AUG 27 1985

Docket Nos. 50-277
50-278

Philadelphia Electric Company
ATTN: Mr. S. L. Daltroff
Vice President, Electric Production
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Systematic Assessment of Licensee Performance (SALP)
Report Numbers 50-277/85-99 and 50-278/85-99

This refers to the SALP for the Peach Bottom Atomic Power Station, conducted by this office on May 13, 1985 and discussed with you and your staff at a meeting on June 12, 1985. The list of meeting attendees is attached as Enclosure 1. The NRC Region I SALP Report is provided as Enclosure 2 and covers the period January 1, 1984 to March 31, 1985. Your response dated July 9, 1985, submitted pursuant to our letter of June 7, 1985, provided comments on the SALP Report. These letters are provided as Enclosures 3 and 4.

Our overall assessment of activities at Peach Bottom during this period, found your performance to be acceptable. Improvement in two functional areas has resulted in high levels of performance in maintenance, licensing, and refueling/outage activities.

Our reviews during the assessment period conclude that some performance shortcomings exist in the areas of radiological controls, and security and safeguards. Additionally, management attention is warranted in the areas of control and oversight of contractors, and the effectiveness of training programs. We acknowledge your initiatives put forth in Enclosure 4, however, a review of the SALP history (provided in Enclosure 5) for Peach Bottom Units 2 and 3 indicates that a noticeable long-term positive impact on performance has not been achieved in many areas. Management attention to tracking and assuring the effectiveness of corrective action initiatives appears necessary to ensure improvement.

In the meeting on June 12, 1985, we discussed our assessment of your regulatory performance and received your comments on the SALP program and our assessment. We have considered your letter of July 9, 1985, and found no major differences of opinion regarding our assessment.

While our overall SALP conclusions have not changed since our letter of June 7, 1985 forwarded to you the SALP Report, we have amended section 5.5 and Table 5 regarding forced outages and unplanned automatic scrams. We have also made

OFFICIAL RECORD COPY GALLO8/16/85 - 0001.0.0
08/16/85

IE40
1/1

minor editorial and typographical corrections that did not affect our assessment or conclusions. We consider that our meeting and subsequent interchange of information were beneficial and improved mutual understanding of your activities and our regulatory program.

In accordance with 10 CFR 2.790(a), a copy of this letter and its enclosures will be placed in the NRC Public Document Room. No reply to this letter is required. Your actions in response to the NRC Systematic Assessment of Licensee Performance will be reviewed during future inspections of your licensed activities.

Your cooperation is appreciated.

Sincerely,

Original Signed By:

Thomas E. Murley
Regional Administrator

Enclosures:
1. SALP Management Meeting Attendees
2. NRC Region I Systematic Assessment of Licensee Performance, Peach Bottom Atomic Power Station, May 13, 1985
3. NRC Letter, T. Murley to S. L. Daltroff, June 7, 1985
4. PECo Letter, (SALP Report Comments) to Region I, July 1, 1985
5. Peach Bottom SALP History

cc w/encl:
V. S. Boyer, Senior Vice President, Nuclear Power
John S. Kemper, Vice President, Engineering and Research
R. S. Fleischmann, Station Superintendent
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistant General Counsel
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania
Chairman Palladino
Commissioner Bernthal
Commissioner Asselstine
Commissioner Roberts
Commissioner Zech

AUG 27 1985

bcc w/encl:
Region I Docket Room (with concurrences)
Senior Operations Officer (w/o encls)
Section Chief, DRP
J. M. Taylor, Director, Office of Inspection and Enforcement
DRP File 6.0
PAO
T. Murley

DRP	DRP	DRP	DRP	DEP RA	RA
Johnson/jc	Gallo	Collins	Starostecki	Allan	Murley
8/19	8/19	8/20	8/26/85		8/30

OFFICIAL RECORD COPY GALLO8/16/85 - 0003.0.0
08/16/85

Enclosure 1

PEACH BOTTOM MANAGEMENT MEETING ATTENDEES JUNE 12, 1985

Name	Title
U.S. Nuclear Regulatory Commission	
T. P. Johnson	Senior Resident Inspector, PBAPS
S. J. Collins	Chief, Reactor Projects Branch No. 2
J. H. Williams	Resident Inspector, PBAPS
J. F. Stolz	Branch Chief, DL/NRR
G. E. Gears	Project Manager, DL/NRR
R. W. Starostecki	Director, Division of Reactor Projects
T. E. Murley	Regional Administrator
D. J. Florek	Lead Reactor Engineer
R. M. Gallo	Chief, Projects Section 2A
Philadelphia Electric Company	
S. A. Spitko	Administrative Engineer, PBAPS
S. Q. Tharpe	Security Coordinator, PBAPS
R. J. Weindorfer	Assistant Director - Security
R. A. Kankus	Director, Emergency Preparedness
M. J. McCormick, Jr.	Superintendent, Maintenance Division
D. C. Smith	Superintendent Operations, PBAPS
S. L. Daltroff	Vice President, Electrical Production Department
M. J. Cooney	Manager, Nuclear Production
W. T. Ullrich	Superintendent, Nuclear Generation Division
R. S. Fleischmann	Manager, PBAPS
J. E. Winzenried	Superintendent Plant Services, PBAPS
W. M. Alden	Engineer-In-Charge, Licensing
P. K. Pavlides	Director of QA, Eng & Research Department
R. H. Moore	Superintendent, QA Division, EP Department
W. C. Birely	Senior Engineer, Licensing Section
A. E. Hilsmeier	Senior Health Physicist, PBAPS
W. H. Knapp	Director, Radiation Protection Section
C. A. Mengers	General Supervisor, Quality Assurance Division
S. R. Roberts	Operations Engineer, PBAPS
H. R. Abendroth	Atlantic City Electric Co - Site Engineer
R. W. Bulmer	Superintendent Nuclear Training Section
V. S. Boyer	Senior Vice President, Nuclear Power

ENCLOSURE 2

U. S. NUCLEAR REGULATORY COMMISSION
REGION I
SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE
Philadelphia Electric Company
PEACH BOTTOM ATOMIC POWER STATION
May 13, 1985

TABLE OF CONTENTS

I. INTRODUCTION

1.1 Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect the available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance to NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

An NRC SALP Board, composed of the staff members listed below, met on May 13, 1985, to review the collection of performance observations and data and to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's performance at the Peach Bottom Atomic Power Station for the period January 1, 1984 through March 31, 1985.

1.2 SALP Board:

R. W. Starostecki, Director, Division of Reactor Projects (DRP)
W. F. Kane, Deputy Director, Division of Reactor Projects (DRP)
T. T. Martin, Director, Division of Radiation Safety and Safeguards (DRSS)
S. D. Ebneter, Director, Division of Reactor Safety (DRS)
S. J. Collins, Chief, Projects Branch No. 2, DRP
R. M. Gallo, Chief, Reactor Projects Section 2A, DRP
J. F. Stolz, Chief, Operating Reactors Branch 4, NRR
G. Gears, Licensing Project Manager, NRR
T. P. Johnson, Senior Resident Inspector, Peach Bottom Atomic Power Station, Units 2 and 3

Other NRC Attendees:

J. E. Beall, Project Engineer, RPS 2A, DRP
J. H. Williams, Resident Inspector, Peach Bottom Atomic Power Station, Units 2 and 3

1.3 Background

Peach Bottom Units 2 and 3 were issued operating licenses on

October 25, 1973 (DPR-44) and July 2, 1974 (DPR-56), respectively. Unit 2 began commercial operation during July, 1974, and Unit 3 began commercial operation during December, 1974. Presently, Unit 2 is recovering from its sixth refueling/outage and Unit 3 is in power coast down from its sixth cycle. Major items of interest which occurred during the assessment period are depicted below.

(1) Licensee Activities

Unit 2

The unit operated at or near full power from January 1 through January 28, 1984. On January 28, 1984, a controlled shutdown was initiated to repair a leak on the RCIC testable check valve.

The unit returned to power on February 2, 1984, and on February 18, 1984, the unit was removed from service for Main Steam Isolation Valve (MSIV) and Feedwater Check Valve leak testing. During this outage, an inspection of the Torus Vent Header was conducted in response to generic BWR concerns. An isolated defect in the workmanship, associated with previous torus modifications, was identified and repaired. The unit returned to service on February 25, 1984.

Power reductions occurred on February 27, 1984, and again on March 2, 1984, for control rod pattern adjustments and condenser water box inspection and repair. At 2:19 a.m., on April 28, 1984, the unit was shutdown for refueling and a recirculation and RHR pipe replacement outage.

During May, 1984, the vessel head, steam dryer, and moisture separator were removed and all fuel was transferred from the reactor core to the spent fuel pool in preparation for pipe replacements. The new piping material is type 316 austenitic stainless steel (controlled chemistry) and is less susceptible to intergranular stress corrosion cracking.

In June, 1984, the core spray sparger inspection, repair of fuel pool gate cracks, Source Range Monitor and Intermediate Range Monitor instrument dry tube inspections, installation and testing of the jet pump diffuser plugs and installation of vessel annulus shielding in front of the suction nozzles of the recirculation loops were completed.

Installation of recirculation discharge nozzle caps was completed, measurements for head spray piping replacement were taken, all recirculation suction nozzles were cut, and pre-operational tests for chemical decontamination of the pipe to be removed were completed during July, 1984.

During August, 1984, after completion of the cutting and capping of the recirculation and RHR piping, the reactor vessel was flooded to the head flange and chemical decontamination of the piping started. The jet pump plugs were removed and jet beams were replaced. The recirculation and RHR piping was drained following completion of chemical decontamination, and the jet pump plugs were replaced and the vessel was flooded.

In September, 1984, control blade relocation and replacement, removal of the jet pump nozzle plugs, and radiography on the recirculation N-2 (safe end) nozzles were completed. The "A" and "B" recirculation suction and discharge valves were disassembled and removed from the drywell, and temporary reactor water cleanup pumps were installed in the reactor vessel.

During October, 1984, replacement of the nuclear instrument dry tubes in the reactor, head spray piping installation, and removal of the recirculation and Residual Heat Removal piping were completed. The "B" recirculation pump motor was removed from the drywell.

Both recirculation pump motors were uncoupled and removed from the drywell during November, 1984. Decontamination and inspection of both recirculation pump shafts and impellers,fitting of both the "A" and "B" recirculation loop ring headers, decontamination of the "A" and "B" loop recirculation loop valve bodies and pump bowls, removal of the recirculation pump flow splitters, replacement of two recirculation inlet safe ends, removal of two additional recirculation inlet safe ends, and replacement of the 3A feedwater heater were completed.

In December, 1984, January and February 1985, the major activity was pipe replacement and welding operations. Also, both "A" and "B" recirculation pump motors were returned to the drywell.

During March, 1985, all small bore pipe welds needed to support vessel fill were complete. The "A" and "B" recirculation pump seals were installed; the main steam drain valves were replaced; the four recirculation motor operated valves were reassembled; and the Residual Heat Removal valve which leaked during the primary recirculation pipe flush was repaired.

Unit 2 remained shut down for the refueling/pipe replacement outage at the end of the assessment period. Current plans project startup during June, 1985. In addition to replacing all the reactor recirculation piping, RHR (drywell portions), piping head spray and reactor water cleanup (drywell portions) piping, the ten recirculation inlet safe-ends and two jet pump penetration seals, a number of major modifications were performed.

Unit 3

The unit began the assessment period at full power. On January 14, 1984, the unit was removed from service due to flooding of the condensate pump pit which was caused by an open vent valve on a main condenser water box. The flooding of the condensate pump room resulted in damage to the condensate pump thrust bearings. During the manual scram on January 14, 1984, control rod (34-27) failed to insert within the prescribed time due to sticking of a scram pilot solenoid valve. The unit was returned to power on January 27, 1984.

