December 7, 2001

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

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INSPECTION REPORT 50-277/01-07, 50-278/01-07

Dear Mr. Kingsley:

On November 9, 2001, the NRC completed an inspection at the Peach Bottom Atomic Power Station. The enclosed report documents the inspection results which were discussed on November 9, 2001, with Mr. J. Doering and other members of your staff.

This inspection was an examination of activities conducted at the Peach Bottom Atomic Power Station under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations, and with the conditions of your license. The team reviewed selected procedures and records, observed activities, conducted plant walkdowns, and interviewed personnel.

The team concluded that, based on the samples reviewed, the overall implementation of the corrective action program at Peach Bottom Atomic Power Station was acceptable. Your staff was adequately identifying problems and taking corrective actions that were generally acceptable to correct the problems and prevent recurrence. However, there were instances where problems were not identified in your condition report process. One instance of very low safety significance (Green) identified by the team was determined to be a violation of NRC requirement. However, because of the very low safety significance and because the issue was entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny the non-cited violation noted in this report, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Peach Bottom Atomic Power Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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/reading-rm/ADAMS.html (the Public Electronic Reading Room).

Sincerely,

/RA

David C. Lew, Chief
Performance Evaluation Branch
Division of Reactor Safety

Docket Nos.: 50-277, 50-278
License Nos.: DPR-44, DPR-56

Enclosure: Inspection Report No. 50-277/01-07 and 50-278/01-07

Attachments: (1) Supplemental Information

cc w/encl:
J. Hagan, Senior Vice President, Mid-Atlantic Regional Operating Group
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
M. Gallagher, Director, Licensing, Mid-Atlantic Regional Operating Group
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)
Distribution w/encl:
Region I Docket Room (with concurrences)

A. McMurtray, DRP - NRC Resident Inspector
H. Miller, RA
J. Wiggins, DRA
M. Shanbaky, DRP
S. Barr, DRP
D. Florek, DRP
R. Junod, DRP
D. Loveless, OEDO
E. Adensam, NRR
J. Boska, PM, NRR
C. Gratton, PM, NRR

DOCUMENT NAME:C:\Program Files\Adobe\Acrobat 4.0\PDF Output\PB2001007.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		RI/DRP	
NAME	JYerokun		JTrapp		DLew		MShanbaky	
DATE	11/29/01		12/07/01		12/07/01		12/ 07/01	

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket Nos: 50-277, 50-278

License Nos: DPR-44, DPR-56

Report Nos: 50-277/01-07, 50-278/01-07

Licensee: Exelon Generation Company, LLC

Facility: Peach Bottom Atomic Power Station Units 2 and 3

Inspection Period: October 29 - November 9, 2001

Inspectors: Jimi Yerokun, Team Leader, Division of Reactor Safety (DRS)
Michael Buckley, Resident Inspector, Division of Reactor Projects
Frederick Jaxheimer, Reactor Engineer, DRS
Kevin Mangan, Reactor Engineer, DRS - (Trainee)

Approved by: David C. Lew, Chief
Performance Evaluation Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000277-01-07, IR 05000278-01-07, on 10/29-11/09/2001; Exelon Generation Company; Peach Bottom Atomic Power Station; Units 2 & 3. Annual baseline inspection of the identification and resolution of problems.

This inspection was conducted by two regional inspectors and one resident inspector. The inspection identified a Green finding which was also a non-cited violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity of the applicable violation.

Identification and Resolutions of Problems

The team concluded that, based on the review of a selected sample, the overall implementation of the corrective action program at Peach Bottom Atomic Power Station, Units 2 & 3, was acceptable. In general, problems were identified at an appropriate level and entered into the corrective action program. Issues were adequately prioritized and evaluated, and the evaluations were of adequate depth to identify the causes and appropriately broad in considering the extent of condition. The corrective actions were reasonable and adequately implemented. Nevertheless, the team identified instances where the licensee missed opportunities to identify and enter problems into the condition report process. In one instance, the issue resulted in a Green finding that was also a non-cited violation.

A. Inspector Identified Findings

Cornerstone: Barrier Integrity

- Green. A non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, for failure to determine the cause of inadvertently exceeding 100% core flow during the Unit 3 startup, and to take corrective actions to preclude recurrence. During the startup, the licensee inadvertently exceeded 100% core flow for a period of ninety minutes.

  The finding was determined to be of very low safety significance because maximum core flow reached 106.3%, which was below the design core flow limit of 110%. As a result, barrier integrity was not challenged.

