

August 3, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 & 3 - NRC
INSPECTION REPORT 05000277/2001-011, 05000278/2001-011

Dear Mr. Kingsley:

The enclosed report documents an inspection conducted in the NRC Region I office between June 21 and July 10, 2001, regarding the Peach Bottom Atomic Power Station, Units 2 & 3 to assess the significance of an emergency preparedness finding identified in NRC Inspection Report Nos. 05000277/2001-004, 05000278/2001-004. The inspectors discussed the findings of this inspection via telephone with Mr. Gordon Johnston and other members of your staff on July 10, 2001.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records and telephone conferences with personnel.

Based on the results of this inspection, the inspectors identified one preliminary finding of low to moderate safety significance (White). This finding involves several occasions when the public address (PA) and evacuation alarm system was not maintained or did not function properly in accordance with your Emergency Plan and Implementing Procedures. The issue has low to moderate safety significance because a failed or degraded PA/evacuation alarm system could result in not properly notifying onsite personnel of protective actions and delaying a site evacuation. This failure to maintain adequate emergency communications equipment with appropriate backup power sources necessary to support an emergency response function is an apparent violation of 10 CFR 50.54(q), 50.47(b)(8) and Appendix E, Section IV.E.9, and is being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is accessible from the NRC Web Site at <http://www.nrc.gov>.

Mr. Oliver D. Kingsley

-2-

We believe that we have sufficient information to make our final significance determination for the PA/evacuation alarm system failures. However, you have the opportunity to either send us your position on the finding's significance and the bases for your position in writing or request a regulatory conference to discuss your evaluation and any differences with the NRC evaluation. Please contact Richard Conte at (610) 337-5183 within 7 days of the date of this letter to inform the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision, and you will be advised by separate correspondence of the results. Since the NRC has not made a final determination in this matter, no Notice of Violation is being issued at this time.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions regarding this report, please contact Mr. Richard J. Conte at (610) 337-5183.

Sincerely,

/RA/

Wayne D. Lanning, Director
Division of Reactor Safety

Docket Nos. 05000277, 05000278
License Nos: DPR-44, DPR-56

Enclosure: Inspection Report 5000277/2001-011, 5000278/2001-011

Mr. Oliver D. Kingsley

-3-

cc w/encls:

J. Hagan, Senior Vice President, Exelon Generation Company, LLC
J. Cotton, Senior Vice President, Operations Support
W. Bohlke, Senior Vice President, Nuclear Services
J. Skolds, Chief Operating Officer
J. Doering, Vice President, Peach Bottom Atomic Power Station
G. Johnston, Plant Manager, Peach Bottom Atomic Power Station
J. A. Benjamin, Vice President - Licensing and Regulatory Affairs
J. A. Hutton, Director, Licensing, Exelon Generation Company, LLC
G. Hunger, Chairman, Nuclear Review Board
P. Chabot, Director, Nuclear Oversight
A. F. Kirby, III, External Operations - Delmarva Power & Light Co.
A. A. Winter, Manager, Experience Assessment
J. W. Durham, Sr., Senior Vice President and General Counsel
H. C. Kresge, Manager, External Operations, Connectiv
N. J. Sproul, Manager, Financial Control & Co-Owner Affairs, Connectiv
R. McLean, Power Plant Siting, Nuclear Evaluations
D. Levin, Acting Secretary of Harford County Council
R. Ochs, Maryland Safe Energy Coalition
J. H. Walter, Chief Engineer, Public Service Commission of Maryland
Mr. & Mrs. Dennis Hiebert, Peach Bottom Alliance
Mr. & Mrs. Kip Adams
Chief, Division of Nuclear Safety
E. Cullen, Vice President, General Counsel
Correspondence Control Desk
Commonwealth of Pennsylvania
State of Maryland
TMI - Alert (TMIA)

Mr. Oliver D. Kingsley

-4-

Distribution w/encls:

- H. Miller, RA
- J. Wiggins, DRA
- M. Shanbaky, DRP
- D. Florek, DRP
- R. Junod, DRP
- A. McMurtray, DRP - NRC Resident Inspector
- D. Barss, NRR
- R. Jenkins, OEDO
- E. Adensam, NRR
- J. Boska, PM, NRR
- C. Gratton, PM, NRR
- Region I Docket Room (with concurrences)
- W. Lanning, DRS
- R. Conte, DRS
- N. McNamara, DRS
- DRS File