On February 9, 1984, the unit shutdown on an automatic scram high neutron flux signal. The scram occurred following a trip of the "B" reactor feedwater pump due to high vibration. Loss of the feedpump initiated runback of recirculation pumps and main turbine. Turbine runback did not automatically terminate as designed, resulting in a reactor pressure transient that caused the high flux spike. Following repairs, the unit returned to service on February 10, 1984.

During March and April, 1984, load was reduced several times for inspection and tube plugging of the main condenser waterbox along with control rod pattern adjustments.

The unit was removed from service for a feedwater heater repair on June 2, 1984. The RCIC steam supply isolation valve was also repaired and tested during this outage. Since cracking had been found on the Unit 2 jet pump instrumentation nozzles, the Unit 3 nozzles were also checked during this outage and indications were found on both the A and B instrumentation nozzles. Weld overlay repairs were performed on both welds.

On July 11, 1984, the unit tripped when a lightning strike near the substation initiated a sequence of electrical breaker openings culminating in an automatic reactor scram. While the unit was shut down, a reactor water cleanup system isolation valve failed to open during a functional test. The valve operator was replaced to correct the problem. Also, an external leak on the condensate system drain cooler was repaired. The unit returned to service on July 15, 1984.

Unit 3 automatically scrammed due to a feedwater controller failure which resulted in a low reactor water level on August 21, 1984. Reactor startup commenced following completion of the work required to return an emergency diesel generator to service. The diesel generator had been out-of-service for a scheduled annual inspection. Unit startup was initiated August 24, 1984.

Load was reduced on September 29, 1984 for control rod pattern adjustment, condenser circulation pump repair, and condensate pump work.

On October 25, 1984, load was reduced to 80% power to reduce the high off-gas radiation levels of approximately 45,000 uCi/second and mitigate future fuel failures. After the power reduction, the off-gas radiation level was 24,000 uCi/second with the unit at 80% power.

The unit was shut down to repair the Traversing Incore Probe (TIP) machine and correct a 4 gpm unidentified leak inside the drywell on November 6, 1984. The unit returned to service on November 12, 1984. On November 14, the "B" recirculation pump tripped when water, leaking into a pressure switch, shorted its contact thus energizing the trip circuit of the pump motor. During the restart of the pump, the reactor scrammed on an Average Power Range Monitor (APRM) high flux signal caused by a small scram margin. The unit was returned to service on November 16, 1984. On November 24, 1984, load was reduced to repair condenser water box leaks.

The unit reduced power on December 1, 1984, to 65% power to repair condenser waterbox leaks. On December 10, 1984, the unit was removed from service for repair of offgas recombiner condenser tubes. While in hot standby, the "B" recirculation pump tripped on motor overcurrent. This was caused by the motor-generator set hydraulic coupling experiencing a scoop tube linkage failure. Following repairs to the recombiner condenser and the recirculation motor-generator set scoop tube positioner, and checkout of the MG set, pump motor and associated controls, the unit was returned to power. Load was reduced on December 15, 1984, for a control rod pattern adjustment. A special hydrogen water chemistry test was performed on December 17-20, 1984. The purpose of the test was to obtain data to evaluate the results of injecting hydrogen into the feedwater to reduce the oxygen concentration in the primary coolant as a pipe crack mitigation measure. The unit was operated at 90 to 100% power during the test. Load was reduced on December 20, 1984 to 85% power due to offgas radiation levels.

On January 5, 1985, load was reduced to 66% power to repair a broken test tap on the 3A condensate pump. The unit returned to 80% power on January 6, 1984. On January 7, 1984, the "A" loop torus cooling valve would not stroke and was declared inoperable. An Unusual Event was declared and shutdown was initiated on January 15, 1985, when the E-4

diesel generator and the "A" loop torus cooling valve were declared inoperable. The valve was returned to service by the time the unit reached 25%. The E-4 diesel generator was returned to service on January 21, 1985.

The unit was shut down on January 23, 1985, to clean the main generator exciter brushes. (An oil leak was causing a ground fault alarm.) On January 24, 1985, the unit returned to service and reached 90% power the next day.

The unit was taken out of service to perform required surveillance tests on February 1, 1985. Three of the eight Main Steam Isolation Valves (MSIV's) tested failed local leak rate testing and required repair prior to restart. Startup was begun on February 25, 1985. The unit was returned to service following repair to the 71L relief valve bellows and replacement of a solenoid valve which prevented closure of a reactor head vent valve (AO-17). Following repair of a drywell airlock door seal, the unit was returned to service on March 1, 1985.

Later on March 1, a scram was caused by condenser low vacuum resulting from a missing plug in a relief valve on the 2A feedwater heater. A metal plug was installed, several minor vacuum leaks were repaired and the unit was returned to service that same day. On March 9, 1985, load was reduced to 55% power for 43 hours to accommodate control rod pattern adjustment and helium leak testing of condenser waterboxes. Two small leaks were located and repaired. Unit operation (during power coast down prior to refueling) was limited to 90% power throughout the remainder of the assessment period due to high offgas activity.

(2) Inspection Activities

Two NRC resident inspectors were assigned to the site during the assessment period. The total NRC inspection hours for the assessment period was 5422 hours (resident and region-based) for the 15 month assessment period. The total inspection hours when normalized to a 12 month (1 year) period are equivalent to 4338 hours. Distribution of these hours for each functional area is depicted in Table 4. Details of inspection report activities is presented in Table 3.

Emergency plan team inspections were conducted on October 16-18, 1984 (annual emergency exercise) and on January 8-11, 1985.

An Operations Assessment Team Inspection to assess the Unit 2 pipe replacement outage was performed on July 16-20 and 23-27, 1984.

Special inspections were conducted as follows:

-- To review individual rod scramming on January 5-20, 1984.

-- To review security and safeguards on June 25-July 1, 1984.

-- To review inoperability of one diesel generator and one loop of containment cooling on January 15-18, 1985.

-- To review the contamination of several radiation workers on February 13-15, 1985.

The NRC Region I NDE Mobile Van was onsite for an inspection associated with Unit 2 pipe replacement on January 14-25, 1985.

The NRC Region I Mobile Radiological Measurements Laboratory was onsite for an inspection on January 28 thru February 1, 1985.

Major enforcement issues occurring during the assessment period are discussed in report Section 5.2. Table 2 lists specific enforcement data.

II. CRITERIA

The following criteria were used where appropriate in evaluating each functional area:

1. Management involvement in assuring quality.
2. Approach to resolution of technical issues from a safety standpoint.
3. Responsiveness to NRC initiatives.
4. Enforcement history.
5. Reporting and analysis of Licensee Event Reports, 50.55(e) reports and Part 21 items.
6. Staffing (including management).
7. Training effectiveness and qualification.

To provide a consistent evaluation of licensee performance, attributes associated with each criterion and describing the characteristics applicable to Category 1, 2 and 3 performance were applied as described in NRC Manual Chapter 0516, Part II and Table 1.

The SALP Board conclusions were categorized as follows:

Category 1: Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved.

Category 2: NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3: Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appeared strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

The SALP Board has also categorized the performance trend over the last quarter of the SALP assessment period. The categorization describes the general or prevailing tendency (the performance gradient) during the last quarter (January 1, 1985 to March 31, 1985) of the SALP period. The performance trends are defined as follows:

Improving: Licensee performance has generally improved over the last quarter of the SALP assessment period.

Consistent: Licensee performance has remained essentially constant over the last quarter of the SALP assessment period.

Declining: Licensee performance has generally declined over the last quarter of the SALP assessment period.

III. SUMMARY OF RESULTS

A. Overall Facility Evaluation

During this assessment period, Peach Bottom has demonstrated that they have a staff and managers who are technically knowedgeable and are involved in station activities affecting safety. The conduct of plant operations, maintenance activities and surveillance testing is sound and conservative. Licensee performance and response to NRC licensing issues and actions was generally timely and technically sound. Major weaknesses were identified in the functional areas of radiological controls and security/safeguards. The summary ratings of overall facility performance for each functional area, both during the current and previous assessment period, and trends, are depicted in Section III.D of this report.

The plant is generally operated conservatively and plant transients are handled well. Plant operators are well trained, technically knowledgeable, have demonstrated ability and are experienced. Improvement in adherence to procedures is evident and must continue.

The performance in the area of radiological controls has degraded during the current assessment period. A major contributing factor was the heavy radiological work load during the Unit 2 outage. A significant deficiency exists with regard to the ability to take effective corrective action to prevent recurrence of identified radiation protection problems. Also, the performance of security and safeguards has degraded markedly. Deficiencies exist in the performance of guards in carrying out their duties as required by the Security Plan, and in licensee oversight of the contractor guard force. Management involvement and development of improvement programs are warranted for these two areas.

Fire protection and housekeeping controls have improved somewhat during the current assessment period. Management continues to be involved in this area, in particular during the lengthy outage period during the assessment. Site QC remains involved in identification of housekeeping deficiencies. Continued management involvement in fire protection and housekeeping area is warranted.

B. Training Evaluation

The licensed operator training program (replacement and requalification) functions well. Training of QA personnel was observed in the area of QC inspectors and was evaluated as good. Mockup training for specific maintenance activities is good. Inadequate training in the area of radiological controls was identified in two areas: specific training of chemistry technicians who perform radwaste surveillances and training of the Radioactive Material Coordinator.

Training deficiencies were also identified for emergency plan personnel.

C. Quality Assurance Evaluation

Overall the QA organization is a licensee strength. The licensee has staffed the on site Electric Production Department (EPD) QC organization during the assessment period. Although, the QA organization is somewhat fragmented, it functions well. Weaknesses were identified in the Engineering and Research Department (E&R) QA system that tracks, corrective action for audit findings. Also, deficiencies were identified in the radiological controls problem identification and corrective actions. QA is evident in day-to-day plant operations as evidenced by QA personnel presence in the control room and in daily plant operations meetings. QC is also evident in the performance of plant housekeeping inspections.

D. Facility Performance

Functional Area	Category Last Period (March 1, 1983 to December 21, 1983)	Category This Period (January 1, 1984 to March 31, 1985)	Recent Trend
1. Plant Operations	2	2	Consistent
2. Radiological Controls	2	3	Consistent
3. Maintenance	2	1	Consistent
4. Surveillance	2	2	Consistent
5. Fire Protection & Housekeeping	2	2	Improving
6. Emergency Preparedness	2	2	Improving
7. Security and Safeguards	1	3	Consistent
8. Refueling/Outage Activities	2	1	Consistent
9. Licensing Activities	1	1	Declining

IV. FUNCTIONAL AREA ASSESSMENTS

4.1 Plant Operations (34%)

During this SALP period, resident inspections routinely reviewed plant operations; specialist inspections reviewed QA and QC programs, procurement, modifications, contractor controls, and response to generic issues.

Corporate and station management presence and involvement in plant operations provides appreciation for plant technical problems. Review of control room and plant activities and control room logs by on site management is frequent. Corporate management is on site often as evidenced by attendance at meetings and discussions with on site management personnel. Communications between groups in the plant appears to be effective. No significant problems were noted with respect to the level of decision making. Electric Production Department has issued a "Requirement and Guidelines" manual to provide policy guidance and clarify policy issues. Plant management has begun to issue newsletters to keep all plant workers informed of significant happenings and provide additional information which may be of interest to workers.

As noted in previous SALP assessments, control room operators response to plant transients was a strength and continues to be so. Operators use the symptom-based emergency operating procedures effectively. During a low probability event such as the earthquake of April 22, 1984, the operator took the proper actions. Establishment of the "Inside Supervisor" position, an SRO in the control room at all times has provided additional depth to the control room capability. The STAs function well with the other shift members. The operators work well with and respect the function of the STA.

