

February 1, 2006

Mr. Christopher M. Crane, President  
and Chief Nuclear Officer  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 - ISSUANCE OF  
AMENDMENTS RE: TECHNICAL SPECIFICATIONS SECTION 5.6.5, "CORE  
OPERATING LIMITS REPORT (COLR)" (TAC NOS. MC7251 AND MC7252 )

Dear Mr. Crane:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 174 to Facility Operating License No. NPF-11 and Amendment No. 160 to Facility Operating License No. NPF-18 for the LaSalle County Station, Units 1 and 2, respectively. The amendments are in response to your application dated March 7, 2005, as supplemented December 5, 2005.

The amendments will add two NRC-approved topical report references to the list of analytical methods in Technical Specification (TS) 5.6.5, "Core Operating Limits Report (COLR)," that can be used to determine core operating limits.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Stephen P. Sands, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosures: 1. Amendment No. 174 to NPF-11  
2. Amendment No. 160 to NPF-18  
3. Safety Evaluation

cc w/encls: See next page

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EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.174  
License No. NPF-11

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by the Exelon Generation Company, LLC (the licensee), dated March 7, 2005, as supplemented by letter dated December 5, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-11 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 174, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Mindy S. Landau, Acting Chief  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: February 1, 2006

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.160  
License No. NPF-18

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by the Exelon Generation Company, LLC (the licensee), dated March 7, 2005, as supplemented by letter dated December 5, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-18 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 160, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Mindy S. Landau, Acting Chief  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: February 1, 2006

ATTACHMENT TO LICENSE AMENDMENT NOS. 174 AND 160

FACILITY OPERATING LICENSE NOS. NPF-11 AND NPF-18

DOCKET NOS. 50-373 AND 50-374

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

5.6-4

Insert Pages

5.6-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 174 TO FACILITY OPERATING LICENSE NO. NPF-11  
AND AMENDMENT NO. 160 TO FACILITY OPERATING LICENSE NO. NPF-18  
EXELON GENERATION COMPANY, LLC  
LASALLE COUNTY STATION, UNITS 1 AND 2  
DOCKET NOS. 50-373 AND 50-374

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC) dated March 7, 2005, as supplemented by letter dated December 5, 2005, Exelon Generation Company, LLC (the licensee), requested changes to the technical specifications (TSs) for the LaSalle County Station, Units 1 and 2. The supplement dated December 5, 2005, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's proposed no significant hazards consideration determination as published in the *Federal Register* on August 16, 2005 (70 FR 48205).

Exelon Generation Company (EGC), submitted a request for amendment to TS Section 5.6.5, "Core Operating Limits Report (COLR)." Specifically, the proposed changes will add two NRC-approved topical report references to the list of analytical methods in TS Section 5.6.5 that can be used to determine core operating limits.

The proposed changes are:

1. Add a NRC previously approved Siemens Power Corporation (SPC) topical report reference for determination of fuel assembly critical power for previously loaded Global Nuclear Fuel (GNF) GE14 fuel which will be co-resident with reload Framatome-ANP ATRIUM-10 fuel.
2. Add a NRC previously approved FRA-ANP topical report reference for an updated methodology for evaluation of loss-of-coolant accident (LOCA) conditions.

The proposed changes are the result of a decision to reinsert Framatome-ANP ATRIUM-10 fuel during the Unit 1 Refueling Outage 11, currently scheduled for February 2006. The ATRIUM-10 fuel is now manufactured and licensed by Framatome ANP (FRA ANP) a subsidiary of the AREVA group. This organization has previously been known as SPC and subsequently, as Framatome Advanced Nuclear Power (FRA-ANP). The Unit 1 Cycle 12 core reload will be analyzed by Framatome ANP.



## 2.0 REGULATORY EVALUATION

Section 50.36, paragraph (c)(5), of Title 10 of the *Code of Federal Regulations* (10 CFR) states that the TS will include administrative controls that address the provisions relating to organization and management, procedures, record keeping, 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.

General Design Criterion 10 of Appendix A to 10 CFR Part 50, requires that specified acceptable fuel design limits are not exceeded during any operation, including the effects of anticipated operational transients.

Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications," provides guidance for reporting requirements.

## 3.0 TECHNICAL EVALUATION

The analytical methods currently listed in TS 5.6.5 support the determination of core operating limits for both units by using GNF or FRA-ANP methodology. LaSalle Unit 1 currently uses a mixture of ATRIUM-9B, ATRIUM-10 and GE14 fuel in the core. The determination of fuel assembly critical power for ATRIUM-9B and ATRIUM-10 fuel for the current operating cycle is determined with a GNF critical power correlation. Overall core operating limits were determined using GNF methodology.

During the Unit 2 Refueling Outage 10, completed in February 2005, LaSalle Unit 2 also loaded a mixture of ATRIUM-9B, ATRIUM-10 and GE14 fuel into the core. During the current Unit 2 Operating Cycle 11, the determination of fuel assembly critical power for ATRIUM-9B, ATRIUM-10 and GE14 fuel is also determined with a GNF critical power correlation. Overall core operating limits will be determined using GNF methodology.

EGC has decided to load Framatome ANP ATRIUM-10 fuel during the Unit 1 Refueling Outage 11 currently scheduled for February 2006. LaSalle intends to use the most recent FRA-ANP methodologies to determine overall core operating limits for future core configurations. This change will require the listing of additional analytical methodologies for evaluating LOCA conditions and analyzing the critical power performance of the GE14 fuel with the FRA-ANP methodology. Thus, the proposed changes will allow LaSalle to use FRA-ANP's most recent LOCA analytical methods for ATRIUM-10 fuel and SPC critical power correlations to determine the critical power for the co-resident GE14 fuel.