DOCUMENT NAME: G:\OSB\MCNAMARA\PB2001011.WPD

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRS		RI/DRS		RI/DRS		R/DRP		RI/ORA	
NAME	NMcNamara (RJC for)		RConte		JTrapp		MShanbaky		DHolody (RJu for)	
DATE	07/20/01		07/20/01		07/25/01		07/22/01		07/25/01	
OFFICE	RI/DRS									
NAME	WLanning									
DATE	08/03/01									

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 05000277
05000278

License Nos: DPR-44
DPR-56

Report No: 05000277/2001-011
05000278/2001-011

Licensee: Exelon Generation Company, LLC
Correspondence Control Desk
200 Exelon Way, KSA 1-N-1
Kennett Square, PA 19348

Facility: Peach Bottom Atomic Power Station, Units 2 & 3

Dates: June 21- July 10, 2001 (In-office inspection)

Inspectors: N. McNamara, Emergency Preparedness Inspector, DRS
M. Buckley, Resident Inspector, PB, DRP

Approved by: Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000277/2001-011, 05000278/2001-011, on 06/21- 7/10, 2001; Exelon Generation Company, Peach Bottom Atomic Power Station, Units 2 & 3. Correction of Emergency Preparedness Weaknesses and Deficiencies.

This inspection was conducted in-office by a region based inspector and by the onsite resident inspector. The inspection identified one Preliminary White finding, which is also an apparent violation. The significance of issues is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

A. Inspector Identified Findings

Cornerstone: Emergency Preparedness

Preliminary White. The inspectors identified an apparent violation of an emergency planning standard and requirement in that the power block's public address (PA)/evacuation alarm system was degraded from 1992 to 2000 and, once repaired, it continued to be degraded with breaker problems. Accordingly, the system would not have been able to meet its emergency planning function. Requirements 10 CFR 50.54(q), emergency planning standard 10 CFR 50.47b(8), and Appendix E Section IV.E.9 require that onsite emergency communication systems be maintained and have a backup power source.

During the period of 1992-2000, the PA/evacuation alarm system was not functioning correctly, in that up to 47% of the speakers (as of April 1999) were either inaudible or degraded to the point in which an individual would not be able to clearly hear instructions. From January 19 to February 13 and March 20 to April 17, 2001, the system would have become nonfunctional after 49 seconds of operation because the system had been operating on the backup power breaker and the breaker would have tripped. On February 13 and April 17, 2001, the PA/evacuation alarm system was nonfunctional for the periods of 4.5 hours and 1.5 hours, respectively, because both the primary and backup breakers had tripped resulting in a loss of power to the system. This issue was assessed using the emergency preparedness Significant Determination Process (SDP) described in NRC Inspection Manual Chapter 0609, *Appendix B*, and characterized as a preliminary White finding. The finding was of low to moderate safety significance because the failure to maintain the emergency onsite communication system without adequate compensatory measures or without a backup power source resulted in an emergency preparedness function not being met. The function would not have been met, in that the licensee would not properly inform and alert onsite personnel of protective actions and would unnecessarily delay a site evacuation (Section 1EP5).

Report Details

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

Background

The purpose of the inspection was to review the findings of the NRC resident inspectors related to unresolved item (05000277/2001-004-01 and 05000278/2001/004-01) on the degraded condition of the public address system and the site evacuation alarm for the power operations portion (power block portion) of this plant. Several periods of vulnerability were noted in which the public address (PA)/evacuation alarm system was degraded, not functional, or would have become nonfunctional after a short period of operation. This resulted in Exelon potentially not being able to perform an emergency preparedness function for properly evacuating site personnel in a timely and safe manner. The inspectors had a conference call on June 21, 2001, with Exelon representatives and reviewed the issue for safety significance in accordance with Manual Chapter 0609, Appendix B, Emergency Preparedness Significance Determination.

a. Inspection Scope

During follow-up discussions with the licensee on the unresolved item, Exelon described how they operated their PA/Evacuation alarm system within the site power block. The sequence for delivering the site evacuation notification per Emergency Response Procedure (ERP) No. 130, Site Evacuation, which would proceed as follows: 1) tone alert (does not overload subject breakers); 2) PA system announcement (which does not overload subject breakers); 3) sound the evacuation alarm (overloads the subject breaker after about 49 seconds); 4) repeat announcements on the plant radio system (unaffected by breaker opening) [The licensee noted that this system would result in about 50% personnel coverage (with certain personnel having no tone alert with radios in their possession) in the power block area]; 5) Announce Pond Paging System (unaffected by overload); and 6) the above process is repeated in its entirety.