The licensed operators take pride in their control room and related activities. They are knowledgeable of overall plant status as exhibited by documentation in the shift turnover checklists and personal interviews. There is no evidence of control room distractions. Noise level is generally controlled so as not to interfere with control room activities; however, there have been a few observed occasions of shouting in the control room (not related to duties). Access to the general control room area is restricted only by the vital area doors. However, there are control room floor boundary tape markings where access to the control room panels and controls is limited to authorized personnel only. The overall control room appearance is good with no evidence of inappropriate material. General area cleanliness is also good.

Adherence to procedures and attention to detail in safety-related equipment lineups have been generally adequate. However, there were

several instances where lapses occurred in following procedures, such as exceeding heatup rate limits (Units 2 and 3), pressurizing the reactor vessel above limits (Unit 3), mode switch in improper position (Unit 3), and exceeding the torus water level limit (Unit 3). A civil penalty was assessed for pressurizing the reactor vessel above limits and exceeding the heatup rate. Another example of lack of operator attention to procedural details occurred when the Unit 3 operators took a redundant safety system (HPCI) out of service before permitted by technical specifications. The licensee took appropriate corrective actions regarding safety system operability including reinstruction of operators.

The licensee's return to power operations following outage periods is generally smooth and well controlled. However, following the Unit 3 shutdown in February, 1985, for maintenance and testing the return to power operations was hindered due to problems associated with a main steam safety relief valve, leakage from the drywell air lock and a scram on loss of vacuum. The operators handled these problems professionally. At the time of the SALP board, Unit 2 continues to be shut down in a refueling/outage period and related items for refueling/outage activities are addressed in Section 4.8.

During June, 1984, an NRC Order Modifying License (see Section 5.2) was issued. This Order resulted from the establishment of a licensee practice of individually scramming control rods during controlled shutdowns without adequate safety reviews as required by 10 CFR 50.59. The individual rod scramming resulted in effectively bypassing the functions of Rod Worth Minimizer (RWM) and the Rod Sequence Control System (RSCS). The Order requires the licensee to perform an assessment of the safety review process, to conduct a review of station procedures and to ensure personnel involved in the procedure review and approval process are aware of the licensing bases. The Operations Analysis Corporation, the contractor who performed the safety review process appraisal, concluded that the licensee's process for safety evaluations was adequate. However, the existing controls for safety reviews of procedure changes were determined to be ineffective. The licensee's review of station procedures is currently ongoing with a scheduled completion date of September 1985. The licensee's review of personnel qualifications associated with the procedure change process was completed on February 25, 1985.

The on site review committee (PORC) appears to be functioning well based upon observation by inspectors at PORC meetings. The Station Superintendent appears to be utilizing the PORC in an effective manner, as evidenced by the frequency of meetings and scope of questioning of items brought before PORC. As an example, although plant procedures did not require PORC to review and approve the modification test results, PORC chose to review the completed Modification Acceptance Tests as well as the test procedures for Unit 2. The PORC takes an active part in contributing to operational safety.

Several strengths were noted in the licensee's overall QA programs. These include the following: positive welder identification through the use of photographs, more conservative requirements for the evaluation of ASME NDE results, and independent audits of vendors previously audited and accepted by a contractor. In response to the last SALP assessment, the licensee has staffed the EPD site QC organization with well qualified contractor personnel. Licensee personnel have been selected for on-the-job training to fill the QC positions permanently. These personnel are currently one-on-one training with the contractor personnel in order to qualify the licensee personnel for the QC positions.

EPD QA routinely monitors shift turnover and control room activities. Management involvement in QA is evident, staffing is adequate, and audit activities by the licensee are generally effective. However, the E&R QA system for tracking corrective actions was noted to be weak in that audit findings remained open for a long time. The multi-departmental organization results in a somewhat fragmented QA program whereby QA activities are divided among those departments. Despite the fragmentation, the QA program is effective, but some implementation problems have been observed. For example, problems with the storage of safety grade pipe, control over access to the storage area, and mixing Q and non-Q items were identified. The licensee has initiated corrective actions in this area, and this item will be reviewed during future NRC inspections.

A well organized system is in place for tracking IE Bulletins which results in adequate documentation regarding each item. The system results in technically justified closeout when the required actions are completed. Implementation of the system indicates a large degree of involvement and control by management. However, response to NRC inspection issues is not always timely and limited management attention has been paid to this area. Additional management attention is required to closeout open NRC inspection findings.

The LER process is adequate as demonstrated by NRC review of licensee submittals. LERs are further discussed in Section 5.4.

No difficulty has been observed in obtaining the necessary records to complete NRC reviews. Minor administrative errors were found in the control of piping and instrument drawings (P&IDs) and the maintenance of controlled copies of procedures. These problems identified were not of any major significance, however, it was determined that Quality Assurance had identified similar problems in three previous audits (October 1982, November 1983, and February 1984), thus indicating that initial licensee corrective actions were inadequate. Subsequent corrective action in these deficient areas resulted in overall improvements in document control.

The previous SALP assessment recommended that the licensee move forward with the independent safety assessment activities. The licensee has established a functional onsite Independent Safety Engineering Group (ISEG). A concern with the simultaneous inoperability of the containment cooling subsystem and one diesel generator resulted in the licensee initiating a daily review by the ISEG of safety equipment out of service and the effect on plant operations. Further licensee review of ISEG activities appears warranted to move clearly define its functions and responsibilities.

The licensee's training program has resulted in four operators and three senior operators being licensed with only one operator candidate failing an NRC written examination. In addition, three candidates passed the senior operators examination as part of intructor qualifications. No significant areas of weakness were noted during the examinations and no suggestions for improvement in training programs were made as a result of the examinations. Overall, the licensee's replacement operator training program appears to be satisfactory as evidenced by performance on NRC administered examinations.

Conclusion:

Rating: Category 2

Trend: Consistent

Recommendations:

Licensee

Evalute the causes of the forced outages and unplanned scrams with respect to plant operations, maintenance and testing activities.

NRC

Review licensee's actions from the appraisal plan recommendations resulting from the NRC Order. Observe the offsite review committee activities.

4.2 Radiological Controls (9%)

Inspection efforts in this area included 10 inspections by Radiation Specialists in the program areas detailed below. Day-to-day review of ongoing activities was provided by the resident inspectors.

The overall area of radiological controls has degraded primarily due to poor performance in radiation protection. Problems were noted in several of the program areas reviewed. The Unit 2 pipe replacement outage placed a strain on the radiological controls area. During the previous assessment period, improvement from Category 3 to Category 2 performance was noted. During this assessment period, programmatic weaknesses were noted in radiation protection and transportation.

Radiation Protection

Eight inspections, including six special inspections relating to the piping replacement radiation protection program, identified problems in the areas of training and qualification of personnel, in procedural adherence and in assessment and control of radiological conditions.

The licensee's radiation protection supervisory personnel and quality assurance activities were at times ineffective in problem identification and correction. Responsibility for assessing the radiological practices associated with on-going radiological operations appeared fragmented.

The apparent inability on the part of the licensee to take effective corrective action to prevent recurrence of radiation protection problems is of concern. In June and August 1984, the licensee did not provide specific radiological exposure controls in radiation work permits nor did they thoroughly evaluate radiological conditions during the Unit 2 drywell work. In February 1985, the licensee again did not provide specific radiological exposure controls in radiation work permits nor did they evaluate the radiological conditions associated with work on the "81A" valve of the RHR system. The corrective action system did not recognize nor address a problem in radiological controls involving valve "81A" on February 3, 1985. As a result, a similar problem occurred on February 10, 1985 at the same valve with a significant potential for serious radiation exposures to drywell workers. At the March 4, 1985, Enforcement Conference, the licensee presented additional management controls to address this concern for recurring radiation protection problems. A number of immediate corrective actions were implemented by the licensee, and reviewed as being satisfactory by the NRC. Further improvements in this area remain to be completed.

Occasional poor understanding of and adherence to radiation protection procedures were noted. Examples include: correction factors were not developed and applied to personnel monitoring devices; Health

Physics technicians, assigned to the piping replacement, were not trained in four radiation protection procedures defining their duties and responsibilities; dosimetry personnel did not receive formal training and determination of their competency in the tasks assigned to them; a radiation worker failed to exit the drywell promptly when his audible-alarming dosimeter indicated his administrative dose limit had been reached; several radiation workers entered valve "81A" without adequate knowledge of the radiological status of their work area; procedures for operation of the whole body counting system were not provided; guidance for the issuance and use of extremity and other supplementary personnel monitoring devices was not provided; and, source checks for operability of audible-alarming dosimeters used to control exposures in high radiation areas were not required. Licensee corrective actions were implemented for each deficient condition. Corrective action for most of these items have been completed and the review of the remaining items is pending.

The licensee's exposure control program is good as evidenced by maintaining personnel radiation exposure within the estimates for the Unit 2 refueling/outage. No personnel overexposures occurred during the period.

The licensee's facilities and equipment were reviewed during the assessment period and were found to be generally adequate to support normal and outage operations.

Management attention was directed to providing a defined ALARA program to support Unit 2 piping replacement. During the planning and preparation for the piping replacement, the piping replacement contractor developed instructions for the pre-job planning to control radiation exposures, mockup training for piping replacement personnel and radiation exposure tracking throughout the operation. The licensee kept abreast of other ALARA programs for BWR pipe replacement outages and considered their experiences in Peach Bottom ALARA planning. The licensee adopted the ALARA instructions and implemented them into controlled station procedures. However, the licensee did not adequately review the interface between the ALARA instructions and existing station procedures. Two procedures, with differing requirements, were used to identify, report and correct radiological deficiencies. When identified by the NRC, the licensee promptly took action to make the procedures comparable.

Radioactive Waste Management and Effluent Monitoring

The review of the radwaste organizational structure indicated that it was consistent with Section 6 of the licensee's Technical Specifications.

Two inspections, including the Operations Assessment Team Inspection, identified several problems and weaknesses in the licensee's radwaste program primarily due to an occasional lack of management attention to detail to assure quality. No effluent release limits were exceeded.

The review of the licensee's selection, training and qualification of personnel indicated a weakness in the training program to maintain proficiency of the radwaste staff. The licensee did not have a periodic retraining program for chemistry technicians performing surveillance tests on liquid radwaste equipment. Actions to ensure that safety evaluations were completed for contractor-operated temporary radioactive waste disposal operations to support Unit 2 pipe replacement were not taken by the licensee prior to their arrival and setup for operation. When the lack of safety evaluations was identified by the NRC, the licensee took prompt action to prevent waste disposal operations before the safety evaluations were completed.

The review of the licensee's radwaste quality assurance program indicated that audits of the radwaste program were performed in accordance with licensee requirements. However, a problem with assuring compliance with 10 CFR 61.56 was noted. In December, 1984, a cask containing solidified resins from the Unit 2 pipe decontamination released a flammable gas and a radioactive aerosol which resulted in measurable contamination and intake of radioactive materials by two workers. The licensee did not properly evaluate the generation of the gas and its potential release during handling preparatory to shipment. The licensee added precautionary measures for future radwaste processes and has initiated a formal evaluation of the radwaste program at Peach Bottom.

One Licensee Event Report (LER) was issued by the licensee in this area (LER 2-84-06). In March, 1984, a leak in the "2B" RHR heat exchanger was discovered which resulted in a discharge of approximately 65 microcuries per day, and an estimated total release of 1,170 to 2,150 microcuries to the environment. The "2B" RHR heat exchanger was repaired and returned to service.

The licensee implemented a program to reduce the amount of solid radwaste at the station. This program is referred to as "green is clean". (The clean trash receptacles are painted green.) This program has reduced the amount of solid radwaste generated on site.

