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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C  
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C  
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 RECIP. NAME: THOMPSON, H.R. RECIPIENT AFFILIATION: Division of Licensing

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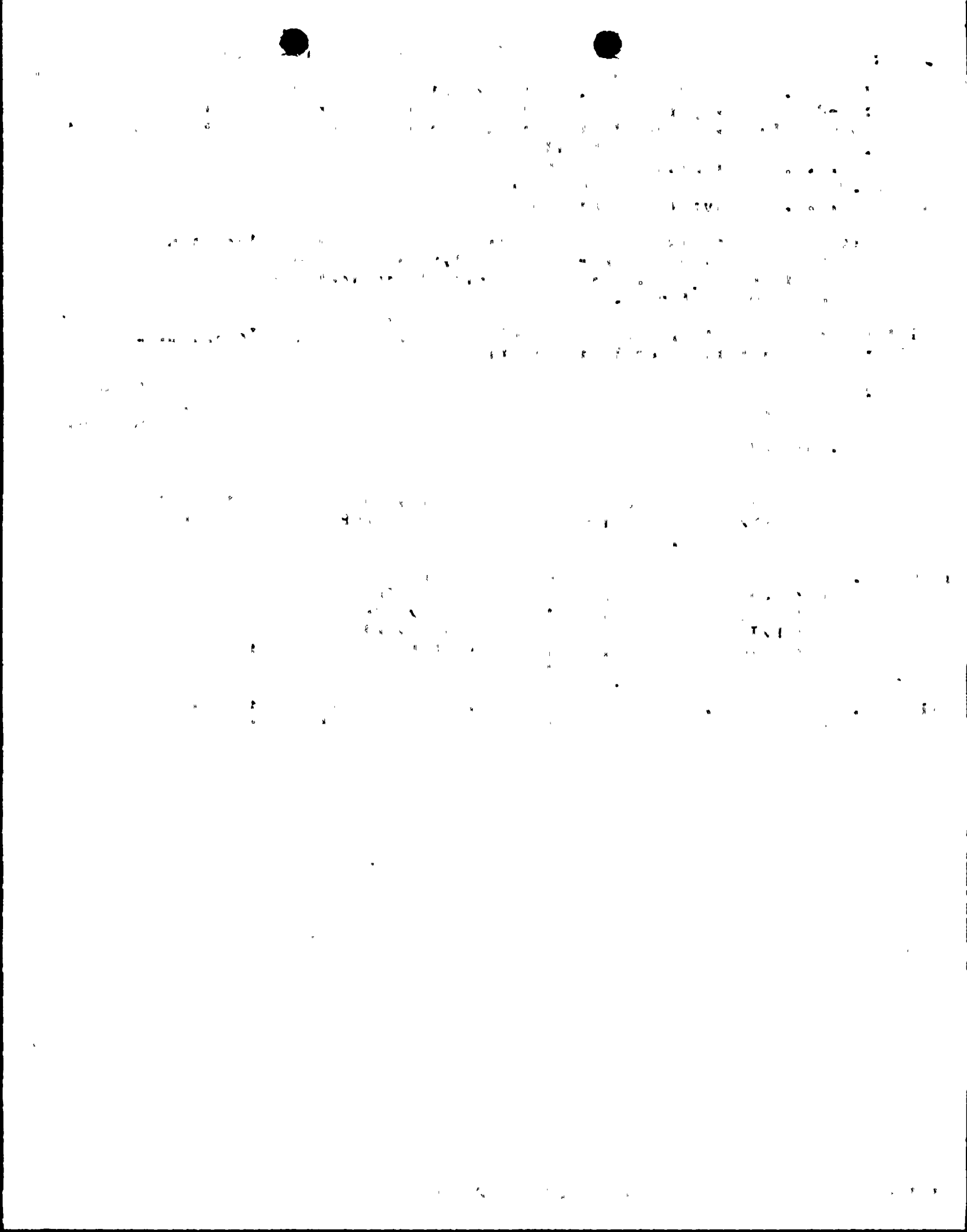
SUBJECT: Forwards revised NSHC & modified SER re: 850215 application to amend Licenses DPR-21 & DPR-41, revising moderator temp coefficient spec. Revised info clearly indicates when analyses performed.

