



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 14, 2009

Mr. Charles G. Pardee  
President and Chief Nuclear Officer  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 - REQUEST  
FOR ADDITIONAL INFORMATION REGARDING GENERIC LETTER 2008-01,  
9-MONTH RESPONSE (TAC NOS. MD7860 AND MD7861)

Dear Mr. Pardee:

By letters dated October 14, 2008, and January 16, 2009, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML082880706 and ML090160291) Exelon Generation Company, LLC, the licensee for the Peach Bottom Atomic Power Station, provided responses to Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." On the basis of the provided information, the Nuclear Regulatory Commission (NRC) staff has concluded that additional information is required from the licensee. This information is needed to confirm that the licensee has acceptably demonstrated "that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance," as stated in NRC Generic Letter 2008-01. The requested additional information is set forth in the Enclosure.

The draft questions were sent to Mr. Thomas Loomis, of your staff, to ensure that the questions were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed. On September 10, 2009, Mr. Ken Nicely, of your staff, indicated that the licensee will submit a response by November 10, 2009. If you have any questions, please contact me at (301) 415-3204.

Sincerely,

A handwritten signature in black ink that reads "John D. Hughey".

John D. 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

Enclosure: Request for Additional  
Information

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

EXELON GENERATION COMPANY

PEACH BOTTOM ATOMIC POWER STATION

GENERIC LETTER 2008-01 9-MONTH RESPONSE

By letters dated October 14, 2008, and January 16, 2009, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML082880706 and ML090160291) Exelon Generation Company, LLC, the licensee for the Peach Bottom Atomic Power Station, provided responses to Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." On the basis of the provided information, the Nuclear Regulatory Commission (NRC) staff has concluded that additional information is required from the licensee. This information is needed to confirm that the licensee has acceptably demonstrated "that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance," as stated in NRC Generic Letter 2008-01. The requested additional information is detailed below.

1.0 SUBJECT SYSTEMS

Exelon Generation Company (EGC or the licensee) has developed a list of Peach Bottom Atomic Power Station (PBAPS)-specific systems considered to be within the scope of the Generic Letter (GL) 2008-01 requested actions. One component of the list is the Residual Heat Removal (RHR) system; however, as a multi-function system, it has many functions.

RAI 1.1 Clarify specifically which RHR functions and subsystems are within the scope of the GL 2008-01 review.

RAI 1.2 Identify specifically any RHR functions or subsystems that were excluded from the GL2008-01 review for PBAPS.

2.0 ADEQUACY OF TECHNICAL SPECIFICATION (TS) REQUIREMENTS AND PROCEDURES

RAI 2.1 In scenarios where prompt Emergency Core Cooling System (ECCS) re-alignments and/or valve actuations are required, EGC is requested to describe how TS surveillance requirements (SRs) and other procedures for system return to operability assure that ECCS pipe voiding is not so severe as to inhibit a given in-scope system's operability. The description must include locations including, but not limited to, high points, horizontal runs, and pump suction and discharge pathways. EGC is requested to consider, for example, the information discussed in NRC Information Notice (IN) 87-10, "Potential for Water Hammer During Restart of Residual Heat Removal Pumps," and IN 87-10, Supplement 1.

Enclosure

### 3.0 PROCEDURES – IDENTIFYING AND QUANTIFYING ECCS VOIDING

EGC states that the impact of the voids on system operability is evaluated on a case-by-case basis, with acceptable void volumes being determined as part of the evaluation. EGC is requested to provide the following additional information:

- RAI 3.1 Summarize the general procedure or methodology used to perform the evaluations, including the initial determination whether a case-specific evaluation is necessary.
- RAI 3.2 Discuss the data collected and input assumptions used in the case-by-case evaluations.
- RAI 3.3 Provide a sampling of the conclusions reached from recent case-by-case evaluations.
- RAI 3.4 Based on review of the case-by-case evaluations performed to date, discuss whether operability has been determined acceptably or whether additional surveillance beyond TS requirements and fill/vent procedures was warranted, and what additional steps have been taken to assure system operability.