Transportation

An inspection of the transportation program identified several problems primarily due to an ineffective training program for the licensee's staff. The training program in transportation did not

properly train the Radioactive Material Coordinator and non-licensed operations personnel in NRC or DOT Regulations to assure that suitable proficiency was achieved and maintained. Non-licensed operations personnel were not trained in NRC and DOT Regulations and appropriate procedures during 1981, 1982 and 1983 as committed to the NRC by the licensee in response to Bulletin No. 79-19. By December 1984, the Radioactive Material Coordinator, Shift Supervisors and the non-licensed operations personnel had received training.

The lack of an effective training and qualification program in transportation requirements and procedures was a major contributing factor to an inadequate understanding of the transportation regulations and led to problems in classification and certification of shipments. Three waste shipments identified were improperly classified. The Shift Supervisor certified that the shipments were properly classified when they were not. The licensee revised the appropriate procedures and counseled the individual involved.

Although the licensee's quality assurance audit program identified the lack of training, the audit program for transport packages did not address the applicable criteria of a quality assurance program for transport packages as defined in Appendix B, 10 CFR 50. This weakness suggests a lack of technical expertise in transport package reviews conducted by the quality assurance organization.

Conclusion:

Licensee performance in radiological controls has degraded since the last assessment period. Increased management attention is required in work planning, training, procedures and corrective action.

Rating: Category 3

Trend: Consistent

Recommendations:

Licensee

Consider a third party audit and assessment of corporate and onsite radiological controls and related activities.

NRC

Within six months, conduct a team inspection and perform an NRC assessment of radiological controls. Conduct a licensee management meeting to discuss licensee actions and current status of the Peach Bottom radiological control program.

4.3 Maintenance (8%)

Maintenance activities were reviewed during each resident inspection. Various specialist inspections reviewed maintenance and related activities during reviews of plant modifications, responses to IE Bulletins, reviews of corrective and preventive maintenance programs, and reviews of maintenance associated with the Unit 2 pipe replacement outage.

Last assessment period maintenance was evaluated as Category 2. Deficient areas included lack of aggressiveness with respect to minor maintenance items, maintenance performed using measuring and test equipment that was out of tolerance, and inadequate overview of vendor activities engaged in maintenance.

Overall, improvement was noted during the current assessment period. Management is appropriately involved in the maintenance programs and associated activities. The maintenance organizations are well staffed with knowledgeable and experienced supervisors and craft. Management and engineering personnel are directly involved in support of maintenance activities. Large maintenance tasks are well planned and executed. Training and pre-job briefings are conducted adequately in order to minimize the maintenance activities' impact on overall schedule and to ensure that the maintenance tasks proceed smoothly. This is evidenced by the recent control rod drive (CRD) changeout at Unit 2. The maintenance was well planned, training was given (including mockup training) to individuals involved, pre-job briefings occurred, the ALARA program for the changeout was excellent, and problems were handled adequately as they occurred. In all, the CRD changeout activity and associated maintenance tasks went well and on schedule.

Maintenance is adequately conducted in accordance with administrative procedures and specific maintenance procedures. Maintenance procedures are detailed step by step and provide the maintenance technicians adequate guidance. Administrative controls associated with the Maintenance Request Form (MRF) are adequate. A problem was noted however, regarding maintenance procedures directly referencing drawings (i.e., part No.) that were not attached as required. Also several maintenance division administrative procedures were identified as overdue for their periodic review. The licensee reviewed these procedures, and initiated revisions as necessary. NRC review of licensee action is pending.

An inspection was conducted to ensure that maintenance activities are given proper review for the identification of equipment failures, trends and root causes, and that the documentation systems are organized to support evaluations. A computerized system for maintenance management and documentation is now being used to

provide a better capability for researching equipment history and for trending equipment failures. The licensee is adequately addressing repetitive equipment problems and searching for the root causes of failures.

Major equipment deficiencies continue to receive prompt and appropriate attention consistent with safety and technical specification requirements. Examples during the assessment period include safety relief valve failures, ECCS pump and valve malfunctions, main steam isolation valve (MSIV) leakage and safety-related instrument failures. Corrective maintenance is at times not successful in repairing the deficient condition. However, problems are detected during post-maintenance checkout and testing, and repairs are initiated again. For example, additional repair of MSIV seat leakage was required after initial repairs did not correct the leakage.

During the assessment period, the licensee completed the development of an upgraded preventive maintenance (PM) program and began its implementation. This PM system has the capability to provide feedback information for maintenance procedure revision.

Control of major modifications by the use of a Construction Job Memo is effective for simple modifications. The Construction Job Memo details the scope of work and references drawings, specifications and construction procedures and appears to be implemented effectively. More complicated modifications are controlled by the use of work instructions for each item of the modification.

Personnel are well qualified and familiar with the work demonstrating an effective training program. QA/QC training regarding applicable procedures is provided. Strong management involvement and control is demonstrated by continuing surveillance and coordination by licensee personnel. An example of this was the torus modification requirements and work procedures which were clearly established and well organized. Hold points for QC and ANI inspection were clearly identified.

Management involvement was further demonstrated by the issuance of general and special instructions which controlled the work. Documentation for completed work was readily available and complete. Changes are closely controlled, approved by engineering and independently reviewed.

The long delays associated with the documentation of change approval points out a need for increased management attention in this area. Further evidence of the need for increased attention was identified in the case of electrical modifications where installation drawings were found to lack sufficient detail for their intended use and inexperienced personnel reviewed those drawings.

Evidence of strong management involvement was identified in the areas of post maintenance testing. Test requirements are reviewed by management, testing is completed in a timely manner and the licensee's tracking system assures that testing is completed prior to system startup.

In summary, maintenance is well planned and performed in accordance with procedures. Management is involved in all aspects of maintenance activities.

Conclusion:

Rating: Category 1

Trend: Consistent

Recommendations:

Licensee

None

NRC

None

4.4 Surveillance (3%)

In the current assessment period, one region-based inspector conducted an inspection of the containment local leak rate test program. Specialist inspections by region-based inspectors also reviewed surveillances applicable to health physics, fire protection, refueling equipment, maintenance activities, snubbers, emergency preparedness, and environmental monitoring. Resident inspectors reviewed selected program areas each month.

The previous assessment period noted the following problems regarding surveillance test activities: improper restoration from a calibration procedure resulting in primary containment integrity degradation, use of incorrect revisions of surveillance test procedures, and programmatic weakness with the control of measuring and test equipment.

Inspections during this period confirmed that the surveillance testing programs are technically sound and generally well-planned. Staffing of the various groups responsible for conducting surveillance testing appears adequate. Surveillance test procedures continue to be systematically upgraded to provide for better control, improved documentation, and independent verification as an integral part of the procedure. Management involvement is evident in ensuring that changes to surveillance requirements, such as those resulting from Technical Specification Amendments, are properly implemented.

Some implementation problems associated with the surveillance test program occurred during this assessment period. These problem areas were associated with the escalated enforcement action early in assessment period, and are as follows: surveillance tests not completed after the tests had begun, specific steps required by TS not denoted as such, inadequate review of surveillance results by technical personnel and failure to follow a surveillance test procedure. These deficiencies, along with other problem areas, are currently being addressed in the licensee's response to the NRC Order of June 18, 1984. Surveillance procedures are being reviewed by an appraisal team as required by NRC Order (Section 4.1).

Quality Assurance (QA) involvement in surveillance is generally appropriate. QA audits include a broad scope review of completed surveillances. Surveillances are observed during audits of individual functional areas.

Containment local leak rate testing (LLRT) for Unit 3 was reviewed in detail during the assessment period. LLRT is generally performed in accordance with appropriate test procedures, with calibrated instrumentation, by qualified test personnel and with adequate QC monitoring. One area of concern was identified with regards to the licensee's method of tracking and computing as found leak rate value at time of plant shutdown.

The existing method does not adequately demonstrate compliance with 10 CFR 50, Appendix J, combined local leak rate test acceptance criteria. License review of this calculational method is in progress.

In summary, although problems were identified early in the assessment period, the surveillance program has improved, with further improvement attainable through the following: continued management, supervisory, and QC attention to upgrading of attention to detail, especially with respect to equipment lineups; and supervisory and management attention to the thorough review and evaluation of test data, as well as to identification and correction of deficiencies in the approved procedures.

Conclusion:

Rating: Category 2

Trend: Consistent

Recommendations:

Licensee

Increase management, supervisory and QC involvement in surveillance test conduct, test review, system restoration and procedure upgrades.

NRC

None

4.5 Fire Protection/Housekeeping (1%)

In the current assessment period, fire protection and housekeeping was reviewed during one specialist inspection and as part of each resident inspection.

During the previous assessment period the licensee made significant improvement in the areas of housekeeping and in-plant fire protection. Fire brigade training, fire barrier integrity, maintenance and coordination of the fire protection program were identified as areas requiring improvement and increased management attention.

During the current assessment period continued efforts of management to maintain good housekeeping and fire protection controls were apparent. Management administrative controls were strengthened and changes were incorporated to increase monitoring activities regarding fire brigade personnel training which resulted in maintaining the required level of training. Additionally, procedures were revised to reflect the requirements of current regulations and the present site organization. The site position of Fire Protection Coordinator which had been vacant for sometime, has been filled.

A continuing weakness that is evident is the maintenance of fire barriers. This is attributed to a lack of management attention in the pursuit of resolutions to related issues. This is evidenced by the following conditions noted regarding fire doors: door closer not working properly, doors found open and unlisted doors (UL label missing).

Access to fire fighting equipment stations was identified as a problem area during previous assessment periods. One instance of blocking fire extinguisher access was noted during this assessment period on the Unit 2 refueling floor. The licensee subsequently installed fire equipment location signs on both units' refueling floors.

During the annual emergency exercise, the scenario included a fire in the auxiliary boiler building. This required activation and response of the on-site fire brigade, and assistance of the off-site fire organization. The fire brigade responded promptly to the fire scene and there were excellent coordination and strategy discussions between the fire brigade leader and the off-site fire chief. Minor exercise deficiencies were noted and were corrected by the licensee.

With Unit 2 in a pipe replacement/refueling outage during 11 months of the assessment period and during other outages associated with Unit 3, housekeeping conditions were monitored closely. A few small fires occurred that were associated with poor housekeeping activities.

The site QC group was given responsibility for evaluating housekeeping and they appeared to be effective in early identification and resolution of housekeeping discrepancies. Housekeeping conditions, noted problem areas and corrective actions were routinely discussed at the daily and weekly outage meetings.

During the special Operations Assessment Team Inspection for Unit 2, noted deficiencies in the drywell regarding housekeeping and tool control were observed. Specific problems included: small tools scattered about, metal machining chips not collected, removed mirror insulation left laying around, and hoses strewn about. These conditions increased the possibility of the instrusion of small items into piping systems, contaminated injury to workers and other unwarranted conditions. When these items were brought to the attention of the licensee, drywell work was stopped and a general area cleanup was immediately conducted. Subsequently, the drywell conditions were monitored periodically and found to be acceptable.

Overall, fire protection and housekeeping has improved. Continued management attention to the identified weak areas will lead to further improvements.

Conclusion:

Rating: Category 2

Trend: Improving

Recommendations:

Licensee

Maintain senior corporate and station management attention toward good housekeeping and fire protection habits at the station and seek methods for further improvements in this area.

NRC

None

4.6 Emergency Preparedness (10%)

Two region-based inspections were conducted during the assessment period, including the annual emergency exercise. The resident inspectors monitored the licensees' performance throughout the period.

During the previous assessment period, inadequacies were identified in the management review and administrative followup of emergency preparedness training programs. Significant weaknesses were identified in the Health Physics area during the June 1983 exercise. A confirmatory letter was issued outlining the corrective action commitments. A successful remedial in-plant Health Physics drill was observed by the NRC in August 1983.