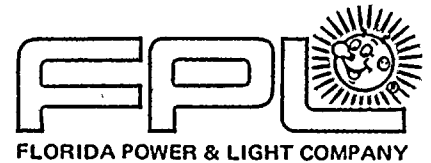
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APR 17 1985

L-85-165

Office of Nuclear Reactor Regulation  
Attention: Mr. Hugh R. Thompson, Director  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Thompson:

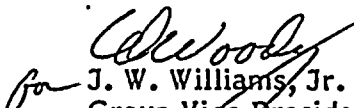
Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Proposed License Amendment  
Moderator Temperature Coefficient

On February 15, 1985, Florida Power & Light Company forwarded a request to amend the Turkey Point Units 3 and 4 operating licenses to revise the moderator temperature coefficient specification.

We have prepared a revised no significant hazards consideration and have modified the safety evaluation submitted with that request to more clearly indicate when the respective analyses were performed. These items are attached, and supersede those submitted with our original request.

Should you or your staff have additional questions, please contact us.

Very truly yours,

  
J. W. Williams, Jr.  
Group Vice President  
Nuclear Energy

JWW/TCG/js

Attachment

cc: Dr. J. Nelson Grace, Region II  
Harold F. Reis, Esquire

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## Safety Evaluation For A Proposed Change To The Turkey Point Units 3 and 4 Technical Specifications on Moderator Temperature Coefficient

This safety evaluation has been prepared to support the Technical Specification change for Turkey Point Units 3 and 4 on moderator temperature coefficient (MTC). The impact of a positive moderator temperature coefficient on the accident analyses presented in Chapter 14 of the Turkey Point Units 3 and 4 FSAR (Reference 1) has been assessed. The transients that are impacted by a positive moderator coefficient are discussed in some detail, below. These events were previously analyzed in conjunction with a Technical Specification change raising the MTC limit to +5 pcm/°F below 70 percent of rated power (Reference 2). Another Technical Specification change to permit Optimized Fuel Assemblies (OFA) in the core (Reference 3) required reanalysis of several transients with a +5 pcm/°F MTC at full power. The dropped rod transient was recently reanalyzed with a +5 pcm/°F MTC at full power.

The proposed Technical Specification change substitutes a linear rampdown of the allowable MTC from +5 pcm/°F to zero between 70 percent and 100 percent rated power in place of the previous step change at 70 percent power. This is diagrammed in Figure 1. The corrective action to restore the MTC to within limits conforms to the Standard Technical Specification for Westinghouse plants.

The following evaluations were made for those transients that were determined in reference 2, to be sensitive to a positive MTC. The assumption of a +5 pcm/°F MTC existing above 70 percent power is conservative since the proposed Technical Specification requires that the coefficient be linearly ramped to zero above 70 percent power.

### Boron Dilution

The conclusions of Reference 2 remain valid for the proposed Technical Specification.

### RCCA Withdrawal from a Subcritical Condition

As noted in Reference 2, a constant MTC of +5 pcm/°F was used in the analysis of this event. The conclusions presented in Reference 2 remain valid.

### Uncontrolled RCCA Bank Withdrawal at Power

The limiting case from the FSAR which occurs at 80 percent power was reanalyzed as reported in Reference 2, assuming a constant MTC of +5 pcm/°F. This assumption is conservative since the proposed Technical Specification would require the MTC to be less than +5 pcm/°F above 70 percent power. The conclusions of Reference 2 remain valid.

### Loss of Reactor Coolant Flow

The complete loss of flow event analyzed in support of the OFA transition assumed a +5 pcm/°F at full power in support of the OFA transition. The conclusions presented in Reference 3 remain valid.

### Locked Rotor

The locked rotor event was analyzed with a MTC of +5 pcm/°F at full power in support of the OFA transition. The conclusions presented in reference 3 remain valid.

### Rod Ejection

The control rod ejection analyses performed in support of the OFA transition were based on a coefficient which was at least +5 pcm/°F at the appropriate zero or full power nominal average temperature, and which became less positive for higher temperatures. This was necessary since the TWINKLE computer code used in the analyses is a diffusion-theory code rather than a point-kinetics approximation and the moderator temperature feedback cannot be artificially held constant with temperature. The conclusions of Reference 3 remain valid.

