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Ref. # 10CFR50.90  
10CFR50.36

C. Lance Terry  
Group Vice President

November 18, 1994

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NOS. 50-445 AND 50-446  
SUBMITTAL OF LICENSE AMENDMENT REQUEST 94-018  
HEAT FLUX HOT CHANNEL FACTOR

Gentlemen:

Pursuant to 10CFR50.90, TU Electric hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached changes into the CPSES Units 1 and 2 Technical Specifications. These changes apply equally to CPSES Units 1 and 2.

The Heat Flux Hot Channel Factor -  $F_0(z)$  surveillance currently requires (in one of two permitted options) that a 2% allowance be added to the computed  $F_0(z)$  if the computed  $F_0(z)$  has increased since the last surveillance. The 2% allowance is provided to account for the maximum anticipated increase in the computed  $F_0(z)$  that may occur prior to the next surveillance. This 2% allowance has been determined to be non-conservative for certain core configurations. TU Electric proposes to include the appropriate cycle-specific allowance in the CPSES Core Operating Limits Report (COLR), and to revise the  $F_0(z)$  surveillance to reference the COLR for this allowance.

Attachment 2 provides a detailed description of the proposed changes, a safety analysis of the changes, and TU Electric's determination that the proposed changes do not involve a significant hazard consideration. Attachment 3 provides the affected Technical Specification pages (NUREG-1468), marked-up to reflect the proposed changes.

It is expected that the Unit 2 computed  $F_0(z)$  may increase in excess of 2% per month within the first two or three months of the second fuel cycle (currently anticipated around February, 1995). TU Electric requests approval of this proposed license amendment as soon as possible, with implementation of the Technical Specification changes to occur within 30 days after NRC approval. Should higher  $F_0(z)$  allowances be required prior to the amendment approval, they will be implemented under administrative controls.

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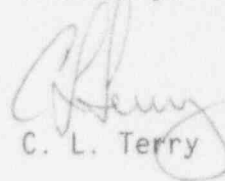
400 N. Olive L.B. 81 DaCas, Texas 75201

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In accordance with 10CFR50.91(b), TU Electric is providing the State of Texas with a copy of this proposed amendment.

Should you have any questions, please contact Mr. Bob Dacko at (214) 812-8228.

Sincerely,



C. L. Terry

BSD/bd

Attachments: 1. Affidavit  
2. Description and Assessment  
3. Affected Technical Specification page (NUREG-1468) as revised by all approved license amendments

c - Mr. L. J. Callan, Region IV  
Mr. T. J. Polich, NRR  
Ms. D. D. Chamberlain, Region IV  
Resident Inspectors, CPSES (2)

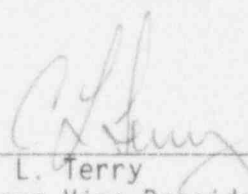
Mr. D. K. Lacker  
Bureau of Radiation Control  
Texas Department of Public Health  
1700 West 49th Street  
Austin, Texas 78704

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Texas Utilities Electric Company	)	Docket Nos. 50-445
	)	50-446
(Comanche Peak Steam Electric	)	License Nos. NPF-87
Station, Units 1 & 2)	)	NPF-89

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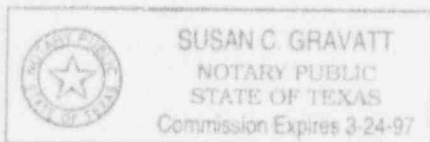
C. Lance Terry being duly sworn, hereby deposes and says that he is Group Vice President, Nuclear Production for TU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 94-018; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

  
C. L. Terry  
Group Vice President, Nuclear

Production

STATE OF TEXAS     )  
                              )  
COUNTY OF *Somervell* )

Subscribed and sworn to before me, on this 18th day of  
November, 1994.



  
Notary Public

## DESCRIPTION AND ASSESSMENT

### I. BACKGROUND

Technical Specification Surveillance Requirement 4.2.2.2e requires that the Heat Flux Hot Channel Factor -  $F_0(z)$  be measured every 31 effective full power days (EFPD). A computed Heat Flux Hot Channel Factor -  $F_0^c(z)$  is determined by increasing the measured  $F_0(z)$  to account for manufacturing tolerances and measurement uncertainties.  $F_0^c(z)$  is used to ensure that  $F_0(z)$  does not exceed its limit. If  $F_0^c(z)$  has increased from the previous surveillance, Surveillance Requirement 4.2.2.2f requires that either a 2% allowance be added to  $F_0^c(z)$  and that the increased value of  $F_0^c(z)$  remains within the limits specified by in Specification 4.2.2.2d, or the surveillance frequency must be increased to every 7 EFPD.

Currently, Technical Specification 4.2.2.2f uses a standard 2% allowance because it has historically bounded the maximum potential monthly increase in  $F_0^c(z)$  for typical cores. However, for more recent core designs, between monthly surveillances,  $F_0^c(z)$  may increase beyond the 2% allowance provided. For those cores, a larger allowance should be specified on a cycle-specific basis.

Westinghouse has informed TU Electric that the Unit 2, Cycle 2 reload could have increases in  $F_0^c(z)$  which exceed 2% per month during some portion of the cycle. In order that the Technical Specifications use the appropriate cycle-specific allowance factors, the proposed change to Surveillance Requirement 4.2.2.2f is being submitted.

