

April 5, 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, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENT RE: SURVEILLANCE REQUIREMENT ON SHORTING LINKS
(TAC NOS. MB0998 AND MB0999)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendments Nos. 150 and 113 to Facility Operating License Nos. NPF-39 and NPF-85 for the Limerick Generating Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated January 18, 2001.

These amendments change TS Surveillance Requirement 4.9.2.d.1 to match TS Limiting Condition for Operation 3.9.2.d, in that the shorting links do not have to be removed if adequate shutdown margin has been demonstrated.

A copy of the 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 Nos. 50-352 and 50-353

Enclosures: 1. Amendment No. 150 to NPF-39
2. Amendment No. 113 to NPF-85
3. Safety Evaluation

cc w/encls: See next page

Limerick Generating Station, Units 1 & 2

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Limerick Generating Station, Units 1 & 2

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3. Safety Evaluation

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ADAMS ACCESSION NUMBER: ML010660310

*=See Previous Concurrence

OFFICE	PM:PDI-2	PM:PDI-2	LA:PDI-2	BC:RTSB	BC:SRXB
NAME	JBoska	CGratton	MO'Brien	WBeckner*	JWermiel*
DATE	3/30/01	3/30/01	3/30/01	3/30/01	3/28/01
OFFICE	OGC	SC:PDI-2			
NAME	RHoefling	REnnis for JClifford			
DATE	4/3/01	4/4/01			

Official Record Copy

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 150
License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company) (the licensee) dated January 18, 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-39 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. 150, are hereby incorporated in the license. Exelon Generation Company 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/ R. B. Ennis for

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 5, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 150

FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

3/4 9-4

Insert

3/4 9-4

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 113
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company) (the licensee), dated January 18, 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. 113, are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

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/ R. B. Ennis for

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 5, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 113

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

3/4 9-4

Insert

3/4 9-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 150 AND 113 TO FACILITY OPERATING
LICENSE NOS. NPF-39 and NPF-85
EXELON GENERATION COMPANY, LLC
LIMERICK GENERATING STATION, UNITS 1 AND 2
DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By letter dated January 18, 2001, Exelon Generation Company, LLC (Exelon or the licensee) submitted a request for changes to the Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TSs). The requested changes would change TS Surveillance Requirement (SR) 4.9.2.d.1 to match TS Limiting Condition for Operation (LCO) 3.9.2.d in that the shorting links do not have to be removed if adequate shutdown margin has been demonstrated. LCO 3.9.2.d is applicable in Operational Condition 5, Refueling.

Removal of the shorting links in the reactor protection system (RPS) is an infrequent evolution which enables a non-coincident reactor scram based on high neutron flux as detected by any neutron monitor, specifically the four source range monitors (SRMs), the eight intermediate range monitors (IRMs), and the six average power range monitors (APRMs). When the shorting links are installed, a reactor scram based on high neutron flux is in the normal configuration which is a coincident scram from IRMs or APRMs, but not from SRMs. For the non-coincident scrams, any single channel reaching a high neutron flux setpoint will activate a full scram, with rod insertion. For the coincident scram, at least one channel in each of the two trip systems must reach the high neutron flux setpoint, so it requires at least two channels to activate a full scram. Half of the IRMs and half of the APRMs are connected to a specific trip system. Although removal of the shorting links allows an enhanced response to an increasing neutron flux, it also introduces a susceptibility to inadvertent reactor scrams from malfunctions of a single channel. The SRMs and IRMs are especially susceptible to noise spikes due to their high gain configuration at low neutron levels. Noise spikes can be generated by personnel performing maintenance under the reactor vessel who may bump instrument cables, or by electromagnetic interference which can be generated by activities such as welding. The inadvertent reactor scram which may be generated forces high pressure water against the control rod drive seals. Since the reactor vessel is depressurized in the refueling condition, a high differential pressure results across the seals. The high differential pressure introduces the potential for premature degradation of the seals. Increased maintenance on the control rod drive seals would result in increased radiation dose to plant personnel. For these reasons,

removal of the shorting links is only required when there is a nuclear safety concern which warrants the enhanced protection.

2.0 EVALUATION

The Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal, considering the factors that are discussed below.

LCO 3.9.2.d states "Unless adequate shutdown margin has been demonstrated, the shorting links shall be removed from the RPS circuitry prior to and during the time any control rod is withdrawn.**"

SR 4.9.2.d states "Each of the above required SRM channels shall be demonstrated OPERABLE by:

Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:

1. The time any control rod is withdrawn,** or
2. Shutdown margin demonstrations."

SR 4.9.2.d provides the surveillance, or checking of plant equipment, which implements LCO 3.9.2.d. As presently written, SR 4.9.2.d does not allow the credit for adequate shutdown margin having been demonstrated, which is allowed by LCO 3.9.2. This is an oversight from the original issuance of these TSs. A review of later versions of plant-specific TSs demonstrates that the wording of SR 4.9.2.d was revised to allow the credit for adequate shutdown margin as stated in LCO 3.9.2.d. For example, refer to NUREG-1202 (Hope Creek TS), or NUREG-1172 (River Bend TS).

Exelon proposes to revise SR 4.9.2.d to read as follows:

"Each of the above required SRM channels shall be demonstrated OPERABLE by: Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:

1. The time any control rod is withdrawn**, **unless adequate shutdown margin has been demonstrated**, or
2. Shutdown margin demonstrations."

The LGS Updated Final Safety Analysis Report (UFSAR), Section 7.2, states the following: "For the initial fuel load, and during shutdown margin demonstration testing performed as a special test, trip contacts from each SRM are combined with IRM and APRM trips to produce a noncoincident reactor NMS [neutron monitoring system] trip via removal of the RPS shorting links. Note that during the routine shutdown margin demonstration testing performed during the first startup following refueling operations, the RPS "shorting links" remain installed and the SRMs do not contribute to the SCRAM function."

Although SR 4.9.2.d indicates the shorting links should be removed during shutdown margin demonstrations, SR 4.9.2.d only applies in Operational Condition 5, which is refueling. The only shutdown margin demonstrations done in Operational Condition 5 are those performed as a special test. The routine shutdown margin demonstration test after each refueling is performed in Operational Condition 2 during the approach to criticality. Therefore, the LGS UFSAR is

consistent with the proposed change to SR 4.9.2.d. Also, the LGS UFSAR takes no credit in the analysis of accidents for having the RPS shorting links removed.

Based on these factors, it is apparent that the original wording of SR 4.9.2.d failed to incorporate the credit for adequate shutdown margin which is stated in LCO 3.9.2.d. Also, there is no credit taken in the LGS accident analysis for having the shorting links removed. Therefore, the NRC staff concludes that the proposed changes to the LGS TSs are acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change the surveillance requirements. 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 (66 FR 11059). Accordingly, the amendments meet 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 amendments.

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

Principal Contributor: John P. Boska

Date: April 5, 2001