Report Details

OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems (IP 71152)

.1 Effectiveness of Problem Identification

a. Inspection Scope

The team reviewed items selected from various licensee processes and activities to determine if personnel were properly identifying, characterizing and entering problems into the corrective action process for evaluation and resolution. The licensee uses both the Action Request (AR) process and the Condition Report process for identifying problems at Peach Bottom Atomic Power Station (PBAPS). However, the primary corrective action process for resolving and prescribing the applicable corrective actions was the Condition Report process. Items entered into this process are referred to as Condition Reports (CR). The team reviewed ARs identified in Attachment 1 to determine the appropriateness of the licensee's threshold for initiating CRs for issues in the AR process.

The team reviewed a sample of control room surveillance logs, operator work-around and control room deficiencies, temporary modifications, system health indicators, emergency preparedness items, Quality Assurance (QA) audits, self assessments, operating experience information, and minutes from the plant operating review committee (PORC) meetings. The team also performed plant walkdowns and conducted interviews with plant personnel to determine if problems were appropriately identified.

b. Issues and Findings

The team found that, in general, when licensee personnel identified issues, they initiated CRs at a proper threshold to document and evaluate the problem. However, the team identified some minor instances where management expectations for initiating CRs were not met and the licensee missed opportunities to identify problems and issues. The CRs initiated by the licensee for the issues are listed in Attachment 1.

- Jet Pumps Post Maintenance Testing

Green. A non-cited violation of 10 CFR 50 Appendix B, Criterion XVI was identified regarding the failure to determine the cause of inadvertently exceeding 100% core flow during Unit 3 startup from a refueling outage and take corrective actions to preclude recurrence. During the startup, core flow exceeded 100% for a period of ninety minutes.

On October 12, 2001, during the Unit 3 startup from a refueling outage, when the jet pumps had been cleaned, core flow exceeded 100% (at 106.3%) for a period of ninety minutes before operations personnel initiated actions to reduce core flow to within 100%. Reactor power was at approximately 100% when this occurred. Procedure GP-2, Normal Plant Startup, requires that immediate actions be taken to maintain core flow at or below 100% should flow exceed 100%. The 106.3% flow indication occurred after

the 3D Monicore computer was re-booted and automatically re-selected it's input data source (toggle). The "toggle" was appropriate since there was a difference of more than 5% between the measured core flow and the calculated core flow matrix (flow input data sources). Just prior to the "toggle", the measured core flow indicated was 98%. Subsequent operator actions to reduce core flow resulted in a power decrease of about four percent. The indicated reactor thermal power, recirculation pump speed, and electrical output did not change prior to operator action to reduce core flow.

Since the Unit 3 jet pumps were cleaned during the outage to gain pump efficiency, the reactor engineers had considered the possibility of a toggle during the startup, but did not effectively communicate this to the on-shift operations personnel. Engineering personnel did not expect the difference between the measured core flow and the 3D correlation for core flow to be greater than 5% when the toggle occurred. The resulting flow indication jump was approximately 8%. The team determined that the licensee did not ensure the appropriate monitoring of core flow during startup and after jet pump cleaning. The team also identified that the licensee failed to initiate a CR to determine the cause of inadvertently exceeding 100% core flow, and take actions to prevent recurrence. Following discussion with the team, the licensee subsequently initiated a CR.

The team determined that this issue was more than minor because the inadequate implementation of activities, which can result in inadvertently exceeding important reactor core parameters, has a credible impact on safety. The finding was determined to be of very low safety significance, because core flow reached a maximum of 106.3%, which was below the design core flow limit of 110%. As a result, barrier integrity was not challenged. In accordance with the Significance Determination Process (SDP) Phase 1 Screening, issues that affect only the fuel barrier are screened as very low safety significance (Green). The licensee incorporated this NRC identified issue into their corrective action process as CR 00081897 and CR 00081988. This violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions" is being treated as a Non-Cited Violation consistent with Section VI.A.1 of the NRC's Enforcement Policy. **(NCV 05000278/2001-007-01)**

.2 Prioritization and Evaluation of Issues

a. Inspection Scope

The team reviewed items selected from the licensee's corrective action program to determine whether the issues were properly evaluated and resolved. The review included the appropriateness of the assigned significance, the timeliness of resolutions, and the scope and depth of the root cause evaluations (or apparent cause evaluation). The sample was selected using risk insights from the licensee's Individual Plant Examination (IPE) study and covered the seven cornerstones. The team screened ARs and Condition Reports (CRs) in the licensee's corrective action process and selected those listed in Attachment 1 of this report for detailed review. The selection included CRs of all significance level designations (Levels 1 through 4).

b. Issues and Findings

There were no findings identified during this inspection. From the samples reviewed, the team concluded that the licensee adequately prioritized and evaluated issues entered into the corrective action process. The evaluations were of adequate depth to identify the causes and appropriately broad in considering the extent of condition. For example, the team reviewed the licensee's evaluation associated with the unplanned Unit 3 reactor vessel inventory reduction of October 8, 2001 (CR 78062). The evaluation was of adequate depth and identified appropriate corrective actions. The team also noted that the station continued to have a functioning operating experience program that identified and processed information for distribution from sources both inside and outside the station.

