

October 2, 2002

Mr. John L. Skolds, President  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 - ISSUANCE OF  
AMENDMENTS FOR REPLACEMENT OF PRESSURE SWITCHES (TAC NOS.  
MB4797 AND MB4798)

Dear Mr. Skolds:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-19 and Amendment No. 188 to Facility Operating License No. DPR-25 for the Dresden Nuclear Power Station, Units 2 and 3. The amendments are in response to your application dated April 15, 2002, as supplemented by letter dated July 8, 2002.

The amendments change Technical Specification surveillance requirements and allowable values for reactor protection system function 3, "Reactor Vessel Steam Dome Pressure - High," to reflect replacement of the pressure switches with analog units.

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/**

Lawrence W. Rossbach, Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237 and 50-249

Enclosures: 1. Amendment No. 195 to DPR-19  
2. Amendment No. 188 to DPR-25  
3. Safety Evaluation

cc w/encls: See next page

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**ADAMS Accession Number: ML022660236** \*See previous concurrence

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DATE	9/24/02	9/23/02	09/23/02	9/27/02	10/01/02

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EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195

License No. DPR-19

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Exelon Generation Company, LLC (the licensee) dated April 15, 2002, as supplemented by letter dated July 8, 2002, 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. DPR-19 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 195, are hereby incorporated in the 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 before startup from refueling outage D2R18.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA by L. Raghavan for/***

Anthony J. Mendiola, Chief, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 2, 2002

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188  
License No. DPR-25

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Exelon Generation Company, LLC (the licensee) dated April 15, 2002, as supplemented by letter dated July 8, 2002, 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-25 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 188, are hereby incorporated in the 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 within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA by L. Raghavan for/***

Anthony J. Mendiola, Chief, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 2, 2002

ATTACHMENT TO LICENSE AMENDMENT NOS. 195 AND 188

FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DOCKET NOS. 50-237 AND 50-249

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain a line in the margin indicating the area of change.

Remove Pages

3.3.1.1-9  
3.3.4.1-3

Insert Pages

3.3.1.1-9  
3.3.4.1-3



SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-19  
AND AMENDMENT NO. 188 TO FACILITY OPERATING LICENSE NO. DPR-25  
EXELON GENERATION COMPANY, LLC  
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3  
DOCKET NOS. 50-237 AND 50-249

1.0 INTRODUCTION

By application dated April 15, 2002, as supplemented by letter dated July 8, 2002, Exelon Generation Company, LLC, (the licensee) requested changes to the Technical Specifications (TSs) for the Dresden Nuclear Power Station, Units 2 and 3. The supplement dated July 8, 2002, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on May 28, 2002 (67 FR 36930).

The licensee plans to upgrade the reactor vessel steam dome pressure - high reactor protection system (RPS) instrumentation from pressure switches to pressure transmitters. Each pressure transmitter utilizes an analog trip unit (ATU) and a master trip relay. ATUs use a proven technology that is more reliable than the existing pressure switches. The licensee also plans to replace the reactor vessel steam dome pressure - high anticipated transient without scram recirculation pump trip (ATWS - RPT) instrumentation ATU with a different manufacturer's ATU to provide diversity between ATWS and non-ATWS related instrumentation. To support these instrument changes, the licensee proposed changes to the affected surveillance requirements (SRs) and allowable values (AVs).

Specifically, in Function 3 of TS Table 3.3.1.1-1, the proposed changes are:

- Addition of SR 3.3.1.1.1 for channel check every 12 hours.
- Addition of SR 3.3.1.1.12 for individual ATU calibration every 92 days.
- Replacement of SR 3.3.1.1.8 with SR 3.3.1.1.11 to revise the frequency of the channel functional test from 31 days to 92 days.
- Replacement of SR 3.3.1.1.13 with SR 3.3.1.1.17 to revise the frequency of the channel calibration from 92 days to 24 months.
- Change the AV from " $\leq 1058$  psig" to " $\leq 1045$  psig."

For TS SR 3.3.4.1.4, the proposed change is:

- Change the AV from " $\leq 1231$  psig" to " $\leq 1241$  psig".

## 2.0 EVALUATION

Replacement of pressure switches, TS table 3.3.1.1-1, Function 3:

The licensee stated that the existing pressure switches are extremely sensitive to vibration, are difficult to calibrate, and have a tendency to drift which can cause false actuation resulting in spurious scram. Further, these switches do not have any provision for output indication to perform channel check requirements. The licensee proposes to replace these pressure switches with Rosemount Model No. 1153GB9P pressure transmitters that use Rosemount Model 710DU ATUs and GE model 184C5988G131 master trip relays. The licensee stated that they have used these transmitters in various RPS applications including Reactor Vessel Water Level - Low instrumentation and have found them highly reliable.

Addition of SR 3.3.1.1.1:

The current TS do not specify any channel check requirement for this RPS instrumentation because the existing pressure switches do not have provisions for indication to permit observation of channel behavior during operation. The licensee proposes to add SR 3.3.1.1.1 for 12 hour channel checks because the new ATUs provide output indication. The staff has previously accepted the 12 hour channel check frequency for similar RPS instrumentation applications. The staff therefore finds this proposed TS change acceptable.