### Dropped Rod

The dropped control rod transient was reanalyzed recently with the assumption of a constant +5 pcm/°F MTC at full power. The results show that the safety criteria are met.

### Loss of External Electric Load

As noted in Reference 2, the loss of load event was analyzed with an MTC of +5 pcm/°F at full power. The conclusions presented in Reference 2 remain valid.

Based on the above it is determined that the ramp down of the allowable MTC from +5 pcm/°F to 0 pcm/°F between 70 percent and 100 percent power is bounded by the safety analysis, and is therefore acceptable.



### References

1. "Turkey Point Units 3 and 4 Final Safety Analysis Report", Docket Nos. 50-250 and 50-251.
2. FPL letter L-81-517 dated December 10, 1981, "Turkey Point Units 3 and 4 Docket Nos. 50-250 and 50-251 Proposed License Amendment Moderator Temperature Coefficient", R. E. Uhrig to D. G. Eisenhut.
3. FPL letter L-83-344 dated June 3, 1983, "Turkey Point Units 3 and 4 Docket Nos. 50-250 and 50-251 Proposed License Amendment Optimized Fuel Assembly and Wet Annular Burnable Absorber", R. E. Uhrig to D. G. Eisenhut.





# TURKEY POINT 3+4 MTC TECH SPEC

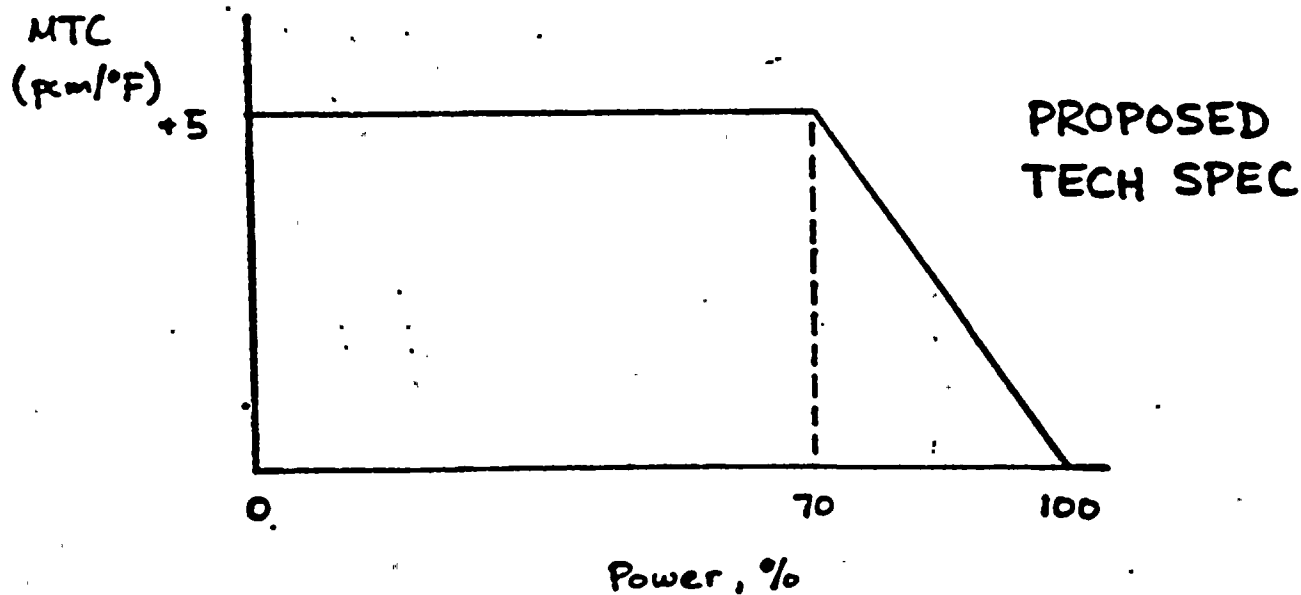
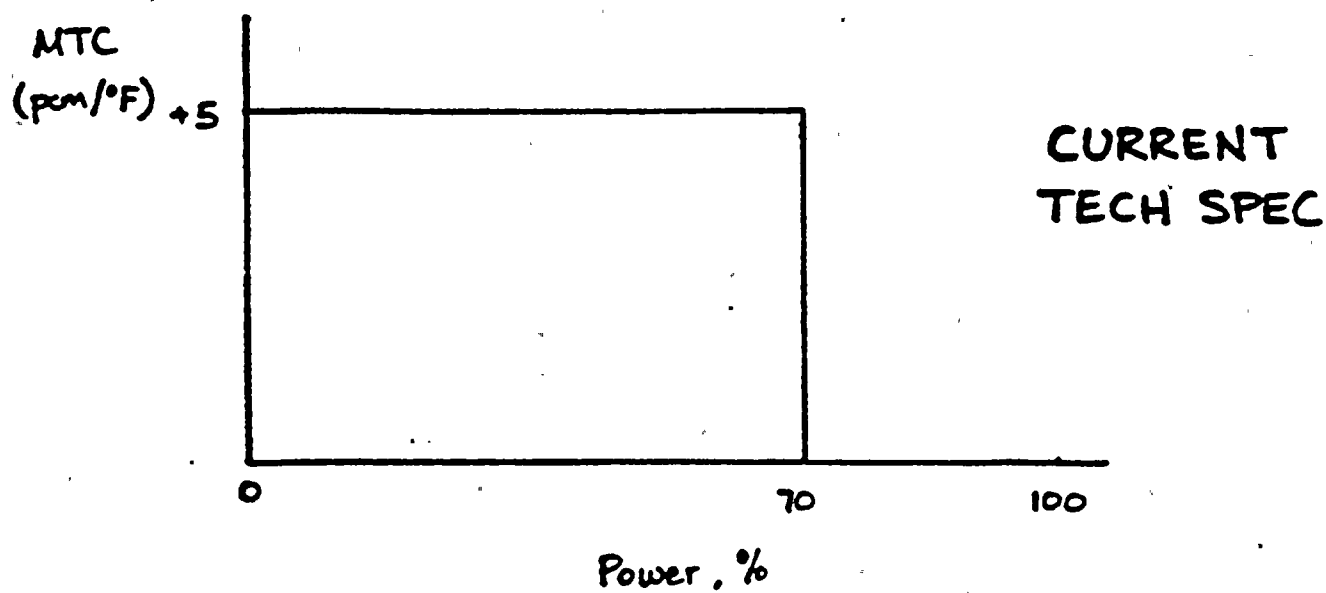


