

RS-02-160

10 CFR 50.90

September 19, 2002

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555-0001

SUBJECT: LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Request for Amendment to Technical Specification 5.6.5, "Core Operating Limits Report (COLR)," for Addition of New Analytical Methodology

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation Company (EGC), LLC hereby requests a change to Appendix A, Technical Specifications (TS), of Facility Operating License Nos. NPF-11 and NPF-18. Specifically, the proposed change adds a new analytical method to TS Section 5.6.5, "Core Operating Limits Report (COLR)." The proposed change supports the core design efforts currently in process for the upcoming Unit 2 refueling outage scheduled to begin in January 2003.

The information supporting the proposed TS changes is subdivided as follows.

- Attachment 1 is the notarized affidavit.
- Attachment 2 provides our evaluation supporting the proposed changes.
- Attachment 3 contains the copies of the marked up TS pages.
- Attachment 4 provides the typed TS pages

The proposed TS changes have been reviewed by the LaSalle County Station Plant Operations Review Committee (PORC) and approved by the Nuclear Safety Review Board (NSRB) in accordance with the Quality Assurance Program.

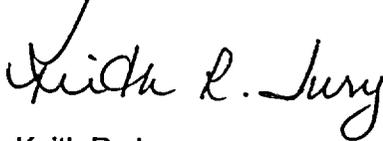
EGC is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated State Official.

A001

EGC requests approval of this change by January 11, 2003. Approval by this date will support the scheduled startup of the LaSalle County Station, Unit 2. Once approved, the amendment will be implemented within 30 days.

If you have any questions or require additional information, please contact Mr. T. W. Simpkin at (630) 657-2821.

Sincerely,



Keith R. Jury
Director – Licensing
Mid-West Regional Operating Group

Attachments:

1. Affidavit
2. Evaluation of Proposed Changes
3. Markup of Proposed Technical Specification Page Changes
4. Typed Pages for Technical Specification Change

cc: Regional Administrator – NRC Region III
NRC Project Manager, NRR – LaSalle County Station
NRC Senior Resident Inspector – LaSalle County Station
Office of Nuclear Facility Safety - Illinois Department of Nuclear Safety

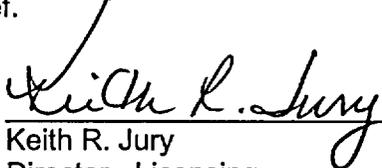
ATTACHMENT 1
Affidavit

STATE OF ILLINOIS)
COUNTY OF DUPAGE)
IN THE MATTER OF)
EXELON GENERATION COMPANY (EGC), LLC) Docket Numbers
LASALLE COUNTY STATION, UNIT 1 and UNIT 2) 50-373 and 50-374

SUBJECT: Request for Amendment to Technical Specification 5.6.5, "Core Operating Limits Report (COLR)," for Addition of New Analytical Methodology

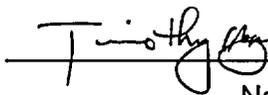
AFFIDAVIT

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.



Keith R. Jury
Director - Licensing
Mid-West Regional Operating Group

Subscribed and sworn to before me, a Notary Public in and
for the State above named, this 19th day of
September, 2002.



Notary Public



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Evaluation of Proposed Changes
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- 1.0 INTRODUCTION
- 2.0 DESCRIPTION OF PROPOSED AMENDMENT
- 3.0 BACKGROUND
- 4.0 REGULATORY REQUIREMENTS & GUIDANCE
- 5.0 TECHNICAL ANALYSIS
- 6.0 REGULATORY ANALYSIS
- 7.0 NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC)
- 8.0 ENVIRONMENTAL CONSIDERATION
- 9.0 PRECEDENT
- 10.0 REFERENCES

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1.0 INTRODUCTION

This request proposes to amend Operating License Nos. NPF-11 and NPF-18 for LaSalle County Station, Units 1 and 2.