Addition of SR 3.3.1.1.12:

The licensee stated that the addition of SR 3.3.1.1.12 for 92 days individual ATU calibration is consistent with the calibration frequency of other ATUs at Dresden and a review of their plant data on Rosemount model 710DU ATUs and GE model 184C5988G131 master trip units demonstrates acceptable performance. The staff has previously found that a 92-day calibration is appropriate for individual ATUs and concludes that the proposed change is acceptable.

Replacement of SR 3.3.1.1.8 with SR 3.3.1.1.11 for channel functional test:

SR 3.3.1.1.8 specifies a Channel Functional Test Frequency of 31 days and SR 3.3.1.1.11 specifies a Channel Functional Test Frequency of 92 days. The licensee stated that the proposed design using pressure transmitter, ATU, and a relay is in the generic design evaluated by the General Electric Licensing Topical Report, NEDC 30851P-A, "Technical Specification Improvement Analysis for BWR Reactor Protection System." The NRC approved this Topical Report by letter dated January 24, 1988, and the approved version of this Topical Report was issued in March 1988. The licensee evaluated applicability of this TS change for their plant and submitted their findings to the NRC by letter dated January 11, 2000, "Proposed Technical Specifications Change Surveillance Test Intervals and Allowed Outage Times for Protective Instrumentation." By TS Amendments 177/173 dated August 2, 2000, Changing Allowable Out-Of-Service Times and Surveillance Test Intervals, the NRC approved those findings.

NEDC-30851P-A did not contain specific instrument drift assumptions. The licensee evaluated the setpoint drift associated with these ATUs consistent with their setpoint methodology, NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy." The NRC approved use of this setpoint methodology in the Dresden improved TS, Amendments 185/180 dated March 30, 2001, and found that extending the calibration frequency from 31 days to 92 days was acceptable and within the proposed setpoint allowances. The staff therefore finds the proposed change acceptable.

Replacement of SR 3.3.1.1.13 with SR 3.3.1.1.17 for Channel Calibration:

SR 3.3.1.1.13 specifies Channel Calibration every 92 days and SR 3.3.1.1.17 specifies Channel Calibration every 24 months. The licensee stated that the NEDC 30851P-A, allowed 18 months interval for Channel Calibration of pressure transmitter, when the ATUs are calibrated on a 92-day frequency. Further evaluation to extend this surveillance frequency from 18 months to 24 months was evaluated and submitted to the NRC by the licensee in their application dated March 3, 2000, for improved technical specifications. The NRC approved this extension from 18 months to 24 months in the Dresden improved TS, Amendments 185/180 dated March 30, 2001.

As mentioned earlier, the existing reactor vessel steam dome pressure - high scram pressure switch will be replaced with Rosemount Model No. 1153GB9P pressure transmitters with Rosemount Model No. 710DU ATU and a master trip relay to interface with the existing RPS logic. The specific transmitter drift data for the Rosemount 1153GB9P transmitter was not addressed in NEDC 30851P-A. Rosemount, the transmitter vendor, determined the transmitter drift using quantitative analysis. The licensee stated that they have compared this drift value with historical drift data for similar instruments (Rosemount 1153DBPA, which is used for Reactor Vessel Water Level - Low, and Rosemount 1153GB7PA, which is used for Reactor Vessel Pressure - Low), in accordance with their NRC approved setpoint methodology, NES-EIC-20.04 and developed the proposed setpoint and AV. The historical review of the transmitters included 12 surveillance tests at an 18-month frequency for 8 instruments for a total of 96 surveillance tests. In the 96 surveillance tests, all transmitters were found to actuate within allowable values and no other failures were observed. Similarly, historical review of Rosemount ATUs and GE trip units included 96 surveillance tests. All trip units were found within the TS allowable values. One "gross Failure" alarm setpoint was found to have drifted out of tolerance but that had no affect on the safety function of the trip units.

This evaluation ensures that the proposed 24-month surveillance frequency is acceptable.

Allowable Value Changes:

The licensee stated that the revised AVs of  $\leq 1045$  psig for TS Table 3.3.1.1-1, Function 3 and  $\leq 1241$  psig for TS SR 3.3.4.1.4.b are based on calculations performed using the Exelon set point methodology previously approved by the NRC in the Dresden improved TS, Amendments 185/180 dated March 30, 2001. No analytical limit is altered by any of the proposed changes. Considering that the licensee has used the NRC approved methodology to calculate the AVs, the proposed TS changes are acceptable.

In summary, the proposed changes will replace current pressure switches which are extremely sensitive to vibration by more reliable pressure transmitters, ATUs and trip units and provide diversity between ATWS and non-ATWS related instrumentation. The licensee has demonstrated that the proposed TS changes are based on the NRC approved Topical Reports and/or calculation methodologies, and/or are in conformance with current TS values for similar instruments. The staff finds the proposed changes acceptable.

### 3.0 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.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change 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 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 (67 FR 36930). 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: Subinoy Mazumdar

Date: October 2, 2002