

March 6, 1990

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
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Donald F. Schnell
Senior Vice President
Nuclear

Gentlemen:

ULNRC-2168

DOCKET NUMBER 50-483
CALLAWAY PLANT
REVISION TO TECHNICAL SPECIFICATIONS
CONCERNING CYCLE SPECIFIC CORE
OPERATING LIMITS

Reference: NRC Generic Letter 88-16, dated
October 4, 1988

Union Electric Company herewith transmits an application for amendment to Facility Operating License No. NPF-30 for Callaway Plant.

This amendment application revises Technical Specifications and associated Bases, which contain cycle specific core operating parameters in accordance with Reference 1. The proposed revision would relocate the cycle specific core parameters from the Technical Specifications and place them in the Core Operating Limits Report (COLR) under the control of the plant's unit review group (On-Site Review Committee (ORC) for Callaway Plant). NRC will be notified of changes to the COLR concurrent with plant implementation.

The Safety Evaluation and Significant Hazards Evaluation are included herewith as Attachment 1. Attachment 2 is a listing of the affected Technical Specifications with a brief description of the change and Attachment 3 is the marked up Technical Specification pages.

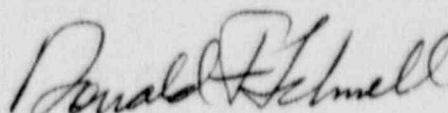
Also included for additional supporting information (as Attachment 4) is a draft copy of the Callaway Core Operating Limits Report (COLR). The COLR contains the information removed from the Technical Specifications.

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Compliance with the Technical Specifications shall in no way be degraded by maintaining the cycle specific core parameters in appropriate plant procedures and the COLR. The proposed changes provide additional flexibility for modifying requirements under the provisions of 10CFR 50.59. The changes are also consistent with the NRC and industry effort to simplify the Technical Specifications.

The requested changes will become effective for Union Electric implementation upon NRC approval.

Very truly yours,

A handwritten signature in cursive script, reading "Donald F. Schnell".

Donald F. Schnell

WEK/dls

Attachments

STATE OF MISSOURI)
) S S
CITY OF ST. LOUIS)

Donald F. Schnell, of lawful age, being first duly sworn upon oath says that he is Senior Vice President-Nuclear and an officer of Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Donald F. Schnell
Donald F. Schnell
Senior Vice President
Nuclear

SUBSCRIBED and sworn to before me this sixth day
of March, 1990.

Barbara J. Pfaff
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ATTACHMENTS FOR THE CYCLE SPECIFIC CORE OPERATING
LIMITS TECHNICAL SPECIFICATIONS
AMENDMENT

| | |
|--------------|---|
| Attachment 1 | Safety Evaluation And Significant Hazards Evaluation |
| Attachment 2 | Affected Technical Specifications and Bases |
| Attachment 3 | Marked-up Technical Specification Pages |
| Attachment 4 | Draft Core Operating Limits Report |

SAFETY EVALUATION AND
NO SIGNIFICANT HAZARDS EVALUATION
FOR CHANGES TO TECHNICAL SPECIFICATIONS
DELETING CERTAIN CYCLE-SPECIFIC PARAMETERS

Background

Generic Letter 88-16, dated October 4, 1988, was issued to encourage licensees to prepare changes to Technical Specifications related to cycle-specific parameters. These Technical Specification changes will relocate cycle-specific parameter limits from Technical Specifications to the Core Operating Limits Report (COLR). Presently the parameter limits in the Callaway Plant Technical Specifications are calculated using NRC-approved methodologies. These limits are evaluated for every reload cycle and may be revised periodically as appropriate to reflect changes to cycle-specific variables. This is an administrative burden on both the NRC and Union Electric.

The generic letter provided guidance for relocation of certain cycle-dependent core operating limits from the Callaway Plant Technical Specifications. This would allow changes to the values of core operating limits without prior approval (i.e., license amendment) by the NRC, provided an NRC-approved methodology for the parameter limit calculation is followed. Thus, future Callaway Plant core reloads and other revisions will require a safety review in accordance with the requirements of 10 CFR 50.59 instead of a prior NRC submittal.

Currently, for each parameter limit proposed in the COLR Union Electric utilizes the approved methodologies identified in the revised Administrative Controls section of this license amendment request. Callaway Plant will use these methodologies when performing core reload design and when any other revisions are made.

Proposed Change

The proposed technical specification changes concern the relocation of several cycle-specific core operating limits for Callaway Plant from Technical Specifications to the COLR. A new definition of the COLR will be added to the Technical Specifications. Additionally, certain individual Technical Specifications will be amended to note that cycle-specific parameter limits are contained in the COLR. A COLR paragraph will be added to the Administrative Controls Section [which will replace the Peaking Factor Limit Report]. The COLR will be required to be submitted to the NRC to allow continued trending of the cycle-specific parameters.

