

March 9, 2006

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

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - ISSUANCE OF  
AMENDMENTS RE: FEEDWATER SYSTEM AND MAIN TURBINE HIGH  
WATER LEVEL TRIP INSTRUMENTATION (TAC NOS. MC7312 AND  
MC7313 )

Dear Mr. Crane:

The Commission has issued the enclosed Amendment No. 330 to Facility Operating License No. DPR-29 and Amendment No. 225 to Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively. The amendments are in response to your application dated June 15, 2005.

The amendments revise Technical Specification (TS) 3.3.2.2, "Feedwater System and Main Turbine High Water Level Trip Instrumentation," to reflect a design change in the instrumentation logic that trips the three feedwater pumps and main turbine.

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

Sincerely,

**/RA/**

Maitri Banerjee, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and 50-265

Enclosures:

1. Amendment No. 330 to DPR-29
2. Amendment No. 225 to DPR-30
3. Safety Evaluation

cc w/encls: See next page

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EXELON GENERATION COMPANY, LLC

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 330  
License No. DPR-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC, et al. (the licensee) dated June 15, 2005, 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 3.B. of Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 330, are hereby incorporated into the renewed facility operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented prior to start-up from the spring 2007 refueling outage for Unit 1.

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: March 9, 2006

EXELON GENERATION COMPANY, LLC

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 225  
License No. DPR-30

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC, et al. (the licensee) dated June 15, 2005, 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 3.B. of Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 225, are hereby incorporated into the renewed facility operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented prior to start-up from the Spring 2006 refueling outage for Unit 2.

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: March 9, 2006

ATTACHMENT TO LICENSE AMENDMENT NOS. 330 AND 225

FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

DOCKET NOS. 50-254 AND 50-265

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

Remove

3.3.2.2-1

3.3.2.2-2

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Insert

3.3.2.2-1

3.3.2.2-2

3.3.2.2-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 330 TO FACILITY OPERATING LICENSE NO. DPR-29  
AND AMENDMENT NO. 225 TO FACILITY OPERATING LICENSE NO. DPR-30  
EXELON GENERATION COMPANY, LLC  
AND  
MIDAMERICAN ENERGY COMPANY  
QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2  
DOCKET NOS. 50-254 AND 50-265

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC, Commission) dated June 15, 2005 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML051730461), Exelon Generation Company, LLC, et al. (the licensee) requested changes to the technical specifications (TSs) for Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities). The proposed amendment would revise TS 3.3.2.2, "Feedwater System and Main Turbine High Water Level Trip Instrumentation" and the related bases.

2.0 REGULATORY EVALUATION

The NRC staff finds that the licensee in Section 5.2 of its submittal identified the applicable regulatory requirements. The regulatory requirements for which the NRC staff based its acceptance are the Commission's regulatory requirements for TS changes set forth in the Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36, "Technical Specifications," for this evaluation. Specifically, 10 CFR 50.36(c)(2) specifies the requirements for limiting conditions for operation (LCO), and 10 CFR 50.36(c)(3) specifies the surveillance requirements (SRs). In addition, the NRC staff considered guidance and information in NUREG-1433, "Standard Technical Specifications General Electric Plants BWR/4," Revision 3, in its evaluation.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment which are described in Section 4.0 of the licensee's submittal. The detailed evaluation below will support the conclusion 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.



### 3.1 TS 3.3.2.2 - Feedwater System and Main Turbine High Water Level Trip Instrumentation

The proposed TS changes are based on NUREG-1433. NUREG-1433 assumed a two-out-of-three trip logic with provision to permit plant operation for 7 days with one channel inoperable. Because of the limitations of the existing feedwater system and main turbine high water level trip instrumentation using a two-out-of-two trip logic, the licensee could not adopt the NUREG-1433 specification for TS 3.3.2.2 during improved TS conversion. To use the existing spare components, the licensee proposes a one-out-of-two-twice trip logic and the wording specified under the Condition and Required Action columns, which are suitably modified from the wording in NUREG-1433, where required. The following is the technical evaluation of each of the proposed changes to TS 3.3.2.2.

#### LCO 3.3.2.2

The proposed revision to LCO 3.3.2.2 would change the number of operable channels from “two” to “four.” This change reflects the design change of the instrumentation from two channels to four channels, with two independent trip systems arranged in a “one-out-of-two-twice” logic. The NRC staff finds this change acceptable.

#### Applicability

The proposed revision to the Applicability section of TS 3.3.2.2 would add the note, “Separate Condition entry is allowed for each channel.” This change reflects wording in NUREG-1433 and represents the design modification. The proposed addition of a redundant trip channel to each trip system provides for the ability of the instrumentation to perform its intended function with multiple channels inoperable. Consequentially, the proposed change would allow for up to two trip channels to be inoperable (provided the two inoperable channels are in separate trip systems) while still maintaining the instrumentation capability. Therefore, the NRC staff finds this change acceptable.

#### Action A

The proposed revision to Action A would (1) replace the existing Required Action A.1 statement, “Restore Feedwater System and main turbine high water level trip capability,” with a new statement, “Place channel in Trip” and add a Note, “Not applicable if inoperable channel is the result of an inoperable feedwater pump breaker,” and (2) changing the completion time from 2 hours to 7 days. With the modified design, the plant can operate for 7 days with one or more of the feedwater system and main turbine high water level trip channels inoperable because the current required action statement, which was applicable for the existing two-out-of-two trip logic, is not applicable for the proposed trip logic and conforms to NUREG-1433 which specifies a 7-day completion time for this condition. As stated in NUREG-1433 “[t]he Completion Time of 7 days is based on the low probability of the event occurring coincident with a single failure in a remaining OPERABLE channel.”

The added Note clarifies that the 7-day completion time is not applicable if the feedwater pump breaker is inoperable and conforms to NUREG-1433. The licensee stated its submittal that without this Note, placing the channel in trip may not adequately compensate for the inoperable breaker.

The NRC staff finds that the proposed changes to TS 3.3.2.2, Action A, conforms with NUREG-1433 and the new design, and is, therefore, acceptable.

#### Action B

The proposed change would add a new Condition B, "Feedwater System and main turbine high water level trip capability not maintained," a Required Action B.1, "Restore trip capability," and an associated completion time of 2 hours. This complies with NUREG-1433 and the completion time statement in the current TS Condition A. Therefore, the NRC staff finds this change acceptable.

#### Action C

The proposed revision would move the existing Condition B to Condition C, and would move the associated Required Actions B.1 to C.1 and B.2 to C.2, to reflect the addition of the new Condition B. This is an editorial change and, is therefore acceptable to the NRC staff.

#### Surveillance Requirements

The Note in the SRs pertaining to the allowed inoperable time for surveillances before entering the associated conditions and required actions is changed from 2 hours to 6 hours. This proposed revision conforms with NUREG-1433 and General Electric Company Report, GENE-770-06-1-A, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," and is therefore acceptable to the NRC staff.

### 4.0 STATE CONSULTATION

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

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change the requirements 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 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 51381; August 30, 2005). 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.

## 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.

Principal Contributor: S. Mazumdar

Date: March 9, 2006

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cc:

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