

September 14, 2007

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

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 - ISSUANCE  
OF AMENDMENT RE: MAIN STEAM ISOLATION VALVE LEAKAGE  
(TAC NOS. MD4823 AND MD4824)

Dear Mr. Crane:

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendments Nos. 263 and 267 to Renewed Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station, Units 2 and 3. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated March 6, 2007.

These amendments modify the TS Surveillance Requirement 3.6.1.3.14, "Primary Containment Isolation Valves." Specifically, the proposed change revises the allowed leakage from 11.5 standard cubic feet per hour (scfh) per valve to 46 scfh total leakage through all four valves.

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/ (Ed Miller for)**

John Hughey, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosures:

1. Amendment No. 263 to Renewed DPR-44
2. Amendment No. 267 to Renewed DPR-56
3. Safety Evaluation

cc w/encls: See next page

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EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 263

Renewed License No. DPR-44

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), and PSEG Nuclear LLC (the licensees), dated March 6, 2007, 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 Renewed Facility Operating License No. DPR-44 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 263 , 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/*

Harold K. Chernoff, Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Facility Operating License

Date of Issuance: September 14, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 263

RENEWED FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

Insert

Page 3

Page 3

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

Insert

3.6-16

3.6-16

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 267  
Renewed License No. DPR-56

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), and PSEG Nuclear LLC (the licensees), dated March 6, 2007, 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 Renewed Facility Operating License No. DPR-56 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 267, 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/*

Harold K. Chernoff, Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Facility Operating License

Date of Issuance: September 14, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 267

RENEWED FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-278

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

Insert

Page 3

Page 3

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

Insert

3.6-16

3.6-16

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 263 TO RENEWED FACILITY OPERATING  
LICENSE NO. DPR-44 AND AMENDMENT NO. 267 TO RENEWED FACILITY OPERATING  
LICENSE NO. DPR-56  
EXELON GENERATION COMPANY, LLC  
PSEG NUCLEAR LLC  
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3  
DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC, the Commission) dated March 6, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML070670174), Exelon Generation Company, LLC (the licensee), requested changes to the technical specifications (TSs) for Peach Bottom Atomic Power Station, Units 2 and 3 (PBAPS). The NRC staff's original proposed no significant hazards consideration determination was published in the *Federal Register* on July 24, 2007 (72 FR 40342).

The amendments would modify the TS Surveillance Requirement 3.6.1.3.14, "Primary Containment Isolation Valves." Specifically, the proposed change would revise the allowed leakage from 11.5 standard cubic feet per hour (scfh) per valve to 46 scfh total leakage through all four valves.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Subpart 50.54(o), requires primary reactor containments for light water cooled reactors to be tested in accordance with the requirements established in Appendix J to 10 CFR, Part 50. Appendix J provides two testing options: Option A establishes prescriptive requirements, while Option B establishes performance-based requirements. PBAPS TS 5.5.12 establishes the containment leakage rate testing program and commits to testing per Option B in accordance with the guidelines contained in Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program." RG 1.163 endorses the Nuclear Energy Institute (NEI) guidance document NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR 50, Appendix J." NEI 94-01 provides guidance for acceptance criteria for Type B and Type C local leak rate tests (LLRTs) by specific reference to ANSI/ANS 56.8-1994, "American National Standard for Containment System Leakage Testing Requirements."

ANSI/ANS 56.8-1994, Section 6.4.4, Acceptance Criteria, states:

The combined leakage rate for all penetrations subject to Type B or Type C tests shall be less than or equal to 0.60La when determined on a MNPLR [minimum path leakage rate] basis from the as-found LLRT results. The combined leakage rate for all penetrations subject to Type B or Type C tests shall be less than or equal to 0.60La as determined on a MXPLR [maximum path leakage rate] basis from the as-left LLRT results.

TS 5.5.12.c states that the main steam isolation valve (MSIV) leakage acceptance criteria are specified in Surveillance Requirement (SR) 3.6.1.3.14, which currently lists the acceptance criteria as 11.5 scfh per valve.