The proposed changes will reference the COLR for specific parameters and will ensure that cycle-specific parameters are maintained within the limits of the COLR. The cycle-specific parameter limits proposed for relocation to the COLR as part of this license amendment request include:

- (a) 3.1.1.3 Moderator Temperature Coefficient
- (b) 3.1.3.5 Shutdown Rod Insertion Limit
- (c) 3.1.3.6 Control Rod Insertion Limits
- (d) 3.2.1 Axial Flux Difference
- (e) 3.2.2 Heat Flux Hot Channel Factor
- (f) 3.2.3 Nuclear Enthalpy Rise Hot Channel Factor

The proposed changes are consistent with the requirements of 10 CFR 50.36 and the staff's proposed policy for improving Technical Specifications, delineated in SECY-86-10, "Recommendations for improving TS." The policy allows process variables such as core operational limits to be controlled by specifying them numerically in the Technical Specifications or by specifying the method of calculating their numerical values if the staff finds that the correct limits will be followed in operating the plant. The proposed revision references the NRC-approved calculation methodologies. The development of cycle-specific core operating limits will continue to be performed by the referenced methodologies which has been accepted by the NRC.

The proposed changes to the Technical Specifications are also considered to be improvements and are consistent with the NRC stated policy for improving Technical Specifications (52 FR 3788, February 6, 1987).

Safety Evaluation

The current Technical Specification method of controlling reactor physics parameters to assure conformance to 10 CFR 50.36 (which requires the lowest functional performance levels acceptable for continued safe operation) is to specify the values determined to be within the acceptance criteria using an NRC-approved calculation methodology. As previously discussed, the methodologies for calculating these parameter limits have been reviewed and approved by the NRC and are consistent with the applicable limits in the Final Safety Analysis Report (FSAR).

The removal of cycle dependent variables from the Technical Specifications has no impact upon plant operation or safety. No safety-related equipment, safety function, or plant operations will be altered as a result of this proposed change. Since the applicable FSAR limits will be maintained and the Technical Specifications will continue to require operation within the core operational limits calculated by these NRC-approved methodologies, this proposed change is administrative in nature. Appropriate actions to be taken if limits are violated will also remain in the Technical Specifications.

This proposed change will control the cycle-specific parameters within the acceptance criteria and assure conformance to 10 CFR 50.36 by using the approved methodology instead of specifying Technical Specification values. The COLR will document the specific parameter limits resulting from Union Electric calculations, including mid-cycle or other revisions to parameter values. Therefore, the proposed change is in conformance with the requirements of 10 CFR 50.36.

Any changes to the COLR will be made in accordance with the provisions of 10 CFR 50.59. From cycle to cycle, the COLR will be revised such that the appropriate core operating limits for the applicable cycle will apply. Technical Specifications will not be changed. NRC will be notified of changes to the COLR concurrent with plant implementation.

Based on the above discussions, this amendment request does not adversely affect or endanger the health or safety of the public and does not involve an unreviewed safety question, nor an unreviewed environmental question.

Determination of Significant Hazards

Pursuant to 10 CFR 50.91, Union Electric has determined that operation of the facility in accordance with the proposed license amendment request does not involve any significant hazards considerations as defined by NRC regulations in 10 CFR 50.92. The following discussion describes how the proposed amendment satisfies each of the three standards of 10 CFR 50.92(c).

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

The removal of cycle-specific core operating limits from the Callaway Plant Technical Specifications has no influence or impact on the probability or consequences of any accident previously evaluated. The cycle-specific core operating limits, although not in Technical Specifications, will be followed in the operation of the Callaway Plant. The proposed amendment still requires exactly the same actions to be taken when or if limits are exceeded as is required by current Technical Specifications. The cycle specific limits within the COLR will be implemented and controlled per Callaway Plant programs and procedures. Each accident analysis addressed in the Callaway Final Safety Analysis Report (FSAR) will be examined with respect to changes in cycle-dependent parameters, which are obtained from application of the NRC-approved reload design methodologies, to ensure that the transient evaluation of new reloads are bounded by previously accepted analyses. This examination, which will be performed per requirements of 10 CFR 50.59, ensures that future reloads will not involve a significant

increase in the probability or consequences of an accident previously evaluated.

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

As stated earlier, the removal of the cycle specific variables has no influence or impact, nor does it contribute in any way to the probability or consequences of an accident. No safety-related equipment, safety function, or plant operations will be altered as a result of this proposed change. The cycle specific variables are calculated using the NRC-approved methods and submitted to the NRC to allow the Staff to continue to trend the values of these limits. The Technical Specifications will continue to require operation within the required core operating limits and appropriate actions will be taken when or if limits are exceeded.

Therefore, the proposed amendment does not in any way create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3) The proposed amendment does not result in a significant reduction in the margin of safety.

The margin of safety is not affected by the removal of cycle-specific core operating limits from the Technical Specifications. The margin of safety presently provided by current Technical Specifications remains unchanged. Appropriate measures exist to control the values of these cycle-specific limits. The proposed amendment continues to require operation within the core limits as obtained from the NRC-approved reload design methodologies and appropriate actions to be taken when or if limits are violated remain unchanged.