During this assessment period, an annual full participation emergency exercise was conducted in October 1984. The area of Health Physics control improved significantly compared to the previous exercise. A weakness with the review of procedures for compatibility with plant equipment was identified during the exercise. The emergency procedure which identified emergency action levels based on the reactor building and main stack radiation monitors specified emergency action levels that were above the full scale capabilities of the associated radiation monitoring instrumentation. The licensee modified the appropriate emergency procedure and the NRC found the procedure acceptable.

A subsequent inspection in January 1985 identified problems in 3 areas. Personnel were identified who did not have all of the required training for the positions in the emergency organization to which they were assigned. Appendices to the emergency plan, which contain the names and telephone numbers of personnel to be contacted in an emergency, were 17 months overdue for updating. Some names and numbers were incorrect. The third weakness was the licensees audit program which did not follow up on previously identified deficiencies in the emergency preparedness area. Licensee corrective actions and NRC review of the actions, are pending.

The licensee is currently revising and updating the emergency plan procedures and training program. A permanent site Emergency Preparedness Coordinator position has been established rather than a rotating 1 year assignment. A strengthened corporate management involvement has been apparent in recent activities.

Conclusion:

Rating: Category 2

Trend: Improving

Recommendations:

Licensee

Continue current level of corporate management involvement to further improve this area.

NRC

None

4.7 Security and Safeguards (4%)

Three unannounced physical protection inspections were performed during the assessment period by region-based inspectors. Routine resident inspections continued throughout the assessment period.

During June 1984, with Unit 2 in a major outage, a physical security inspection noted numerous problems and an enforcement conference resulted. NRC inspection findings were addressed by the licensee during the enforcement conference and actions to prevent recurrence for several issues were provided at that time. More complex issues required additional review and actions by the licensee in order to develop appropriate corrective actions. The security problems were cumulatively cited at the Level III severity for the licensee's failure to exercise proper supervision and oversight of the contract guard force.

In reviewing the security deficiencies that were observed during the outage, of particular concern was the fact that members of the security force did not respond to alarms in vital areas of the plant. The failure to respond to alarms was compounded by the fact that the capacity of the security computer to monitor alarms had been reached. Security force members apparently did not recognize the seriousness of the problems nor did they escalate their awareness that the problems existed. Neither the contract security supervisors nor licensee management were providing sufficient oversight of the guard force; and, they were either unaware of or did not recognize these events as a serious security system breakdown. Further, the contractor's security supervisors and licensee security management were aware of the potential for the computer overload problem, but did not provide for this contingency and take the appropriate corrective action.

The need for an assistant site security supervisor position was recognized by the licensee prior to the outage. However, the licensee management failed to give adequate priority to the filling of this position. As a result, a position essential to maintaining licensee oversight of the contract guard force, particularly important during a major maintenance outage, was not filled. This vacancy, along with the resulting poor corporate and site security management oversight during the outage, are considered to be the major contributors to the security program problems identifed during a June, 1984 inspection. However, security program implementation during periods of routine plant operation was considered adequate.

The security contractor's general performance level decreased considerably since the last assessment period, as evidenced by the problems involving ineffective supervision, personnel not following procedures and inadequate response to alarms. Also, the quality of security force training appeared to have decreased or

was less effective during this period, as evidenced by an increase in personnel errors. This may have been exacerbated by inadequate management attention.

Seven security event reports were submitted pursuant to the requirements of 10 CFR 73.71. Three reports pertained to computer failure, three described security personnel errors (two involving placement of vital area doors in access, and the other, a guard intentionally alarming a zone), and one involved evacuating the Central Alarm Station because of a fire protection system alarm. Although all events were adequately handled, the three events involving personnel errors could have resulted in undetected access to vital areas. Further, the report describing the CAS evacuation was inaccurate as initially submitted. NRC review of the incident revealed that the inaccurate report was the result of poor communication between the site security supervisor and contract security management and inadequate follow-up of the incident by security management. A corrected report was subsequently submitted.

The licensee was responsive to regional concerns and to questions regarding 3 revisions to the Security Plan and 1 revision to the Training and Qualification Plan. The format and content of these revisions were considered satisfactory.

Conclusion:

Rating: Category 3

Trend: Consistent

Recommendations:

Licensee

Increase licensee management oversight and control of the contractor security force on a day-to-day basis. Provide for periodic assessment of the adequacy of program implementation.

NRC

Resident Inspectors provide monitoring of improvements for licensee actions. Region I perform a programmatic review of security and safeguards within 6 months to assess licensee performance.

4.8 Refueling/Outage Activities (31%)

In the current assessment period, both units experienced outages. Unit 2 was shutdown on April 28, 1984, to replace recirculation system and RHR system pipe inside the drywell and to refuel. A large number of other modifications were done while Unit 2 was down. The unit has been out-of-service from April 28, 1984, through the rest of the SALP report period. Unit 3 was shut down in February 1985, for about three weeks to conduct required maintenance and surveillance testing. This assessment focuses on the Unit 2 activities which have been extensive. The outage required large numbers of support personnel, both licensee and contractor. During this time staffing appeared adequate except for isolated security and radiation protection areas discussed in Sections 4.2 and 4.7, respectively. Inspections did not reveal any problems with lack of adequate staffing during the outage.

Aspects of outage activities assessed during this period included QA and QC, modification control, modification acceptance testing, ALARA activities, welding, purchasing, ISI, NDE, control of contractors, committee (PORC) activities, management control and involvement, procedural adequacy and adherence, planning, audits, and response to generic issues. The inspections found that the technical aspect of the pipe replacement activities is a strength.

Pipe replacement management personnel were actively involved in the project. Daily outage meetings and biweekly Project Review Meetings were held to keep all management knowledgeable of the project. Contractor site management was intimately involved in day-to-day program activities. The licensee's project engineers were found to be knowledgeable of day to day activities of the contractors and interfaced well with corporate, site and contractor personnel. Early in the project it was determined that contractor specifications were used for procurement prior to obtaining licensee approval and this caused some problems. The licensee indicated that he had reviewed a draft of the specification to assure compliance with the ASME code and later made changes which were enhancements beyond the Code requirements. The prior approval of draft specifications caused the problem with the weld buildup, since the specification enhancement prohibited buildup, on pipe pieces received by the licensee. The licensee initiated corrective action to evaluate each pipe piece for conformance to code and specification requirements.

Management involvement and control in assuring quality was demonstrated by the decisions regarding surface conditioning of the replacement pipes to aid in ultrasonic examination results interpretation. Further control was evidenced by the establishment of plans and schedules to assure an orderly progression of the work activity and to assure that ASME code requirements were met regarding preservice inspection. In the area of nondestructive examination management

control was demonstrated by the thoroughness and effectiveness of the licensee audits which in two separate instances, identified vendor errors regarding radiographic film interpretation.

The licensee shows strength in the resolution of technical issues from a safety standpoint. The licensee implemented Quality Assurance provisions that exceeded requirements in a number of instances. For example, they added more conservative requirements to the contractors ASME approved QA program in that they required the contractor to include safety related nonpressure retaining parts in the ASME program. The licensee also places a strong emphasis on QA observations, at random times, of on-going activities.

During this assessment period, the licensee has been responsive to NRC initiatives. The staff had identified a concern regarding the lack of provisions taken to assure that all plant systems and components that could be impacted by the pipe replacement program were in acceptable condition prior to restart. The licensee formed an experienced team (Major Outage Recovery Effort - MORE Team) of engineers to be responsible for the activities associated with restoring to service drywell components and systems affected by the outage. The MORE Team has developed a comprehensive set of tests to cover all drywell activities and systems. In addition, the MORE Team verified that components and systems were satisfactory and indicated that CBI, PECo construction and PECo Electric Production were all planning drywell walkdowns to check out components. The MORE Team activities adequately addressed the NRC concern.

During the core alteration phase of the outage, operators were not aware of a procedural requirement to verify refueling interlocks but when the licensee was informed, he issued a comprehensive "shift-meeting notice" dealing with responsibilities of operators during core alterations. When concerns were identified regarding the ALARA aspects of replacement work on the N-2 nozzles the licensee stopped all work on the nozzles until a decision was made on nozzle replacement. The ALARA concerns were adequately addressed and nozzle work resumed.

Training and personnel qualifications of outage workers were in general good, because of the high standards set by the licensee. Welders and NDE personnel were normally qualified to higher levels than called for by the specifications. In addition, the licensee made extensive use of mockups for training and qualification which helped keep radiation exposure within the outage specific ALARA guidelines.

Maintenance of industrial and fire safety during the outage has been adequate. There have been relatively few accidents during the outage. Fires have been minor and handled effectively by the licensee.

Conclusion:

Rating: Category 1

Trend: Consistent

Recommendations:

Licensee

None

NRC

Continue routine inspection of recovery activites and provide specialist inspectors for Unit 2 restart activities.

4.9 Licensing Activities

The approach used for this evaluation was to select a number of licensing issues which involved a significant amount of staff effort or which related to important safety or regulatory issues for the period from January 1, 1984 to March 31, 1985. In most cases the staff applied the evaluation criterion for the performance attributes based on their first hand experience with the licensee or with the licensee's submittals. This areas was rated as Category I during the previous assessment.

Actions during this period included licensee requests for license amendments, responses to generic letters, and various submittals of information for multi-plant and NUREG-0737 actions. Active actions during this period are classified below. A total of 74 licensing actions were completed as noted in Table 6. In addition to these specific issues, the licensee was evaluated for overall general performance in the many day-to-day issues which arise.

In general, the licensee's management participated in licensing activities in a manner appropriate for the significance of the issue. There has been strong management involvement concerning licensing activities pertaining to Unit 2 pipe replacement and continued oversight of the Appendix R Fire Protection Program.

A trend developed in this period where management involvement and control did not appear to be fully functional. One such example was a TS change request pertaining to an exemption from local leak rate testing of MSIVs which appeared to indicate poor planning and assignment of priorities. Another area where management involvement appeared to be lacking is the overall plan and design of the Safety Parameter Display System (SPDS) where the proposed SPDS has not met the minimum guidance of NUREG-0737, Supplement 1.

The licensee's approach to issues has been both technically sound and thorough in almost all cases. Resolutions are timely in almost all cases and conservatism is routinely exhibited when a potential for safety significance exists. The licensee's approach to equipment qualification, post-accident sampling; and increased core flow TS changes all showed above average technical approach and resolutions during this period.

However, in the last 6 months of the assessment period, there has been a noticeable decline in the licensee's usually timely response and resolution of licensing issues. This decline apparently coincided with the increased activity in licensing activities at Limerick. The licensee should give more attention to the structuring of its licensing staff in order to accommodate the addition of the Limerick facility as an operating plant.

Also, the licensee should give more attention to the significant hazards consideration determination that are submitted with each TS change request. Specifically, the licensee should prepare more explicit arguments for each of the criteria that must be addressed in reaching a significant hazards determination and thereby reduce the time required to publish the Federal Register pre-notice.

The licensee has continued to show a highly effective tracking system for responding to NRC requests and almost always alerts the staff in a timely fashion when an extension to a particular submittal is needed. Generally, issues are resolved in a timely fashion with acceptable resolutions proposed initially in most cases.

Conclusion:

Rating: Category 1

Trend: Declining

Recommendations:

Licensee

None.

NRC

None.

V. SUPPORTING DATA AND SUMMARIES

5.1 Investigations and Allegations Review

NRC Region I received and evaluated four allegations during the assessment period. The allegations are summarized as follows:

-- CAS attendant overloaded with administrative duties and impact on security job.

-- Contractor and licensee not meeting ALARA requirements.

-- Poor security practices effecting HP programs.

-- Deliberate misuse of emergency sirens.

