following the September 18, 1996, reactor trip on Unit 2 and the results are included in Attachment 1. The results were compared to those obtained at the beginning of Cycle 3 on Unit 2 and no observable trends were identified.

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Following the Unit 2 reactor trip on September 18, 1996, all control rods promptly fully inserted (bottomed), and other indications demonstrated continued control rod operability. During the rod drop time measurements, each Rod Cluster Control Assembly (RCCA) that was tested exhibited a minimum of two recoils. Rod drop times were not obtained for RCCAs in shutdown bank 'B' due to problems with the step counters. Performing rod drop times for shutdown bank 'B' following repair of the step counters would have restrained reactor restart.

Sincerely,

C. L. Terry

By: Roger D. Walker
R. D. Walker
Regulatory Affairs Manager

GLM/grp
Attachment

c - Mr. L. J. Callan, Region IV
Mr. J. I. Tapia, Region IV
Resident Inspectors, (CPSES)
Mr. T. J. Polich, NRR

Attachment 1 to
TXX-96490

**Comanche Peak - Unit 2, Cycle 03**

| Rod Bank | Core Loc | Assm ID | Fuel Type | Beginning of Cycle Rod Drop Burnup (MWD/MTU) | Beginning of Cycle Rod Drop Time (sec) | 19-Sep-96 Burnup (MWD/MTU) | 19-Sep-96 Time (sec) | Delta (sec) |
|---|---|---|---|---|---|---|---|---|
| CBA | H6 | DD81 | Westinghouse "Improved" Zirc-4 | 23184 | 1.45 | 28958 | 1.48 | 0.03 |
| CBA | K8 | DD78 | Westinghouse "Improved" Zirc-4 | 23209 | 1.44 | 28783 | 1.45 | 0.01 |
| CBA | F8 | DD68 | Westinghouse "Improved" Zirc-4 | 22974 | 1.47 | 28745 | 1.48 | 0.01 |
| CBA | H10 | DD71 | Westinghouse "Improved" Zirc-4 | 23238 | 1.44 | 28924 | 1.46 | 0.02 |
| CBB | K2 | DD02 | Westinghouse "Improved" Zirc-4 | 21931 | 1.45 | 26868 | 1.44 | -0.01 |
| CBB | F2 | DD34 | Westinghouse "Improved" Zirc-4 | 22363 | 1.45 | 27197 | 1.46 | 0.01 |
| CBB | P6 | DD42 | Westinghouse "Improved" Zirc-4 | 21828 | 1.46 | 26654 | 1.46 | 0.00 |
| CBB | B6 | DD46 | Westinghouse "Improved" Zirc-4 | 22305 | 1.44 | 27254 | 1.43 | -0.01 |
| CBB | P10 | DD16 | Westinghouse "Improved" Zirc-4 | 21897 | 1.44 | 26671 | 1.43 | -0.01 |
| CBB | B10 | DD33 | Westinghouse "Improved" Zirc-4 | 22264 | 1.45 | 27239 | 1.46 | 0.01 |
| CBB | K14 | DD26 | Westinghouse "Improved" Zirc-4 | 22209 | 1.45 | 27034 | 1.46 | 0.01 |
| CBB | F14 | DD11 | Westinghouse "Improved" Zirc-4 | 22068 | 1.45 | 27101 | 1.46 | 0.01 |
| CBC | H2 | DD52 | Westinghouse "Improved" Zirc-4 | 20895 | 1.47 | 26251 | 1.46 | -0.01 |
| CBC | K6 | DD86 | Westinghouse "Improved" Zirc-4 | 21034 | 1.45 | 26966 | 1.45 | 0.00 |
| CBC | F6 | DD67 | Westinghouse "Improved" Zirc-4 | 20667 | 1.46 | 26574 | 1.45 | -0.01 |
| CBC | P8 | DD87 | Westinghouse "Improved" Zirc-4 | 21281 | 1.44 | 26431 | 1.46 | 0.02 |
| CBC | B8 | DD85 | Westinghouse "Improved" Zirc-4 | 20375 | 1.44 | 25724 | 1.46 | 0.02 |
| CBC | K10 | DD72 | Westinghouse "Improved" Zirc-4 | 20990 | 1.45 | 26794 | 1.45 | 0.00 |
| CBC | F10 | DD77 | Westinghouse "Improved" Zirc-4 | 21020 | 1.44 | 27011 | 1.45 | 0.01 |
| CBC | H14 | DD50 | Westinghouse "Improved" Zirc-4 | 20456 | 1.47 | 25695 | 1.48 | 0.01 |