The development of the limits for future reloads will continue to conform to those methods described in NRC-approved documentation. In addition, each future reload will involve a 10 CFR 50.59 safety review to assure that operation of the unit within the cycle specific limits will not involve a significant reduction in a margin of safety.

Therefore, the proposed changes are administrative in nature and do not impact the operation of Callaway Plant in a manner that involves a reduction in the margin of safety.

Conclusion

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists. This guidance (51 FR 7750) includes examples of the type of amendments that are considered not likely to involve significant hazards considerations. The change proposed is similar to the examples of administrative changes identified in 51 FR 7750. Additionally, the proposed change is consistent with the NRC policy for improving technical specifications (52 FR 3788) and the proposed change is consistent with 10 CFR 50.36 and 10 CFR 50.59.

In view of the preceding, Union Electric has determined that the proposed license amendment does not involve any significant hazards considerations.

TECHNICAL SPECIFICATION AFFECTED BY PROPOSED
AMENDMENT AND BRIEF DESCRIPTION OF CHANGE

| <u>Page</u> | <u>TECHNICAL SPECIFICATION</u> | <u>CHANGE DESCRIPTION</u> |
|-------------|--|--|
| I | Definitions 1.10 Core Operating Limits Report | Updates index to show the addition of a COLR definition |
| IV | Figure 3.1-1 | Removes the reference to Figure 3.1-1 from the index |
| V | Figures 3.2-1 and 3.2-2 | Removes the references to Figures 3.2-1 and 3.2-2 from the index |
| XX | 6.9.1 Routine Reports: Core Operating Limits Report | Updates index to change name of the Peaking Factor Limit Report to the COLR |
| 1.2 | 1.10 Definitions | Adds definition of COLR |
| 3/4 1-4 | 3.1.1.3 Moderator Temperature Coefficient | Relocates MTC Limits to the COLR |
| 3/4 1-5 | 4.1.1.3 MTC Surveillance Requirement | |
| B3/4 1-2 | 3/4.1.1.3 Moderator Temperature Coefficient Bases | |
| 3/4 1-14 | 3.1.3.1 Movable Control Assemblies | Replaces reference to Figure 3.1-1 (which is relocated to the COLR) with Specification 3.1.3.6 |
| 3/4 1-20 | 3.1.3.5 Shutdown Rod Insertion Limit 4.1.3.5 Surveillance Requirement | Replaces the fully withdrawn limit with more general insertion limits which are to be provided in the COLR. This is done to allow RCCA repositioning to minimize wear. |

| <u>Page</u> | <u>TECHNICAL SPECIFICATION</u> | <u>CHANGE DESCRIPTION</u> |
|-------------|--|--|
| 3/4 1-21 | 3.1.3.6 Control Rod Insertion Limits | Relocates the control bank rod insertion limits to the COLR |
| 3/4 1-22 | Figure 3.1-1 Rod Bank Insertion Limits Vs. Rated Thermal Power - Four Loop Operation | |
| 3/4 2-1 | 3.2.1 Axial Flux Difference | Relocates the AFD limits to the COLR and reflects the change from the Peaking Factor Limit Report to the COLR as the source of the AFD limits. |
| 3/4 2-2 | 3.2.1 Axial Flux Difference | |
| 3/4 2-3 | Figure 3.2-1 | |
| B 3/4 2-1 | Axial Flux Difference Bases | |
| B 3/4 2-2 | Axial Flux Difference Bases | |
| 3/4 2-4 | 3.2.2 Heat Flux Hot Channel Factor | Relocates the F_Q , $K(z)$, and $W(z)$ functions to the COLR. The numerical F_Q limit is replaced with a function F_Q^{RTP} which is to be specified in the COLR. |
| 3/4 2-5 | Figure 3.2.2 | |
| 3/4 2-6 | 4.2.2.2.C Heat Flux Hot Channel Factor Surveillance Requirements | |
| 3/4 2-7 | 4.2.2.2f Heat Flux Hot Channel Factor Surveillance Requirements | |
| 3/4 2-7(a) | 4.2.2.3 Heat Flux Hot Channel Factor Surveillance Requirements | |
| | 4.2.2.4.C Heat Flux Hot Channel Factor Surveillance Requirements | |
| 3/4 2-7(b) | 4.2.2.4.f Heat Flux Hot Channel Factor Surveillance Requirements | |
| B3/4 2-5 | Heat Flux Hot Channel Factor | |
| 3/4 2-8 | 3.2.3 Nuclear Enthalpy Rise Hot Channel Factor | Relocates the $F\text{-}\Delta H$ limit to the COLR. The numerical values for the $F\text{-}\Delta H$ limit and part power multiplier are replaced with parameter FAH^{RTP} and PF_{AH} which are to be defined in the COLR. |

6-21 Administrative Controls
6.9.1.9 Peaking Factor
Limit Report

In the Administrative Controls Section the description of the Peaking Factor Limit Report is replaced with the description of the COLR. The COLR will be provided, upon issuance for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.