The requested change would revise Appendix A, Technical Specifications (TS), of the Operating License to add a new analytical method to TS 5.6.5, "Core Operating Limits Report (COLR)." TS Section 5.6.5.b lists analytical methods that have been previously reviewed and approved by the NRC for use by a licensee to determine core operating limits. The new analytical method is used in the design of the LaSalle County Station Unit 2 Cycle 10 reload design. The new computer code incorporates advanced model features that improve the accuracy of calculations and predictions. The proposed change is required to support startup of LaSalle County Station Unit 2 following the refueling outage scheduled to begin January 11, 2003.

2.0 DESCRIPTION OF PROPOSED AMENDMENT

The proposed amendment would revise TS Section 5.6.5.b to add the following reference.

21. "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/MICROBURN-B2," EMF-2158(P)(A)

In summary, the proposed change to TS 5.6.5 adds a reference that describes the methodology that has been previously reviewed and approved by the NRC for use in determining core operating limits, and is currently being used in the design and analysis of the LaSalle County Station core reload.

3.0 BACKGROUND

TS Section 5.6.5 requires the establishment of core operating limits prior to each reload cycle and that these limits shall be documented in the COLR. As stated in TS Section 5.6.5.b, the analytical methods used to determine the core operating limits shall be previously reviewed and approved by the NRC and documented in this section of the TS. The COLR contains a complete identification for each of the referenced topical reports used in the preparation of the COLR (i.e., report number, title, revision, date, and any supplements).

Framatome-ANP is currently in the process of designing the core reload for LaSalle County Station Unit 2 Cycle 10 scheduled to begin on February 5, 2003. The CASMO-4/MICROBURN-B2 code package is being used in support of the reload. This code package includes both a lattice spectrum/depletion code (CASMO-4) and steady-state reactor core simulator code (MICROBURN-B2). This upgraded code package is more accurate than the code packages previously used and a description of the code system is contained in Reference 1. The most significant improvements to the code package include the following.

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1. Pin power reconstruction to include fuel pin axial neutron leakage effects. This model improves the accuracy of the pin peaking factors in the core nodes.
2. The power distribution uncertainties and hot/cold eigenvalue uncertainties of the CASMO-4/MICROBURN-B2 methods are improved relative to the earlier generation methods (CASMO-3G/MICROBURN-B) leading to increased accuracy in calculations and predictions.

Since this code package implements a new methodology for the design and analysis of the LaSalle County Station reload it must be added to the references included in TS Section 5.6.5.b.

4.0 REGULATORY REQUIREMENTS & GUIDANCE

10 CFR 50.36, "Technical specifications," provides the regulatory requirements for the content required in a licensee's TS.

5.0 TECHNICAL ANALYSIS

5.1 Design Basis

This proposed change references the methodologies that are currently being used in the design and analysis of the LaSalle County Station core reload. The methodology that is being referenced has been previously reviewed and approved by the NRC (Reference 2). A brief description of the methodology is provided below.

The proposed addition of item 21 to TS Section 5.6.5.b is used in the design of the LaSalle Unit 2 Cycle 10 reload design. The new code system incorporates advanced model features that improve the accuracy of calculations and predictions. The most significant improvement from the previously approved code system is the pin power reconstruction method. As indicated in Table 2.3 of Reference 1, the uncertainties for this CASMO-4/MICROBURN-B2 methodology are an improvement relative to the earlier generation CASMO-3G/MICROBURN-B methods. The radial bundle power requirements for C-Lattice and D-Lattice reactors are a relative standard deviation of <4.09% and <4.32%, respectively. The MICROBURN-B2 uncertainty for C and D Lattices was found to be equal to 2.90% and 4.10%, respectively.

In the conclusion of their review of the topical report (Reference 1), the NRC indicated that on the basis of their findings the topical report is acceptable for licensing evaluations of BWR neutronics designs and applications in accordance with the conditions identified in the Safety Evaluation. It has been confirmed that Framatome-ANP is performing the LaSalle County Station Unit 2 Cycle 10 reload analysis in accordance with the conditions stated in the NRC Safety Evaluation.

