

April 12, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: LIMERICK GENERATING STATION, UNIT 2 - ISSUANCE OF AMENDMENT
RE: REVISION TO SAFETY LIMIT MINIMUM CRITICAL POWER RATIOS
(SLMCPRs) (TAC NO. MB1125)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 114 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated February 1, 2001, as supplemented March 6 and March 23, 2001.

This amendment revises the SLMCPRs and the associated TS bases.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Christopher Gratton, Sr. Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-353

Enclosures: 1. Amendment No. 114 to
License No. NPF-85
2. Safety Evaluation

cc w/encls: See next page

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Accession Number: ML01090065

*See previous concurrence

OFFICE	PM:PDI-2	LA:PDI-2	OGC	SRXB	SC:PDI-2
NAME	CGratton	SLittle for MO'Brien		RCaruso	JClifford
DATE	4/5/01	4/4/01	4/9/01	4/5/01	4/12/01

Official Record Copy

Limerick Generating Station, Units 1 & 2

cc:

Mr. Edward Cullen
Vice President & General Counsel
Exelon Generation Company, LLC
300 Exelon Way
Kennett Square, PA 19348

Mr. William Levis, Site Vice President
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Mr. R. Braun
Plant Manager
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Limerick Generating Station
P.O. Box 596
Pottstown, PA 19464

Chairman
Board of Supervisors
of Limerick Township
646 West Ridge Pike
Linfield, PA 19468

Chief-Division of Nuclear Safety
PA Dept. of Environmental Resources
P.O. Box 8469
Harrisburg, PA 17105-8469

Library
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803

Mr. Jeffrey A. Benjamin
Licensing - Vice President
Exelon Corporation
1400 Opus Place, Suite 900
Downers Grove, IL 60515

Mr. James A. Hutton
Director-Licensing
Exelon Generation Company, LLC
Nuclear Group Headquarters
Correspondence Control
P. O. Box 160
Kennett Square, PA 19348

Correspondence Control Desk
Exelon Generation Company, LLC
200 Exelon Way, KSA 1-N-1
Kennett Square, PA 19348

Mr. John Skolds
Chief Operating Officer
Exelon Generation Company, LLC
1400 Opus Place, Suite 900
Downers Grove, IL 60515

Mr. William Bohlke
Senior Vice President, Nuclear Services
Exelon Generation Company, LLC
1400 Opus Place, Suite 900
Downers Grove, IL 60515

Limerick Generating Station, Units 1 & 2

cc:

Mr. John Cotton
Senior Vice President, Operations Support
Exelon Generation Company, LLC
1400 Opus Place, Suite 900
Downers Grove, IL 60515

Mr. Joseph Hagan
Senior Vice President
Mid-Atlantic Regional Operating Group
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-N
Kennett Square, PA 19348

Mr. K. Gallogly
Regulatory Assurance Manager
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 114
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated February 1, 2001, as supplemented March 6 and March 23, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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 rules and 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;
 - 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 attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-85 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 114 , are hereby incorporated into this license. Exelon Generation Company, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: April 12, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 114

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

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

Remove

2-1

B 2-1

Insert

2-1

B 2-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED AMENDMENT NO. 114 TO FACILITY OPERATING LICENSE NO. NPF-85
EXELON GENERATION COMPANY, LLC
LIMERICK GENERATING STATION, UNIT 2
DOCKET NO. 50-353

1.0 INTRODUCTION

By letter dated February 1, 2001, as supplemented March 6 and March 23, 2001, Exelon Generation Company, LLC (EGC or the licensee) proposed changes to the Limerick Generating Station, Unit 2, Technical Specifications (TSs). The proposed changes include revising TS 2.1 and its associated bases to incorporate revised Safety Limit Minimum Critical Power Ratios (SLMCPRs). The March 6 and March 23, 2001, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination or expand the amendment beyond the scope of the initial notice.