5.2 Escalated Enforcement Actions

1. Civil Penalties

-- Notice of Violation and Civil Penalty of $30,000.00 dated June 18, 1984 associated with violations (Enforcement Action 84-39) regarding excessive heatup rates, an unplanned reactor pressurization, and excessive rod scram times.

2. Orders

-- Order dated June 14, 1984, confirming commitments to implement Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability" based on commitments to NRC Generic Letter 82-33 dated December 17, 1982.

-- Order modifying license dated June 18, 1984, regarding violations associated with Enforcement Action 84-39 requiring the licensee to submit and implement a plan for an appraisal of: (1) the process for performing safety evaluations and reviews of procedures pursuant to 10 CFR 50.59 to determine if the process is currently effective, or if improvements are needed; (2) plant and system operating procedures to verify that existing procedures are consistent with technical specification bases, and those sections of the FSAR concerning systems necessary to mitigate Design Basis Accidents, and do not involve unreviewed safety questions; and (3) the program for ensuring that employees involved in the review and approval of operating procedures remain cognizant of the licensing bases.

3. Confirmatory Action Letters

None.

4. Enforcement Conferences

- An Enforcement Conference was held to discuss the findings of Inspections 50-278/83-32, 50-277/84-01, 50-278/84-01, 50-277/84-03 and 50-278/84-03 relative to individual rod scramming and LCO violations on April 12, 1984.

- An Enforcement Conference was held to discuss the findings of Inspection 50-277/84-19 and 50-278/84-10 relative to security plan violations on July 31, 1984.

- An Enforcement Conference was held to discuss the findings of Inspection 50-278/85-07, a Unit 3 event regarding simultaneous diesel generator inoperability and containment cooling on February 8, 1985.

- An Enforcement Conference was held to discuss findings of a radiological event during the Unit 2 outage from Inspection 50-277/85-11 on March 4, 1985.

5.3 Management Conferences Held During the Assessment Period

1. SALP Management Meeting at Peach Bottom Atomic Power Station on March 2, 1984.

2. Management meeting to discuss licensee plans and controls for the Unit 2 piping replacement outage on April 5, 1984.

5.4 Licensee Event Reports (LERs)

Forty-one LERs were submitted during the assessment period. The 17 LERs for Unit 2 and 24 for Unit 3 are characterized by cause in Table 1. LERs reviewed include 84-01 through 84-16 and 85-01 for Unit 2; and, 84-01 through 84-16 and 85-01 through 85-08 for Unit 3. Four causally-linked event sets were identified:

- Five LERs (3-85-01, 3-84-13, 3-84-15, 3-84-16, 3-85-04) all involved inoperability of the HPCI turbine due to the inner rupture disc (PSD-3-23-6) failure for Unit 3.

- Three LERs (2-84-10, 2-84-16, 3-84-08) involved pipe cracking indications for Units 2 and 3.

- Eleven LERs (2-84-03, 2-84-07, 2-84-09, 2-84-15, 3-84-02, 3-84-06, 3-84-07, 3-84-10, 3-85-02, 3-85-06, 3-85-08) involved events caused by personnel error. The errors were due to operating, maintenance and test personnel.

- Five LERs (2-84-01, 3-84-03, 2-85-01, 3-85-05, 3-85-03) involved equipment failures encountered during surveillance testing.

The Office for Analysis and Evaluation of Operational Data (AEOD) assessed the Licensee Event Reports (LERs). The review covered a majority of the LERs submitted during the assessment period. The LERs submitted were adequate in each important respect with few exceptions. All the LERs provided an abstract followed by: (1) description of the event, (2) consequence of the event, (3) cause of the event and (4) corrective actions. The LERs provided clear descriptions of the cause and nature of the events as well as adequate explanations of the effects on both system function and public safety. The described corrective actions taken or planned by the licensee were considered to be commensurate with the nature, seriousness and frequency of the problems found. Table 1 provides additional observation from the AEOD review of the LERs.

In summary, the LERs indicates that the licensee provided adequate descriptions of the events . None of the LERs reviewed involved a significant event or serious challenge to plant safety.

5.5 Forced Outages and Unplanned Scrams

1. During the assessment period, Unit 3 experienced five unplanned automatic scrams. As Unit 2 was in a refueling/pipe replacement outage for the majority of the time, no unplanned automatic scrams occurred. Table 5 summarizes these scrams.

2. During the assessment period, the following unit forced outages occurred:

   — Unit 2 - 5 forced outages, including 2 power reductions and 1 shutdown for refueling.

   — Unit 3 - 19 forced outages, including 14 power reductions/load level drops.

   Table 5 summarizes these outages.

The Office for Analysis and Evaluation of Operational Data (AEOD) assessed the Licensee Event Reports (LERs). The review covered a majority of the LERs submitted during the assessment period. The LERs submitted were adequate in each important respect with few exceptions. All the LERs provided an abstract followed by: (1) description of the event, (2) consequence of the event, (3) cause of the event and (4) corrective actions. The LERs provided clear descriptions of the cause and nature of the events as well as adequate explanations of the effects on both system function and public safety. The described corrective actions taken or planned by the licensee were considered to be commensurate with the nature, seriousness and frequency of the problems found. Table 1 provides additional observation from the AEOD review of the LERs.

In summary, the LERs indicate that the licensee provided adequate descriptions of the events. None of the LERs reviewed involved a significant event or serious challenge to plant safety.

5.5 Forced Outages and Unplanned Scrams

1. During the assessment period, Unit 3 experienced 9 forced outages, including: 5 unplanned automatic scrams, 3 forced shutdowns, and 1 forced power reduction.

2. As Unit 2 was in a refueling/pipe replacement outage for the majority of the time, only one forced outage occurred. No unplanned automatic nor any forced power reductions occurred.

3. Table 5 summarizes these forced outages.

TABLE 1
TABULAR LISTING OF LERs BY FUNCTIONAL AREA
PEACH BOTTOM ATOMIC POWER STATION

Area	Number/Cause Code	Total
1. Plant Operations	7/A, 2/B, 1/D, 7/X	17
2. Radiological Controls	1X	1
3. Maintenance	2/A, 2/X	4
4. Surveillance	4/B, 2/E, 4/X	10
5. Fire Protection	1/A, 1/B, 1/D, 2/X	5
6. Emergency Preparedness		0
7. Security and Safeguards		0
8. Refueling/Outage Activities	1/A, 3/X	4
9. Licensing Activities		0
	TOTAL	41

Cause Codes:
- A - Personnel Error
- B - Design, Manufacturing, Construction, or Installation Error
- C - External Cause
- D - Defective Procedure
- E - Component Failure
- X - Other

AEOD Review of LERs

The AEOD review of LERs included the following:

For Peach Bottom 2: 84-001 through 84-016 and 85-001

For Peach Bottom 3: 84-001 through 84-014 and 85-001 through 85-005

The LER review covered the following subjects and the general instructions of NUREG-016. The SALP review is presented with the topic review followed by comments on that topic.

1. Review of LER for completeness

   (a) Is the information sufficient to provide a good understanding of the event?

   The LERs provided sufficient data to give clear and adequate descriptions of the occurrences, their direct consequences,

Table 1 (continued)

root causes, and where known, corrective actions needed to prevent recurrence.

(b) Were the LERs coded correctly?

All coded entries reviewed appeared to be correct. However, there were six LERs which did not specify the failed component and component manufacturer. These LERs were: 84-007, 84-009, 84-013 and 84-014 for Peach Bottom 2; and 84-004 and 84-014 for Peach Bottom 3.

(c) Was supplementary information provided when needed?

Most of the LERs reviewed contained supplementary information. The supplementary information provided was clear, concise and adequate.

(d) Were follow-up reports promised and submitted?

The licensee submitted a follow-up report in every case reviewed where such a commitment was made.

(e) Were similar occurrences properly referenced?

The licensee appropriately referenced similar prior occurrences as necessary.

2. Multiple Event Reporting in a Single LER.

The licensee did not report any multiple events in a single LER.

3. Prompt Notification Follow-up Reports.

The region issued one PN for Peach Bottom 2 and three PNs for Peach Bottom 3 during this review period. Two of the PNs issued should be followed by an LER. Our review indicates that the licensee did issue LERs 84-008 and 84-011 for these two PNs. Both of these LERs were for Peach Bottom 2.

In summary, the review indicates that based on the stated criteria, the licensee provided clear and adequate event reports during the assessment period. No significant deficiencies were found in the LERs reviewed.

TABLE 2
VIOLATION SUMMARY (1/1/84 - 3/31/85)
PEACH BOTTOM ATOMIC POWER STATION

A. NUMBER AND SEVERITY LEVEL OF VIOLATIONS

	Violations
Severity Level I	0
Severity Level II	0
Severity Level III	2
Severity Level IV	19
Severity Level V	7

B. VIOLATION VS FUNCTIONAL AREA

Functional Area	Severity Level III	IV	V
1 Plant Operations	1	6	2
2 Radiological Controls*	0	7	3
3 Maintenance	0	1	1
4 Surveillance	0	0	1
5 Fire Protection/Housekeeping	0	3	0
6 Emergency Preparedness**	0	1	0
7 Security and Safeguards	1	1	0
8 Refueling/Outage Activities	0	0	0
9 Licensing Activities	0	0	0

*Inspection Report 85-11 issued, enforcement action pending as of May 13, 1985.
**Inspection Report 85-03 not issued as of May 13, 1985.

Table 2 (continued)

C. SUMMARY

Inspection Report No. Unit 2	Inspection Report No. Unit 3	Inspection Date	Severity Level	Functional Area	Violation
84-01	84-01	1/5-20/84	III-CP*	1	Excessive heatup rate, reactor vessel pressurization and excessive rod scram times.
84-03	84-03	1/13-2/29/84	IV*	1	Operational procedural violations
84-02	84-02	1/16-20/84	IV	3	Failure to adequately control plant modification activities.
84-03	84-03	1/13-2/29/84	IV	5	Failure to implement an adequate fire hydrant maintenance program
84-03	84-03	1/13-2/29/84	IV	1	Failure to report, document and properly disposition a non-conforming condition for the torus vent header
84-07	84-07	3/1-4/20/84	IV	1	Failure to follow SBGTS operating procedure
84-07	84-07	3/1-4/20/84	IV	7	Failure to adequately control a vital door area
84-08	84-08	3/26-30/84	V	1	Failure to provide adequate corrective action

Table 2 (continued)

Inspection Report No.		Inspection Date	Severity Level	Functional Area	Violation
Unit 2	Unit 3				
84-09	84-09	3/26-29/84	IV	2	Failure to properly label packages on radioactive waste
84-09	84-09	3/26-29/84	IV	2	Failure to train to NRC and DOT guidelines
84-09	84-09	3/26-29/84	V	2	Failure to verify that shipping manifests were accurate
84-14	84-12	5/7-11/84	IV	1	Failure to provide adequate corrective actions for audit and inspection findings
84-15	84-13	4/21-6/7/84	IV	2	Failure to post a contaminated area
84-16	84-14	5/8/84	V	2	Failure to have written approved procedures for the whole body counting system
84-17	84-15	5/14-18/84	V	3	Failure to permit evaluation of a systems/components performance
84-17	84-15	5/14-18/84	V	4	Failure to take prompt corrective action for surveillance test
84-18		6/18-21/84	IV	2	Failure to train HP technicians

Table 2 (continued)