.3 Effectiveness of Corrective Actions

a. Inspection Scope

The team reviewed the corrective actions associated with selected CRs to determine whether the corrective actions addressed the identified causes and were completed or scheduled for timely completion. The selected CRs included those that addressed the NRC non-cited violations listed in Attachment 1.

The team reviewed CRs for repetitive problems to determine whether previous corrective actions were effective. The team also reviewed the backlog of corrective actions to determine if there were items that individually or collectively represented an adverse effect on plant risk or an adverse trend in the implementation of the corrective action program.

b. Issues and Findings

There were no findings identified during this inspection. The team concluded that overall, the licensee developed and implemented corrective actions that addressed the identified problems. Based on the sample reviewed, the team determined that the corrective actions were completed or scheduled to be completed in a timely manner. The team noted that the licensee was implementing broad corrective actions to address a negative trend in human performance issues.

.4 Safety Conscious Work Environment

a. Inspection Scope

The team reviewed the licensee's Safety Conscious Work Environment program implementation and conducted interviews with plant personnel to determine if conditions were apparent or existed that would challenge the establishment of a safety conscious work environment at the Peach Bottom Atomic Power Station.

b. Issues and Findings

There were no findings identified during this inspection.

4OA6 Management Meetings

.1 Exit Meeting Summary

The team presented the inspection results to Mr. J. Doering and other members of the Peach Bottom Atomic Power Station staff during an exit meeting on November 9, 2001. The licensee acknowledged the findings presented. No information examined or reviewed during the inspection was considered to be proprietary.

Attachment 1: Key Points of Contact
Items Opened, Closed, and Discussed
Acronyms Used
Documents Reviewed

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

Key Points of Contact

Exelon Generation Company

M. Alfonso, Director, Training
J. Bouck, Operations Director
C. Costanzo, Shift manager
W. Dalton, Shift Supervisor
M. Delowery, Senior Manager, Outages
J. Doering, Vice President
D. Dycuss, Assessment Team Lead, NOS
W. Eckman, Nuclear Oversight Manager
E. Eilola, Shift Operations Superintendent
J. Felice, Site CAPCO
D. Foss, Senior Regulatory Engineer
E. Guarino, NMD - Technical Staff
D. Henry, Operations Services Manager
S. Hesse, Manager, Reactor Engineering
C. Hienbeck, Nuclear Security Analyst
D. Hocken, LGS Site CAPCO
G. Johnson, Plant Manager
M. Lyate, Rad Protection Supervisor
G. McCarty, Radiation Protection Support Manager
J. McLaughlin, Engineering CAPCO
R. Moonitz, Work Control supervisor
C. Mudrick, Senior Manager, Plant Engineering
A. Psaros, Reactor Engineer
A. Raush, Shift Supervisor
D. Shortes, Maintenance CAPCO
J. Smith, Maintenance I&C Manager
H. Trimble, Radiation Protection Manager
W. Trump, Manager Site Security
D. Warfel, Senior Manager, Design

Items Opened, Closed, and Discussed

Opened /Closed

NCV 50-278/01-007-01	Failure to initiate a condition report to address the discrepancies associated with core flow during the Unit 3 startup as required by 10 CFR 50, Appendix B, Criterion XVI. (Section 4OA2)

Acronyms Used

AR	Action Request
CR	Condition Report
HPCI	High Pressure Coolant Injection
PBAPS	Peach Bottom Atomic Power Station
PECO	Philadelphia Electric Company
PORC	Plant Operations Review Committee
IPE	Individual Plant Examination
IST	Inservice Testing
MOV	Motor Operated Valve
NCV	Non-cited Violation
QA	Quality Assurance
SDP	Significance Determination Process