The licensee requested the following changes to the Limerick Generating Station (LGS), Unit 2, TSs in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.90. The licensee proposed to revise the SLMCPR value from 1.12 to 1.09 for operation with two recirculation loops and to revise the SLMCPR value from 1.14 to 1.11 for operation with a single recirculation loop with the reactor vessel steam dome pressure greater than 785 psig and core flow greater than 10 percent of rated flow.

The licensee described the methodologies used to calculate the SLMCPR values for the proposed TS change in their letter dated February 1, 2001. Global Nuclear Fuel (GNF) performed the Cycle 7 SLMCPR analysis for EGC using the plant- and cycle-specific fuel and core parameters, and Nuclear Regulatory Commission (NRC)-approved methodologies, including General Electric Standard Application for Reactor Fuel (GESTAR-II) (NEDE-24011P-A-14, Sections 1.1.5, 1.1.7 and 1.2.5), NEDC-32505P-A, Revision 1, NEDC-32601P-A, and NEDC-32694P-A.

2.0 EVALUATION

In a letter dated March 2, 2001, the NRC requested that the licensee provide a justification for the reduction of the SLMCPR values. The licensee provided their justification in a letter dated March 6, 2001. In their response, the licensee explained that the reduction in SLMCPR values from Cycle 6 to Cycle 7, which uses the same GETAB power distribution uncertainties, was not due to the change in the non-power distribution uncertainties, rather, the reduction was due to the increase in the peak core minimum critical power ratio (MCPR) distribution from Cycle 6 to Cycle 7. The increase in the peak MCPR from Cycle 6 to Cycle 7 was more than enough to

offset the effect on the flatter bundle R-factor distribution for Cycle 7. The NRC staff reviewed the justification using the approach stated in GESTAR-II, Revision 14. The staff concluded that the SLMCPR analysis for Limerick Unit 2 Cycle 7 operation, which uses plant- and cycle-specific calculations and approved methods, is acceptable. In reviewing the results of the SLMCPR analysis, the NRC considered the justification provided by the licensee for the reduction of the SLMCPR values and also found it acceptable. The results of the analysis confirm that 99.9 percent of the fuel rods in the core will not experience boiling transition which satisfies the requirements of General Design Criterion 10 of Appendix A to 10 CFR Part 50 regarding acceptable fuel design limits. Therefore, the staff has concluded that the SLMCPR values of 1.09 for two recirculation loop operation and 1.11 for single recirculation loop operation for Limerick Unit 2 meet the acceptance criteria and are acceptable.

The licensee also provided an approximation correlation in their response dated March 6, 2001, using an approved method from LTR NEDC-32601P-A to estimate the GETAB SLMCPR decrease. This correlation provides justification that the calculation result shown in Table 1 of Attachment 4 of the letter dated February 1, 2001, is within the range of values that one may reasonably expect. The NRC staff reviewed the calculation and finds it acceptable since the calculation result is within a reasonable range of results. The staff also questioned the licensee's practice of using two different identifiers for a single fuel bundle design in the reference core loading pattern. In a letter dated March 23, 2001, the licensee provided a clarification addressing the staff's concern, stating that this practice (i.e., using two identification numbers for a single bundle design for the core loading pattern) allows the licensee's CBHCP computer code to differentiate between bundles placed in control cell and non-control cell locations. The CBHCP computer code is an engineering tool used by the licensee to track controlled bundle exposure on a nodal basis throughout an operating cycle. The NRC found the licensee's response acceptable.

3.0 SUMMARY

Based on our review, the staff concludes that the proposed TS changes involving the SLMCPR values in TS 2.1.2 for both two recirculation loop and single recirculation loop operation are acceptable for Limerick Unit 2 Cycle 7. The staff has no objection to the associated bases changes.

4.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to 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 amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (66 FR 11061). Accordingly, the amendment meets the eligibility criteria for categorical

exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Huang

Date: April 12, 2001