### 3.0 TECHNICAL EVALUATION

The current TS 5.5.12.c requires that each MSIV meet the leakage rate of  $\leq 11.5$  scfh regardless of the leakage rate of the other MSIVs on the other steam lines. The maximum allowable leakage rate, assuming all four valves leaking at the acceptance criteria would be 46 scfh.

The PBAPS Updated Final Safety Analysis Report (UFSAR), Section 14.9.1.5 and 14.9.2.1 assume the secondary containment bypass to be 0.145 percent per day primary containment leak rate. The UFSAR states that the leakage value is based on the assumption that all four main steam lines are leaking at their TS allowable MSIV leakage rate of 11.5 scfh each (i.e., a total leakage of 46 scfh). Therefore, the total TS allowable leakage from the MSIVs remains bounded by the values assumed in the accident analyses for PBAPS. Given that the proposed TS will continue to maintain the plant within the assumptions of the accident analyses, the NRC staff finds the proposed change to be acceptable.

### 4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

In its application, the licensee addressed the No Significant Hazards Consideration (NSHC) criteria in 10 CFR 50.92, "Issuance of Amendment," and provided the following NSHC for the proposed amendment:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed amendment results in no change in radiological consequences of the design basis LOCA [loss-of-coolant accident] as currently analyzed for Peach Bottom Atomic Power Station [PBAPS]. This analysis was calculated assuming a combined total MSIV leakage at accident pressure for determining acceptance to the regulatory limits for the offsite, control room and Technical Support Center (TSC) radiation doses as contained in 10 CFR 100 and 10 CFR 50, Appendix A, GDC 19. The proposed change does not compromise existing radiological equipment qualification, since the combined total MSIV leakage rate has been factored into existing equipment

qualification analyses for 10 CFR 50.49. This change will not alter the operation of process variables, structures, systems, or components as described in the PBAPS Updated Final Safety Analysis Report (UFSAR). The proposed amendment does not alter the operational capability of the MSIVs.

Therefore, based on the above information, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed amendment does not modify the MSIVs or any other plant system or structure associated with this amendment and therefore, will not affect their capability to perform their design functions. The combined total main steam line leakage rate is included in the current radiological analyses for the assessment of radiation exposure following an accident. This proposal changes the allowable leakage rate from a per valve limit to a total combined leakage rate limit for all four main steam lines, but does not change the cumulative limit. The proposed change does not affect the responses of plant equipment to transient or accident conditions. The proposed amendment does not change or introduce any new equipment, modes of system operation or failure mechanisms.

Therefore, based on the above information, the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed amendment has no impact on equipment design or operation, and there are no changes being made to safety limits or safety system allowable values that would adversely affect plant safety. The proposed change does not affect safety analysis assumptions or initial conditions and therefore, the margin of safety in the original safety analyses are maintained. The leakage rate limit specified for the MSIVs is used to quantify the maximum amount of bypass leakage assumed in the LOCA radiological analysis. Results of the analysis are evaluated against the dose guidelines contained in 10 CFR 100 and 10 CFR 50, Appendix A, GDC 19. The margin of safety in this context is considered to be the difference between the

calculated dose exposures and the guidelines provided by 10 CFR 100 and GDC 19. Therefore, since the proposed combined total main steam line leakage rate limit is unchanged from the assumed maximum leakage rate for MSIVs for the purpose of calculating potential radiation dose, the margin of safety is not affected.

The NRC staff has reviewed the proposed changes to the TSs and the licensee's response to the three questions of the NSHC criteria. Based on this review, the NRC staff concurs with the licensee and makes its final determination of NSHC for the amendment.

#### 5.0 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 provided no comments.

#### 6.0 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 type, 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 made a final finding that the amendment involves no significant hazards consideration in Section 4.0. 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.

#### 7.0 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: T. Wertz, NRR  
G. Miller, NRR

Date: September 14, 2007