Inspection Report No.		Inspection Date	Severity Level	Functional Area	Violation
Unit 2	Unit 3				
84-18		6/18-21/84	IV	2	Failure to provide specific radiological exposure controls for RWPs
84-19	84-10	6/25-7/1/84	III**	7	Security plan violations
84-20	84-16	6/8-7/15/84	IV	5	Failure to provide adequate fire equipment access
84-20	84-16	6/8-7/15/84	IV	1	Failure to maintain adequate document control
84-22		7/16-20,23-27/84	V	1	Failure to maintain certification requirements for QC inspectors
84-24	84-20	7/16-8/31/84	IV	1	Failure to perform written safety evaluation
84-25	84-21	7/20-23/84	V	2	Failure to follow TLD procedures
84-31	84-25	9/1-10/10/84	IV	2	Failure to post a radioactive contaminated area
84-33	84-27	10/16-18/84	IV	6	Failure to provide accurate initiating conditions for emergency action levels of Emergency Plan

Table 2 (continued)

Inspection Report No.		Inspection Date	Severity Level	Functional Area	Violation
Unit 2	Unit 3				
84-40	84-19	12/10-13/84	IV	5	Failure to maintain fire barrier integrity
84-42	84-34	12/17-21/84	IV	2	Failure to provide a QC program for radwaste shipments
85-03	85-03	1/8-11/85	XXX	6	Two potential violations associated with emergency plan training and updating emergency notification phone lists.
85-11		2/13-15/85	XXXX	2	Potential violations associated with radiation protection and radiological controls

*EA 84-39
**EA 84-94
XXXInspection Report not issued as of May 13, 1985
XXXXInspection Report issued, enforcement action pending as of May 13, 1985

TABLE 3
INSPECTION REPORT ACTIVITIES (1/1/84 - 3/31/85)
PEACH BOTTOM ATOMIC POWER STATION

Report Unit 2	Unit 3	Inspection Hours	Areas Inspected
84-01	84-01	118	Operational safety regarding individual rod scramming activities
84-02	84-02	29	Plant Modification Activities
84-03	84-03	268	Operational Safety
84-04	84-04	38	Torus modification requirements and IE Bulletin 78-11
84-05	84-05	12	Review Eastern Testing and Inspection, Inc.,
84-06	84-06	36	Security
84-07	84-07	172	Operational Safety
84-08	84-08	112	Previous inspection findings, corrective and preventive maintenance, and document control
84-09	84-09	32	Transportation activities
84-11	84-11	33	Enforcement Conference
84-12		65	Review licensee's preparations relating to radiation protection for planned modification to recirculation and residual heat removal (RHR) piping
84-13		28	Recirculating and RHR pipe replacement
84-14	84-12	75	QA/QC Program and the piping replacement program

Table 3 (continued)

Report Unit 2	Report Unit 3	Inspection Hours	Areas Inspected
84-15	84-13	233	Operational Safety
84-16	84-14	8	Bioassay whole body counting program
84-17	84-15	104	Corrective and preventive maintenance programs
84-18		70	Radiation protection program
84-19	84-10	70	Special Security Inspection
84-20	84-16	147	Operational Safety
84-21	84-17	31	Recirculating and RHR pipe replacement
84-22		593	Operations Assessment Team Inspection (Outage assessment)
84-23	84-18	31	Licensing issues on torus/ drywell vacuum breaker and air sampling system; QA program implementation
84-24	84-20	149	Operational Safety
84-25	84-21	112	Whole body counting program
84-26	84-22	28	Closing electrical inspection report findings
84-27	84-23		Enforcement Conference
84-29		22	Radiation exposure to three workers

Table 3 (continued)

Report Unit 2	Report Unit 3	Inspection Hours	Areas Inspected
84-30	84-24	26	Torus modification requirements and IE Bulletin 79-11; and review of the licensee's organization and procedures for performance and control of major modifications
84-31	84-25	186	Operational Safety
84-32	84-26	101	Operational Safety
84-33	84-27	244	Emergency Preparedness (Annual Exercise)
84-35	84-29	275	Operational Safety
84-38	84-31	36	Inspect licensee's program for recirculating and RHR pipe replacement
84-39	84-32	52	Operational Safety
84-40	84-19	34	Fire protection/prevention program
84-41	84-33	48	Licensee's activities related to NRC Bulletin identified items and surveillance of pipe supports, restraints and snubbers
84-42	84-34	40	Radioactive waste management program
85-01		633	NRC Mobil NDE Van
85-02	85-02	33	Security and Safeguards
85-03	85-03	244	Emergency Planning Team Inspection

Table 3 (continued)

Report Unit 2	Report Unit 3	Inspection Hours	Areas Inspected
85-04	85-04	29	Recirculation safe end repair and replacement
85-05	85-05	39	ISI/PSI Activities
85-06	85-06	20	Nonradiological chemical program
85-07	85-07	40	Special Inspection Operational Safety
85-08	85-08	406	Operational Safety
85-09	85-09	78	Effluent control program and radiochemical measurements program using the NRC:I Mobile Radiological Measurements Laboratory
	85-10	20	Local Leak Rate Test (LLRT) Program
85-11	85-11	29.5	Special inspection to review the contamination of several workers
85-12	85-12	After SALP period	Operational Safety
85-13		1.5	Enforcement Conference
85-14		11	Assessments of external and internal exposures resulting from events described in Inspection 50-277/85-11 and the licensee's corrective actions as described in Report 50-277/85-13.

TABLE 4
INSPECTION HOURS SUMMARY
PEACH BOTTOM ATOMIC POWER STATION

UNITS 2 and 3

Functional Area	Hours	% of Time
1. Plant Operations	1850	34.0
2. Radiological Controls	489	9.0
3. Maintenance	442	8.0
4. Surveillance	170	3.0
5. Fire Protection	84	1.0
6. Emergency Preparedness	538	10.0
7. Security and Safeguards	195	4.0
8. Refueling/Outage Activities	1654	31.0
9. Licensing Activities	-*-	---
TOTAL	5422	100%

*Hours expended in facility licensing activities are not included with direct inspection effort statistics.

TABLE 5
UNPLANNED AUTOMATIC SCRAMS AND FORCED OUTAGES
PEACH BOTTOM ATOMIC POWER STATION

Unplanned Automatic Scrams

Unit	Date	Power Level (%)	Cause
3	2/9/84	100	Power spike resulting from pressure surge associated with malfunctioning main turbine control valves
3	7/11/84	100	APRM high flux scram occurred following lightning strike on 500 KV bus tie line
3	8/21/84	100	Low reactor water level caused by malfunction in feedwater control circuit
3	11/14/84	20	APRM high flux scram as the B recirculation pump was restarted
3	3/1/85	25	Low main condenser scram due to loss of offgas system combined with high condenser in leakage

Forced Outages

Unit	Date	Cause
3	1/14/84	Loss of condensate pumps due to room flooding
2	1/28/84	RCIC testable check valve leak
2	2/18/84	MSIV and feedwater check valves LLRT
2*	2/27/84	Control rod pattern adjustment
2*	3/2/84	Water box inspection and repair, and control rod pattern adjustment
3*	3/16/84	Water box inspection and repair, and control rod pattern adjustment
3*	3/20/84	Control rod pattern adjustment
3*	3/23/84	Control rod pattern adjustment

TABLE 5(continued)

Forced Outages (continued)

Unit	Date	Cause
3*	4/20/84	Control rod pattern adjustment and condensate pump repair
2	4/28/84	Shutdown for sixth refueling outage
3	6/2/84	RCIC valve and feedwater heater repair; and weld overlay of the jet pump instrumentation nozzles
3*	9/29/84	Load reduction for control rod adjustments, B and C circulation pump work, B and C condensate pump work
3*	10/25/84	Load reduced to lower radiation levels in the off-gas
3	11/6/84	Repair valve packing leak in drywell
3*	11/24/84	Load drop for condenser water box work
3*	12/1/84	Load reduction for waterbox leak repair
3*	12/10/84	Load drop to repair recombiner condenser tubes
3*	12/15/84	Load drop for control rod adjustment
3*	12/20/84	Load reduction to limit off gas releases
3*	1/5/85	Load reduction to repair broken test tap on the 3A condensate pump

TABLE 5(continued)

Forced Outages (continued)

Unit	Date	Cause
3*	1/15/85	Load drop due to the E4 diesel and 39A RHR valve inoperability. The valve was returned to service prior to unit shutdown.
3	1/23/85	Generator taken off line to clean up an oil leak which caused a generator field ground.
3	2/1/85	Mini-outage for surveillance testing and miscellaneous maintenance (main steam isolation valves and leak testing).
3*	3/9/85	Control rod pattern adjustment and condenser tube leak repair

*Load drops/reductions only

TABLE 5 (Revised)
UNPLANNED AUTOMATIC SCRAMS AND FORCED OUTAGES
PEACH BOTTOM ATOMIC POWER STATION

Unplanned Automatic Scrams

Unit	Date	Power Level (%)	Cause
3	2/9/84	100	Power spike resulting from pressure surge associated with malfunctioning main turbine control valves
3	7/11/84	100	APRM high flux scram occurred following lightning strike on 500 KV bus tie line
3	8/21/84	100	Low reactor water level caused by malfunction in feedwater control circuit
3	11/14/84	20	APRM high flux scram as the B recirculation pump was restarted
3	3/1/85	25	Low main condenser scram due to loss of offgas system combined with high condenser in leakage

Other Forced Outages and Forced Power Reductions

Unit	Date	Cause
3	1/14/84	Loss of condensate pumps due to room flooding
2	1/28/84	RCIC testable check valve leak and drywell airlock leakage

TABLE 5(continued)

Other Forced Outages and Forced Power Reductions (continued)

Unit	Date	Cause
3	6/2/84	RCIC valve and feedwater heater repair; and weld overlay of the jet pump instrumentation nozzles
3*	1/15/85	Load drop due to the E4 diesel and 39A RHR valve inoperability. The valve was returned to service prior to unit shutdown.
3	1/23/85	Generator taken off line to clean up an oil leak which caused a generator field ground.

*Forced power reductions only

TABLE 6
NRR SUPPORTING DATA AND SUMMARY

A. This following is summary of significant licensing actions and other activities during the assessment period.

1. NRR/Licensee Meetings - 4

   IGSCC (Pipe cracks) and pipe repair/replacement
   Backup EOF
   PECo-H. Thompson meeting
   Purge/Vent TS

2. NRR Site or Component Officer Visits - 3

   PM Annual Data Visit (1984 and 1985)
   Audit of SPDS
   Regulatory Performance meeting

3. Schedules Extensions Granted - 2

   Annual Emergency Exercise
   Equipment Qualification

4. Relief Granted - 1

   ISI

5. Technical Exemptions Granted - 1

   Fire Protection

6. License Amendments Issues - 35

7. Emergency Technical Specification Changes Issued - none

8. Orders Issued - 1

   Confirmatory Orders on NUREG-0737, Supplement 1 (both units)

9. NRR/Licensee Management Conferences - none

B. The following details the NRR licensing actions completed during this assessment period.

- Plant-specific actions (48 completed): Actions in this category which were used to provide input for this evaluation.

Table 6 (continued)

- Review of plant specific Appendix R technical exemptions
- Coolant Leakage Technical Specifications (TSs)
- Reactor water cleanup and scram discharge volume TSs
- TS on local leak rate testing
- Increased core flow TSs
- Hydrogen chemistry test TSs
- Requalification exam extension
- Unit 2 reload

o 20 multi-plant actions (16 completed): Actions in this category which were used to provide input for this evaluation are:

- Environmental Qualification
- Generic Letter 83-36
- Purge/Vent Valve Operability

o 20 NUREG-0737 actions (10 completed): Actions in this category which were used to provide input for this evaluation are:

- Inadequate Core Cooling Guidelines (I.C.I.2.A)
- SPDS (I.D.2)
- Post Accident Sampling (II.B.3)
- Failures of Relief Valves (II.K.3.16)

NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

ENCLOSURE 3

JUN 07 1985

Docket Nos. 50-277
50-278

Philadelphia Electric Company
ATTN: Mr. S. L. Daltroff
Vice President, Electric Production
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Systematic Assessment of Licensee Performance (SALP);
Report Numbers 50-277/85-99 and 50-278/85-99

The NRC Region I SALP Board conducted a review on May 13, 1985 and evaluated the performance of activities associated with Peach Bottom Atomic Power Station, Units 2 and 3. The results of this assessment are documented in the enclosed SALP Board report. A meeting has been scheduled for 2:30 p.m. on June 12, 1985, at the Peach Bottom Atomic Power Station, Delta, Pennsylvania to discuss this assessment. This meeting is intended to provide a forum for candid discussions relating to this assessment.