FIGURE 1

### No Significant Hazards Consideration

The proposed change to the Turkey Point Units 3 and 4 Technical Specifications on moderator temperature coefficient (MTC) will increase operational flexibility and remove overly restrictive operational requirements above 70 percent reactor power. As stated in the safety evaluations, the change leads to conditions which are well within bound of previous safety analyses.

The proposed change does not involve a significant hazards consideration as discussed below:

- (1) The proposed Technical Specification changes does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The plant is essentially operated in the same manner as before and no change in plant configuration has occurred. Therefore there is no increase in the probability of accidents previously evaluated.

As described in the safety evaluation, the consequences of accidents previously evaluated have been examined and have been found to be bounded by previous analysis.

- (2) The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The plant is operated essentially in the same manner as before and no change in plant configuration is involved. Therefore, there will be no possibility of a new or different accident.

- (3) The proposed change does not cause a significant reduction in a margin of safety.

The FSAR defines acceptance criteria for various postulated transients. Such criteria are conservatively selected and provide conservative safety margins. All FSAR accidents were re-examined for positive MTC operation above 70% power. The acceptance criteria were met for all transients.

The Proposed change is similar to the following example of a change (Federal Register, Volume 48, No. 67, Wednesday, April 6, 1983, page 14870) not likely to involve a significant hazards consideration:

"(vi) A change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a small refinement of a previously used calculational model or design method."

Therefore, it is concluded that in accordance with the provisions of 10 CFR 50.92 the proposed Technical Specification changes will not involve a significant hazards consideration.