### II. DESCRIPTION OF TECHNICAL SPECIFICATIONS CHANGE REQUEST

Technical Specification 3/4.2.2, "HEAT FLUX HOT CHANNEL FACTOR -  $F_0(z)$ " Surveillance Requirement 4.2.2.2f is revised to replace the standard 2% allowance, which accounts for increases in  $F_0^c(z)$  between surveillances, with cycle-specific allowances in the COLR.

Technical Specification 6.9.1.6a, item 5 is revised to add the cycle-specific allowance which is added to  $F_0^c(z)$  when  $F_0^c(z)$  is increasing.

Technical Specification 6.9.1.6b, item 5 is revised to update the reference to the NRC approved methodology provided in WCAP-10216-P-A to Revision 1A, entitled "Relaxation of Constant Axial Offset Control -  $F_0$  Surveillance Technical Specification." Revision 1A includes minor methodology changes to account for  $F_0^c(z)$  allowances greater than 2% between monthly surveillances.

In summary, this proposed change provides cycle-specific allowances to account for increases in  $F_0^c(z)$  between monthly surveillances.

### III. ANALYSIS

$F_0^c(z)$  is determined during periodic flux maps and compared to the  $F_0^c(z)$

limit to ensure that  $F_0(z)$  does not exceed the maximum value assumed in the safety analyses.  $F_0(z)$  normally decreases with increasing burnup because locations of peak power output in the core are also locations of peak depletion rate. However, cores using large numbers of burnable absorbers may show small increases in  $F_0(z)$  over some period of core life. If  $F_0(z)$  has increased since the last surveillance, a 2% allowance is added to  $F_0(z)$  (as one option permitted by Surveillance Requirement 4.2.2.2f) and the sum must meet the  $F_0(z)$  limit specified in Specification 4.2.2.2d. The 2% allowance accounts for additional increases in  $F_0(z)$  that may occur prior to the next monthly flux map. A standard 2% allowance was originally selected because it bounded the maximum monthly increase in  $F_0(z)$  for typical cores (based on Westinghouse analyses of earlier core designs). Cores typical of the CPSES Unit 2, Cycle 2 design, with low leakage loading patterns, higher amounts of burnable poisons, and longer cycle lengths may exhibit  $F_0(z)$  increases in excess of 2% per month during some portion of the fuel cycle. Therefore, it is appropriate to apply greater allowances to bound these increases.

A generic analysis of  $F_0(z)$  increases was submitted to the NRC by Westinghouse Topical Report WCAP-10216-P-A, Rev.1A [1]. The NRC reviewed the report and found it to be acceptable for referencing in licensing applications [2]. In the accompanying Safety Evaluation Report (SER) the NRC concluded that revisions to the  $F_0(z)$  Surveillance Technical Specification were acceptable for plants using constant axial offset control (CAOC) for power distribution control, provided that: 1) the new peaking factor penalties are incorporated in the Core Operating Limits Report (COLR), 2) the new peaking factor penalties are calculated using NRC-approved methods, and, 3) the approved version of WCAP-10216-P, Rev.1A is included in the Administrative Reporting Requirements Section of the Technical Specifications.

CPSES Units 1 and 2 use CAOC for power distribution control and the proposed technical specification changes meet the above criteria. The larger  $F_0(z)$  allowances will be included in the COLR as a replacement for the current Technical Specification value of 2%.

#### IV. SIGNIFICANT HAZARDS CONSIDERATIONS ANALYSIS

TU Electric has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10CFR50.92(c) as discussed below:

Do the proposed changes:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed changes provide for the use of cycle-specific allowances to account for  $F_0(z)$  increases between surveillances. No hardware or setpoint changes are involved; therefore the changes have no impact on the probability of occurrence of any accident previously analyzed.

The proposed changes ensure that  $F_0^c(z)$  remains within its limit. Thus, the changes do not increase the consequences of any accident previously analyzed.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed changes provide for the use of a cycle-specific allowances to account for  $F_0^c(z)$  increases between surveillances. The proposed changes do not involve any hardware or setpoint changes. Therefore the changes do not create the possibility of a new or different kind of accident from any accident previously analyzed.

- 3) Involve a significant reduction in a margin of safety?

The proposed changes do not affect the failure values of any system or any event acceptance criteria. Higher cycle-specific allowances ensure that  $F_0^c(z)$  remains below its limit between surveillances and within the bounds considered in the safety analyses. Therefore the proposed changes do not involve a reduction in a margin of safety.

Based on the above evaluations, TU Electric concludes that the activities associated with the proposed changes satisfy the no significant hazards consideration standards of 10CFR50.92(c) and accordingly, a no significant hazards consideration finding is justified.

#### V. ENVIRONMENTAL EVALUATION

TU Electric has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of proposed the change is not required.

#### VI. PRECEDENCE

Vogtle and Diablo Canyon have requested similar changes.

#### VII. REFERENCES

1. Westinghouse Topical Report WCAP-10216-P-A, Revision 1A, entitled "Relaxation of Constant Axial Offset Control-  $F_0$  Surveillance Technical Specification", February, 1994
2. NRC letter from Mr. Ashok C. Thadani to Mr. Nicholas J. Liparulo, dated November 26, 1993