Documents Reviewed

Procedures

LS-AA-125, Corrective Action Program (CAP) Procedure, Rev. 0
LS-AA-125-1001, Root Cause Analysis Manual, May 18, 2001
LS-AA-125-1002, Common Cause Analysis Manual, May 18, 2001
LS-AA-125-1003, Apparent Cause Evaluation Manual, May 18, 2001
LS-AA-125-1004, Effectiveness Review Manual, May 18, 2001
LS-AA-125-1005, Coding and Trending Manual, May 18, 2001
LS-AA-125-1006, CAP Process Expectations Manual, June 12, 2001
LS-AA-105, Operability Determinations, Rev. 0
LS-AA-105-1000, Operability Determination Guidance Document, July 9, 2001
LS-AA-105-1001, Supporting Operability Documentation, July 9, 2001
LR-C-04, Operating Experience Assessment Program, Rev. 6
AG-CG-26.1, Equipment Trouble/Deficiency Tag Initiation and Processing, Rev. 4
AG-CG-26.2, Corrective Maintenance Action Request Initiation and Processing, Rev. 7
AG-CG-26.3, Work Order (W/O) Planning Process, Rev. 15
AG-CG-26.4, Work Order (W/O) Work Performance, Rev. 10
AG-CG-26.5, Work Order (W/O) Package Closure, Rev. 6
AG-CG-26.6, Post Maintenance/Modification Testing (PMT), Rev. 6
AG-CG-26.7, Identification and Control of Radwaste Inputs, Rev. 1
AG-CG-26.8, Work Order (W/O) Process For PECO Energy's Oregon Shop, Rev. 0
AG-CG-26.9, Monitoring Performance of Maintenance Activities, Rev. 3
AG-CG-26.10, Minor Maintenance, Rev. 1
EI-AA-101, Employee Concerns Program
GP-2 - Normal Plant Start-up

Self Assessments

Peach Bottom Power Station Inservice Testing Program, 6/11/01 to 6/22/01
2001 PORC Quarterly Meeting Minutes (March, June, September)
2000-2001 Nuclear Oversight quarterly report (Sept. 2000, Jan., April, July, Oct-2001)
2001 Peach Bottom Maintenance Verification Process Self Assessment (AR # A1283253)
Post 71114 Assessment of EP (AR A1321873)
Inservice Testing (IST) Program (AR A1313713)

Motor Operated Valve (MOV) Program (AR A1313715)
Annual Effectiveness Review, Operating Experience Program, February 2001

Condition Reports (CRs)

60037, 60107, 60440, 60443, 60517, 60561, 60573, 60597, 60619, 60650, 60717, 60718, 60772, 60774, 60782, 60861, 60899, 60902, 60920, 61007, 61063, 61064, 61142, 61165, 61182, 61196, 70730, 72114, 72381, 74274, 74836, 75311, 75912, 76096, 76107, 76276, 76433, 76741, 77089, 77286, 77882, 78062, 78325, 78437, 79037, 79965, 80937, 81006, 81188, 81291, 81414, 81445, 81768, 81897, 81988, 81949, 82014, 82019, 82027, 82032
PB-2001-6607, PB-2001-3780

Condition Reports Initiated for NRC Team Identified Issues

CR 81949 (and CR 82032) for core shroud head bolt torque issues,
CR 81291 and CR 82014 for a Unit 3 fuel spent pool leak (previously identified in AR 1340127),
CR 81445 for a repeat maintenance issue on the service water radiation monitor.
CR 80937 for a missed self-assessment by the Operations department.
CR 81188 for oil leak from the outer bearing of the #2 HPCI pump.
CR 81768 for oil leak from service water pump 2B bulls-eye sight glass.

Action Requests (ARs)

A1069361, A1106088, A1106092, A1216893, A1217235, A1240987, A1272677, A1275005, A1282149, A1282831, A1289502, A1286115, A1288943, A1291973, A1292748, A1293433, A1293742, A1294686, A1298139, A1299355, A1302530, A1303581, A1305786, A1306650, A1307709, A1313334, A1313713, A1317787, A1319813, A1324714, A1324971, A1325151, A1327885, A1329183, A1335061, A1337170, A1337187, A1340127, A1340599, A1342442, A1342740

Non-cited Violations (NCVs)

2000012-01, Inadequate Procedure, Torus/Drywell Vacuum Breakers
2000012-02, Condition Prohibited by Technical Specifications
2001005-01, Unit 3 HPCI MOV Surveillance Test
2001006-01, Units 2 and 3 HPCI Suction from Torus Check Valves IST
2001006-02, D/Gs Outside Design Basis, High River Water Temperature
2001012-01, Resolution of 10 CFR 50.54(t) Audit Finding
2001012-02, Annual Media Training Not Conducted
2001012-03, Annual Radiological Monitoring Program not Conducted

Miscellaneous Documents

PBAPS Emergency Response Organization Roster, 31 Oct 2001.
PBAPS July 26, 2001 EP Training Drill - Drill Report
6280-M-362, Core Spray Cooling System P&ID, Rev. 61
3D Monicore Periodic Logs 10/12/2001
Work Order # C0196850 Activity # 27, Jet Pump Cleaning
MA-PB-004-518, Jet Pump Out of core Cleaning, Rev. 0
MA-AA-716-040, Control of Portable Measurement and Test Equipment Program, Rev. 1
M-C-741-401 - Jet Pump Servicing

Security Equipment Status Report