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5.2 Risk Information

This submittal is not based on risk-informed decision making.

6.0 REGULATORY ANALYSIS

10 CFR 50.36, paragraph (c)(5) states that TS will include administrative controls that address the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner. The COLR is required as part of the reporting requirements specified in the LaSalle County Station TS administrative controls. In addition it is required that the analytical methods used to determine the core operating limits be approved and described in the administrative controls section of the TS. The proposed change ensures that these requirements are met.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION

EGC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," discussed below:

- 1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No.

The proposed change to LaSalle County Station, Unit 1 and Unit 2 Technical Specification (TS), involves reference to a new fuel analytical method in TS Section 5.6.5, "Core Operating Limits Report (COLR)." This code package supports the methodology currently being used by Framatome-ANP in the reload design and analysis process.

The proposed change to TS Section 5.6.5 will add to the list of methods used to determine the core operating limits, the fuel analytical method that supports design of the LaSalle County Station Unit 2 Cycle 10 reload that is currently scheduled to startup on February 5, 2003. The addition of the approved method to TS Section 5.6.5 has no effect on any accident initiator or precursor previously evaluated and does not change the manner in which the core is operated. The NRC approved method has been reviewed to ensure that the output accurately models predicted core behavior, has no affect on the type or amount of radiation released, and has no affect on predicted offsite doses in the event of an accident.

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Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change to TS Section 5.6.5 does not affect the performance of any LaSalle County Station structure, system, or component credited with mitigating any accident previously evaluated. The use of a new analytical method, which has been reviewed and approved by the NRC for the design of a core reload, will not affect the control parameters governing unit operation or the response of plant equipment to transient conditions. The proposed change does not introduce any new modes of system operation or failure mechanisms.

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

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change to TS Section 5.6.5 adds the current analytical method for design and analysis of core reloads to the list of methods used to determine the core operating limits. The NRC has approved for use by licensees the analytical method being added. The proposed change does not modify the safety limits or setpoints at which protective actions are initiated, and does not change the requirements governing operation or availability of safety equipment assumed to operate to preserve the margin of safety.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, EGC concludes that the proposed amendment presents a no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

8.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does 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

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individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

9.0 PRECEDENT

The proposed amendment incorporates into the LaSalle County Station TS changes that are specific to LaSalle County Station, and therefore, this proposed amendment does not rely upon the issuance of amendments to other licensees.

10.0 REFERENCES

- (1) Siemens Power Corporation Report EMF-2158(P)(A), "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/MICROBURN-B2," dated October 1999
- (2) Letter from U. S. Nuclear regulatory Commission to J. F. Mallay (Siemens Power Corporation), "Acceptance for Referencing of Licensing Topical Report EMF-2158(P), Revision 0, "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/MICROBURN-B2" (TAC No. MA4592)," dated October 18, 1999

ATTACHMENT 3

MARKUP OF PROPOSED TECHNICAL SPECIFICATION PAGE CHANGES

Revised TS Page

5.6-4

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

10. RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A).
11. XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A).
12. Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model, ANF-91-048(P)(A).
13. SPCB Critical Power Correlation, EMF-2209(P)(A).
14. Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A).
15. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel."
16. Commonwealth Edison Topical Report NFSR-0085, "Benchmark of BWR Nuclear Design Methods."
17. Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods."
18. ANFB Critical Power Correlation Application for Coresident Fuel, EMF-1125(P)(A).
19. ANFB Critical Power Correlation Determination of ATRIUM-9B Additive Constant Uncertainties, ANF-1125(P)(A).
20. RODEX2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model, EMF-85-74(P)(A).

The COLR will contain the complete identification for each of the TS referenced topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements).

(continued)

21. "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/MICROBURN-B2", EMF-2158(PXA),

ATTACHMENT 4

**TYPED PAGES
FOR
TECHNICAL SPECIFICATION CHANGE**

Retyped TS Page

5.6-4

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

10. RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A).
11. XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A).
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