At the meeting, you should be prepared to discuss our assessment and your plans to improve performance where weakness was noted. You are specifically requested to be prepared to discuss those actions planned or implemented regarding NRC concerns in the security and radiological controls areas.

Additionally, you may provide written comments within 20 days after the meeting.

Your cooperation with us is appreciated.

Sincerely,

Thomas E. Murley
Regional Administrator

Enclosure:
As stated

8506140178
2pp

cc w/encl:
V. S. Boyer, Senior Vice President, Nuclear Power
John S. Kemper, Vice President, Engineering and Research
R. S. Fleischmann, Station Superintendent
Troy B. Conner, Jr., Esquire (Receives All 2.790 Information)
Eugene J. Bradley, Esquire, Assistant General Counsel
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

ENCLOSURE 4

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-5001

SHIELDS L. DALTROFF
VICE PRESIDENT
ELECTRIC PRODUCTION

July 9, 1985

Docket Nos. 50-277
50-278

Dr. Thomas E. Murley, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: 1985 Systematic Assessment of Licensee Performance (SALP) for Peach Bottom Atomic Power Station

REFERENCE: SALP Report No. 50-277/85-99
50-278/85-99

Dear Dr. Murley:

The report referenced above is the 1985 Systematic Assessment of Licensee Performance (SALP) report of our Peach Bottom Atomic Power Station (PBAPS) facility for the period January 1, 1984 through March 31, 1985.

On June 12, 1985, a joint meeting of the NRC Region I SALP Board and Philadelphia Electric Company management was held at the Peach Bottom Atomic Power Station to discuss the findings in the SALP report.

We are pleased to find acknowledgement in the report that Philadelphia Electric Company demonstrated a noticeable improvement in maintenance, fire protection and housekeeping. Since the last SALP report, we have intensified our efforts in many areas, but have been hampered by the extended outage for replacement of IGSCC sensitive primary system piping.

Philadelphia Electric Company appreciated the opportunity to meet with the NRC to discuss the SALP report and

to comment on the findings. Based on the discussions at the meeting, we have the following comments:

Plant Operations

The period during which Peach Bottom Atomic Power Station was evaluated included an extended outage to complete complex and difficult pipe replacement modifications. Our current plans include completion of these modifications and plant startup in July, 1985. We anticipate that the completion of these major modifications will allow more of our efforts to be directed toward other areas which require further improvement.

As indicated in the SALP report, training plays an essential role in all areas of plant operations. We have improved in this area, with five training programs having been accredited by the Institute for Nuclear Operations (INPO). These training programs for non-licensed and licensed operators, requalification for licensed operators, and training of health physics and chemistry technicians were accredited by INPO in May 1985. We are committed to a continuous strengthening of our training program and we are confident that further improvement in the training area will increase the efficiency of plant operations.

The SALP report recommends that Philadelphia Electric Company evaluate the causes of the forced outages and unplanned scrams with respect to plant operations, maintenance and testing activities. After further review of the outage summary (Section 5.5 of the SALP report), we believe that the data as presented in the report may not be accurate and may not agree with our records.

The SALP report summarizes the forced outages for the assessment period as follows:

- Unit 2 - 5 forced outages including 2 power reductions and one shutdown for refueling
- Unit 3 - 19 forced outages including 14 power reductions/load level drops

The outage history, as summarized in the SALP report, is not consistent with the data published monthly in NUREG-0020, "Licensed Operating Reactors - Status Summary Report". NUREG-0020 defines outage types as follows:

> "...forced outage is an outage required to be initiated no later than the weekend following discovery of an off normal condition. Those outages which do not fit the definition of forced outage ... are scheduled outages...".

For purposes of reporting data for incorporation into NUREG-0020, we use the definitions as stated above. Every shutdown or load reduction is listed in the NUREG-0020 and defines the outage type as being either forced or scheduled. Because BWR's require occassional load reductions to accommodate control rod adjustments, some load reductions are not considered by us to be forced. Based on our records, the outage history for the assessment period utilizing the definitions of NUREG-0020 should have been reported as follows:

	Unit 2	Unit 3
Forced Shutdowns	3	8
Forced Load Reductions	0	2
Total Forced Outages	3	10
Scheduled Shutdowns	3	4
Scheduled Load Reductions	3	9
Total Scheduled Outages	6	13

With regards to the recommendation to evaluate the causes of forced outages and unplanned scrams, we believe we have adequate processes in place which do this evaluation. Unplanned scrams from power are analyzed with our procedure GP-18. The appropriate corrective actions to prevent recurrence of a scram are identified in the associated upset report.

In addition, the Operating Experience Assessment Committee reviews causes of unplanned scrams and forced outages and

recommends appropriate corrective actions to prevent recurrence of the events which caused the scram.

Radiological Controls

The heavy traffic into the power block during this extraordinary outage placed a heavy load on our Health Physics programs and personnel. During the outage, we increased our attention to the radiological protection area and also increased management involvement. However, the amount of attention and involvement appears to have been insufficient to overcome the additional loads created by the outage.

The increased emphasis on the Radiological Protection Program was instrumental in maintaining the Peach Bottom history of no overexposures. During 1984, all exposures were less than 5 Rem. Additionally, during the 15-month pipe replacement outage, only 19 workers received doses in excess of 4 Rem and there were no incidents which resulted in significant internal organ burdens. The original scope of the pipe replacement outage work was accomplished within the ALARA estimate.

During the latter part of the outage, there were two incidents which had a potential for causing higher internal and external exposures. These were caused by a breakdown in administrative controls. These controls were immediately strengthened and were proved effective.

We have also reorganized the health physics and chemistry areas in an effort to further increase management control. Each group is now under the separate, individual direction of a senior-level supervisor. The division of these two activities will provide enhanced management control of both the radiological protection and the chemistry areas.

We have also developed guidelines to be used during future major modification outages. The guidelines include assigning Health Physics/ALARA Technical Assistants (TA's) to each of the major work areas in the plant. These TA's will ensure ALARA considerations are properly reviewed and implemented.

The TA will be responsible for ensuring that an appropriate RWP is used for each assigned job and for monitoring the assigned work area via periodic, frequent work area tours. A conference will also be organized by the TA prior to each job

covered by an RWP to aid in worker awareness. This area supervision will ensure that there is adequate Health Physics support to maintain an effective Radiation Protection Program. We are confident that these changes will preclude the radiological control problems evident during the Unit 2 outage.

Meanwhile we are considering the recommendation for a third party audit in this area to ascertain what further actions may be used to improve performance.

Security and Safeguards

Another area which was affected by the heavy workload due to the demanding tasks of the pipe replacement outage was the area of Security and Safeguards.

During the outage, the capacity of the security computer to monitor alarms was heavily taxed. We noted these difficulties and made changes in the computer software which have improved operation. Additional computer changes are currently being designed which will further benefit the security activities.

With the completion of the Unit 2 outage, along with the subsequent decrease in power block traffic, many of the security areas discussed will no longer be problem areas.

During the SALP period, increases and changes to the contractor security organization were made which we believe will improve security personnel and hardware performance at Peach Bottom. The contractor security force has been strengthened by the addition of an Assistant Trainer and Assistant Supervisor to the contractor staff. Additionally, the contractor security organization has added a special assistant to the PECo Site Security Supervisor for the monitoring of security related hardware.

Management commitment to better and more thorough oversight of contractors is being pursued. We also agree, as stated in the SALP report, that there is a possible need for an Assistant Site Security Supervisor at Peach Bottom. We have recently initiated an effort to fill this position.

Surveillance

Although the SALP report confirms that our surveillance testing program is technically sound and well planned, weaknesses were reported in the implementation and review cycle of the surveillances.

In an effort to improve performance in the surveillance area, we are pursuing, along with other items, further and more efficient use of a computer for tracking the implementation and review cycles.

The SALP report also raised some concerns over the methods we used to track and compute "as found" leak rate values. The methodology used to obtain and account for "as found" leakage rate additions to the ILRT are currently being reviewed by Philadelphia Electric Company.

Fire Protection/Housekeeping

Fire barriers were reported as being a continuing weakness. We have acknowledged these weaknesses and have moved promptly to improve in this area. The Engineering and Research Department has instituted a Fire Protection Review Checklist to be used for all plant modifications in order to evaluate the impact of each new modification on the fire barriers.

Further, fire barrier and penetration seal identification signs have been installed to allow personnel to be more aware of fire barrier requirements at the plant.

The door closure problems have been investigated. Some of the closure problems have been attributed to the nearly completed penetration seal program. Now that the penetrations are sealed, rooms are significantly more air tight which causes a greater pressure differential across the door than previously existed. Since this new differential pressure problem across doors has been recognized, we are pursuing possible corrective modifications.

Emergency Preparedness

Some problems were identified in the January, 1985 inspection and were included in the SALP report. One of these problems, as stated, concluded that the appendices to the emergency plan that contains the names and telephone numbers of

personnel to be contacted during an emergency were seventeen months overdue for a review/update.

Each change to the body of a procedure requires that the revision number of the procedure be changed. Only this revision number was reviewed during the January inspection and not all of the documentation including the surveillance documentation was reviewed.

An internal review indicates that the telephone list was surveillance reviewed for correctness every quarter of 1983 and 1984 and at that time no changes which would require PORC approval (and thereby require a new revision number) were necessary.

Because the revision number of the emergency plan procedure was not changed, the inspector concluded that the quarterly update had not been accomplished, when in fact the quarterly update had been completed and documented every quarter during the previous twenty-four months by way of the surveillance tests.

We are presently in the process of revising the procedures to allow easy identification of the quarterly review of telephone numbers.

License Activities

The SALP report recommends that we pay more attention to the structuring of our licensing staff in order to accommodate the additional efforts required by the Limerick facility.

We have recently increased our licensing staff and have added another senior-level engineer. The licensing staff was also reorganized to accommodate the Limerick plant under the separate supervision of a senior engineer.

We fully expect that the reorganization and the additional staffing will improve our response and resolution time of license issues for Peach Bottom.

Conclusion

Two areas stand out in the SALP report as requiring more attention than others: Radiological Controls and Security/Safeguards. The recommendations in both of these

areas include increased management attention and efforts to ensure improvement. Philadelphia Electric Company is moving to correct these deficient areas and we are confident that the next assessment will confirm the corrected conditions.

Should you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

cc: T. P. Johnson, Resident Site Inspector

PEACH BOTTOM SALP HISTORY

ENCLOSURE 5

FUNCTIONAL AREA RATING

Report Date	Assessment Period	Operations	Radiological Controls	Maintenance	Surveillance	Emergency Planning	Fire Protection	Security	Refueling	Licensing
7/80	5/1/79 - 5/1/80	2	N	3	2	2	2	3	2	N
9/81	7/1/80 - 6/30/81	2	2	2	1	2	3	2	1	N
10/82	7/1/81 - 6/30/82	2	3	2	2	2	3	2	2	1
9/83	3/1/82 - 2/28/83	2	3	2	3	1	3	1	2	2
5/84	3/1/83 - 12/31/83	2	2	2	2	2	2	1	2	1
8/85	1/1/84 - 3/31/85	2	3	1	2	2	2	3	1	1