### 4.0 SURVEILLANCE REQUIREMENTS – ULTRASONIC TESTING

EGC stated that results of the drawing reviews and system walk-downs were collectively evaluated to identify areas susceptible to gas accumulation, that such identified areas were further evaluated, and, subject to evaluative criteria, that ultrasonic testing (UT) was performed in select locations. Regarding the outcome of this investigation, EGC determined that no new vent locations were deemed necessary, and that the only corrective action pertaining to this investigation would be to perform similar evaluations and testing in the inaccessible areas.

EGC is requested to provide the following additional information regarding the drawing reviews and system walk-downs:

- RAI 4.1 Provide any observed discrepancies, and corrective actions used to correct the discrepancies, that were identified during EGC's confirmation of pertinent design details. If no discrepancies were identified, provide a statement confirming this.
- RAI 4.2 Where assessment concluded that UT was not necessary, describe the assessment and discuss how the conclusion that UT was not necessary was reached. If a generic approach to performing this assessment was used, a summary of the assessment process adequately responds to this request.
- RAI 4.3 EGC is requested to confirm whether all voids will be quantified and recorded.
- RAI 4.4 Provide specific details regarding the "graded approach" to UT.
- RAI 4.5 Discuss what aspects of the UT procedures will verify that gas was removed after venting and ensure gas was not transported into a high point that was previously found to be gas-free.

## 5.0 ECCS VOID SURVEILLANCE METHODS

EGC's evaluation of testing included a discussion of periodic venting of the high pressure coolant injection, core spray, and RHR systems that is currently performed in accordance with TS SRs, and the addition of UT examinations following a "graded approach." EGC is requested to provide the following additional information:

EGC's response for PBAPS references specifically TS SRs and a single return-to-service procedure for filling and venting ECCS components.

RAI 5.1.a Confirm whether additional administrative controls, operational procedures, or other measures, provide for surveillance and venting of ECCS piping.

RAI 5.1.b Discuss the applicability of the referenced fill/vent and surveillance procedures, and any additional plant procedures that are not specifically referenced, with respect to all modes of operation.

RAI 5.1.c If additional fill/vent and surveillance procedures exist, provide a brief, aggregate description. (See Question 5.2 below).

EGC is also requested to provide the following additional information:

RAI 5.2 Provide additional details regarding specific equipment and sub-system locations covered by routine surveillance and the associated performance frequency.

RAI 5.3 Identify piping locations that are not included in scheduled surveillances, and justify the exclusion of these locations with respect to achieving a reasonable assurance of system operability. A broad identification of the excluded locations, such as that provided in Paragraph 3, Page 3 of the PBAPS Generic Letter response dated October 14, 2008, is adequate for the purposes of responding to this RAI.

RAI 5.4 Address operability determinations for as-found voiding conditions. EGC's response to the RAIs in Section 3 (Identifying and Quantifying ECCS Voiding) may adequately address this item.

RAI 5.5 Describe any post-surveillance activities with respect to system voiding.

## 6.0 ECCS FILL AND VENT PROCEDURES

In its discussion concerning procedures associated with fill and vent activities, EGC described the adequacy of revisions completed to, and revisions planned for, Procedure OP-AA-108-106, "Equipment Return to Service."

EGC is requested to summarize the procedural aspects that pertain to RAIs 6.1, 6.2 and 6.3 below. Also, EGC is requested to discuss what revisions have been completed or are planned for each of the following aspects of vent/fill activities:

- RAI 6.1 Guarding against gas intrusion because of inadvertent draining, system realignments, incorrect maintenance procedures, or other evolutions.
- RAI 6.2 Controlling and revising work packages due to changes in maintenance work scope.
- RAI 6.3 Monitoring of pump operation in all modes and specialized monitoring of appropriate plant parameters during shutdown operation, including reactor vessel water level control.

## 7.0 TRAINING

Training was not identified in the GL but is considered to be a necessary part of applying procedures and other activities when addressing the issues identified in GL 2008-01.

- RAI 7.1 EGC is requested to provide a brief discussion regarding training as it relates to pipe voiding issues.

September 14, 2009

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Sincerely,

*/ra/*

John D. 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  
Enclosure: Request for Additional  
Information

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