TS Section 5.6.5 requires that a COLR be established and that the analytical methods used to determine the core operating limits be those previously reviewed and approved by the NRC. The approved analytical methods are listed in TS Section 5.6.5.b. The analytical methods listed

in this section support operation of certain types of fuel contained in the reactor core and list the analytical codes used to calculate operating parameters. The analytical codes are utilized to predict core behavior under normal and accident conditions. The proposed additional codes are discussed below.

In Reference 3, the NRC-approved topical report EMF-2245(P), Revision 0, "Application of Seimens Power Corporations' Critical Power Correlations to Co-Resident Fuel." This topical report presented two processes for the application of an approved SPC critical power correlation to pre-existing co-resident fuel (remaining from prior reloads), when an SPC (Framatome ANP) fuel design is reintroduced into a reload core. LaSalle has determined that the use of this SPC topical report and the processes for the application of the critical power correlation to pre-existing co-resident fuel as described in Reference 3 are appropriate for LaSalle Units 1 and 2, and provides an equivalent level of protection as that currently provided. Because EMF-2245(P), Revision 0, has been reviewed and approved in Reference 3 for application by SPC to previously exposed co-resident fuel in safety analyses for mixed reload cores, the staff finds it acceptable to reference this topical report in LaSalle TS Section 5.6.5.

In Reference 4, the NRC-approved topical report EMF-2361(P), Revision 0, "EXEM BWR-2000 ECCS Evaluation Model." This topical report submitted by FRA-ANP describes revisions made to the methodology for evaluation of LOCA conditions. LaSalle has determined that the use of FRA-ANP EXEM BWR-2000 ECCS Evaluation Model contained in this topical report as described in Reference 4 is appropriate for LaSalle Units 1 and 2, and provides an equivalent level of protection as that currently provided.

The staff requested the licensee to provide the key input parameters and peak clad temperature (PCT) results of the LOCA analysis performed using the currently approved EXEM BWR evaluation and the proposed EXEM BWR-2000 evaluation model. In Reference 2, the licensee provided the key input parameters along with the PCT results discussed below.

LaSalle Units 1 and 2 currently use a mixture of FRA-ANP ATRIUM-9B, ATRIUM-10 and GNF GE14 fuel in the core. According to the licensee, starting with LaSalle Unit 1 Cycle 12, scheduled for operation in March 2006, and LaSalle Unit 2 Cycle 12, scheduled for operation in March 2007, all ATRIUM-9B fuel will be discharged from both cores.

The NRC-approved EXEM BWR methodology will continue to be the applicable licensing basis method for the ATRIUM-9B fuel until they are all discharged from both LaSalle units. The PCT result, calculated with the EXEM BWR method for the ATRIUM-9B fuel is 1832 EF.

The ATRIUM-10 PCT results, calculated using the EXEM BWR-2000 and the currently applicable EXEM BWR analysis methods are 1729 EF and 1807 EF, respectively. EXEM BWR-2000 will be the licensing basis method for ATRIUM-10 fuel starting with LaSalle Unit 1 Cycle 12, and Unit 2 Cycle 12.

The NRC-approved GE SAFER/GESTR analysis method will continue to be the applicable licensing basis method for the GNF GE14 fuel product line. The PCT result, calculated with the SAFER/GESTR method, for the GE14 fuel is 1400 EF.

According to 10 CFR 50.46(b)(1), the calculated maximum fuel element cladding temperature shall not exceed 2200 EF. Based on the results provided above, the staff finds that the LOCA analysis PCT results for the proposed EXEM BWR-2000 evaluation model are acceptable. The staff concludes that the proposed EXEM BWR-2000 ECCS evaluation model is acceptable for referencing in BWR LOCA analyses.

Based on our review, the staff concludes that the proposed changes to LaSalle Units 1 and 2 TS Section 5.6.5, "Core Operating Limits Report (COLR)," to add topical reports EMF-2245(P)(A) and EMF-2361(P)(A) as references to be used for calculating cycle-specific core operating limits are acceptable for incorporation because these references are approved vendor topical reports that are applicable to and have been validated for the analyses of LaSalle reload cores.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (70 FR 48205). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 5.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

#### 7.0 REFERENCES

3. Letter from Keith R. Jury (Exelon) to NRC, "Request for Amendment to Technical Specifications Section 5.6.5, Core Operating Limits Report (COLR)," dated March 7, 2005.

4. Letter from Keith R. Jury (Exelon) to NRC, "Additional Information Supporting the Request for Amendment to Technical Specifications Section 5.6.5, Core Operating Limits Report (COLR)," dated December 5, 2005.
5. S. A. Richards (NRC) to J. A. Mallay (Framatome), "Acceptance for Referencing Power Corporation Topical Report EMF-2245(P), Revision 0, Application of Siemens Power Corporation's Critical Power Correlations to Co-Resident Fuel (TAC No. MA6438)," dated August 30, 2000.
6. S. A. Richards (NRC) to J. A. Mallay (Framatome), "Acceptance for Referencing of Licensing Topical Report EMF-2361(P), Revision 0, EXEM BWR-2000 ECCS Evaluation Model (TAC No. MB0574)," dated May 29, 2001.

Principal Contributor: T.Ford

Date: February 1, 2006

LaSalle County Station Units 1 and 2

cc:

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LaSalle County Station Units 1 and 2

- 2 -

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