| CBD | M4 | DD38 | Westinghouse "Improved" Zirc-4 | 22814 | 1.45 | 27992 | 1.44 | -0.01 |
| CBD | D4 | DD37 | Westinghouse "Improved" Zirc-4 | 22690 | 1.45 | 27916 | 1.46 | 0.01 |
| CBD | H8 | CC56 | Westinghouse "Standard" Zirc-4 | 21219 | 1.49 | 26272 | 1.49 | 0.00 |
| CBD | M12 | DD41 | Westinghouse "Improved" Zirc-4 | 22816 | 1.46 | 28028 | 1.46 | 0.00 |
| CBD | D12 | DD28 | Westinghouse "Improved" Zirc-4 | 22578 | 1.44 | 27949 | 1.45 | 0.01 |
| SBA | M2 | DD55 | Westinghouse "Improved" Zirc-4 | 22633 | 1.49 | 25975 | 1.5 | 0.01 |
| SBA | D2 | DD64 | Westinghouse "Improved" Zirc-4 | 22484 | 1.48 | 25645 | 1.5 | 0.02 |
| SBA | P4 | DD75 | Westinghouse "Improved" Zirc-4 | 22686 | 1.45 | 25929 | 1.47 | 0.02 |
| SBA | B4 | DD49 | Westinghouse "Improved" Zirc-4 | 22694 | 1.46 | 25989 | 1.47 | 0.01 |
| SBA | P12 | DD57 | Westinghouse "Improved" Zirc-4 | 22713 | 1.43 | 25906 | 1.47 | 0.04 |
| SBA | B12 | DD79 | Westinghouse "Improved" Zirc-4 | 22635 | 1.45 | 25990 | 1.47 | 0.02 |
| SBA | M14 | DD69 | Westinghouse "Improved" Zirc-4 | 22900 | 1.48 | 26128 | 1.5 | 0.02 |
| SBA | D14 | DD62 | Westinghouse "Improved" Zirc-4 | 22951 | 1.45 | 26256 | 1.48 | 0.03 |
| SBB | J3 | DD05 | Westinghouse "Improved" Zirc-4 | 18235 | 1.44 | 23803 | NA | NA |
| SBB | G3 | DD06 | Westinghouse "Improved" Zirc-4 | 18645 | 1.44 | 24199 | NA | NA |
| SBB | N7 | DD17 | Westinghouse "Improved" Zirc-4 | 17748 | 1.46 | 23155 | NA | NA |
| SBB | C7 | DD03 | Westinghouse "Improved" Zirc-4 | 17765 | 1.47 | 23442 | NA | NA |
| SBB | N9 | DD12 | Westinghouse "Improved" Zirc-4 | 18076 | 1.47 | 23441 | NA | NA |
| SBB | C9 | DD24 | Westinghouse "Improved" Zirc-4 | 18065 | 1.45 | 23709 | NA | NA |
| SBB | J13 | DD30 | Westinghouse "Improved" Zirc-4 | 17855 | 1.46 | 23350 | NA | NA |
| SBB | G13 | DD27 | Westinghouse "Improved" Zirc-4 | 17710 | 1.46 | 23294 | NA | NA |
| SBC | E3 | DD70 | Westinghouse "Improved" Zirc-4 | 13933 | 1.45 | 19819 | 1.47 | 0.02 |
| SBC | N5 | DD63 | Westinghouse "Improved" Zirc-4 | 14308 | 1.45 | 20222 | 1.46 | 0.01 |
| SBC | C11 | DD54 | Westinghouse "Improved" Zirc-4 | 13740 | 1.49 | 19966 | 1.52 | 0.03 |
| SBC | L13 | DD61 | Westinghouse "Improved" Zirc-4 | 14355 | 1.42 | 20343 | 1.42 | 0.00 |
| SBD | L3 | DD74 | Westinghouse "Improved" Zirc-4 | 14072 | 1.45 | 20102 | 1.47 | 0.02 |
| SBD | C5 | DD51 | Westinghouse "Improved" Zirc-4 | 14229 | 1.46 | 20318 | 1.47 | 0.01 |
| SBD | N11 | DD60 | Westinghouse "Improved" Zirc-4 | 14312 | 1.44 | 20281 | 1.45 | 0.01 |
| SBD | E13 | DD80 | Westinghouse "Improved" Zirc-4 | 14134 | 1.45 | 20283 | 1.48 | 0.03 |
| SBE | H4 | DD35 | Westinghouse "Improved" Zirc-4 | 21928 | 1.45 | 27344 | 1.46 | 0.01 |
| SBE | M8 | DD43 | Westinghouse "Improved" Zirc-4 | 21751 | 1.46 | 26903 | 1.47 | 0.01 |
| SBE | D8 | DD48 | Westinghouse "Improved" Zirc-4 | 21891 | 1.43 | 27310 | 1.44 | 0.01 |
| SBE | H12 | DD36 | Westinghouse "Improved" Zirc-4 | 21940 | 1.45 | 27218 | 1.45 | 0.00 |
| | | | **Average Rod Drop Time:** | | **1.454** | | **1.463** | |
| | | | **Standard Deviation:** | | **0.015** | | **0.020** | |