The licensee's Nuclear Emergency Plan, Section 4.4.1.3, indicates that the evacuation alarm occurs before the PA announcement, which is contrary to the activation procedure, ERP-130. However, the inspectors determined that the operators would reasonably implement site evacuation using ERP 130 as generally described above, so the significance of the finding was analyzed based on that sequence.

b. Issues and Findings

The inspectors identified a preliminary white finding and apparent violation in that the Peach Bottom power block's public address (PA)/evacuation alarm system was degraded for a long time (8 years) and the repaired system had a breaker vulnerability which would not have allowed it to meet its emergency planning function. The inspectors also determined that this finding was an apparent failure to "meet" an emergency planning standard and requirements. Requirements 10 CFR 50.54(q), emergency planning standard 10 CFR 50.47b(8), and Appendix E Section IV.E.9 require that onsite emergency communication systems be maintained and have a backup power source.

The Nuclear Emergency Plan for both Peach Bottom Atomic Power Station and Limerick Generating Station under Section 4.4.1.2, Notifications states “the plant Public Address (PA) System and the evacuation alarm/siren are the means to notify personnel of the protective actions required.” Section 2.2 of Emergency Response Procedure (ERP) 130, Site Evacuation, provides the sequence for informing and alerting personnel of hazards warranting evacuation.

The system did not meet the above requirements nor the emergency preparedness function for the below listed periods and emergency equipment conditions.

- 1) For the period from 1992 to 2000, the plant PA/evacuation alarm system was degraded, in that up to 47% (as of April 1999) of the systems speakers were either inaudible or degraded to the point in which an individual would not be able to clearly hear instructions. The licensee did not perform adequate preventive maintenance on the system after the licensee discontinued routine testing of the PA system in 1992. Also, as of April 1999, the testing performed by the licensee on the evacuation alarm system did not detect and document the PA system failed speakers.
- 2) Following repair of the system in December 2000, for two periods (January 19, 2001, to February 13, 2001, and March 20, 2001, to April 17, 2001), the plant PA/evacuation alarm system would not have functioned in the sequence provided by ERP 130. During the two periods of time, the system was operated only on the backup power breaker. After approximately 49 seconds of operation, the backup breaker would have tripped resulting in an inoperable system. The primary breaker had tripped following the previous month’s test at the beginning of each period and was not detected by Exelon.
- 3) On February 13 and again on April 17, 2001, the plant PA/evacuation alarm system would not function in the sequence provided by ERP 130, in that both the primary and the backup breakers had tripped for periods of 4.5 hours and 1.5 hours, respectively, resulting in any system capability to provide instruction or sound the evacuation alarm due to the power loss.

The degradation of the PA/evacuation alarm system (above three problems) was more than minor because it had a creditable impact on safety, in that personnel would not have been rapidly informed of hazards in areas of the power block. The SDP (MC 0609, Appendix B) is entered because there was a failure to meet or implement an emergency planning standard requirement. The emergency preparedness function for the subject equipment is to inform and alert personnel rapidly of hazards resulting in the need to evacuate an area using the established emergency communications system. This equipment is required to be maintained and have a backup power supply.

These instances of failure to maintain adequate emergency communications equipment with appropriate backup power sources necessary to support an emergency response indicated a failure to meet an emergency planning standard and requirement (low to moderate significance) and is an apparent violation of 10 CFR 50.54(q), 10 CFR 50.47(b)(8), Appendix E, Section IV.E.9, E-Plan Section 4.4.1.2 and ERP 130, Section 2.2. As defined in the SDP, the referenced planning standard and requirement

are labeled “non-risk significant” in terms of the potential to not directly affect public health and safety. **(AV 05000277; 05000278/2001-011-01)**

40A6 Exit Meeting

The inspectors presented the inspection results via telephone to members of the licensee staff at the conclusion of the inspection on July 10, 2001. No proprietary information was discussed.

KEY POINTS OF CONTACT

Licensee

W. Jefferson, Director, Generation Support for Exelon
 J. Grisewood, EP Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened: AV 05000277/278/2001-011-01 Failure to Maintain PA/Evacuation alarm system for performing the designated emergency preparedness evacuation function. (Section 1EP5)

Closed URI 05000277/278/2001-004-01 Site Evacuation Alarm (Section 1EP5)

Discussed

None

LIST OF BASELINE INSPECTIONS PERFORMED

71114-04 Emergency Action Level and Emergency Plan Changes
 71114-05 Corrections of Emergency Preparedness Weaknesses and Deficiencies

LIST OF ACRONYMS USED

CFR Code of Federal Regulations
 EP Emergency Preparedness
 E-Plan Emergency Plan
 ERP Emergency Response Procedure
 PA Public Address
 URI Unresolved Item