

PHILADELPHIA ELECTRIC COMPANY

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JOSEPH W. GALLAGHER  
VICE PRESIDENT  
NUCLEAR SERVICES

March 1, 1989  
Docket Nos. 50-277  
50-278

Mr. William T. Russell  
Administrator, Region I  
U. S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

SUBJECT: INPO Assessment of Philadelphia Electric Company's Response to  
Recommendations in January 11, 1988 letter

REFERENCE: March 4, 1988 Letter from W. T. Russell (NRC) to J. L. Everett,  
(PECO)

Dear Mr. Russell:

In the above referenced letter, it was requested that Philadelphia Electric Company apprise the NRC of the results of INPO evaluations prior to restart of the first Peach Bottom unit.

In accordance with this request, I am forwarding a copy of the February 21, 1989 letter, with attachments, to Mr. Joseph F. Paquette, Jr., from Mr. Zack T. Pate which provides a review of the interactions that have taken place between PECO and INPO since the letter of January 11, 1988 and provides an assessment of PECO's response to the recommendation in that letter.

Sincerely,

*Joseph W. Gallagher*

cc: L. W. Zech, Jr.  
V. Stello  
R. E. Martin

8905020387 890414  
PDR COMMS NRCC  
CORRESPONDENCE PNU



Institute of  
Nuclear Power  
Operations

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1100 Circle 75 Parkway  
Atlanta, Georgia 30339  
Telephone 404 953-3600

February 21, 1989

J.F. PAQUETTE, JR.

FEB 22 1989

Mr. Joseph F. Paquette, Jr.  
Chairman, CEO, and President  
Philadelphia Electric Company  
Correspondence Control Desk  
Post Office Box 7520  
Philadelphia, PA 19101

Dear Mr. Paquette:

On January 11, 1988, INPO sent a letter to Mr. Robert D. Harrison, Chairman of the Special (Nuclear Oversight) Committee of the Philadelphia Electric Company Board of Directors, concerning performance problems at Peach Bottom Atomic Power Station and with the Philadelphia Electric Company (PECo) corporate organization. That letter, which was critical of PECo management's handling of longstanding problems at the Peach Bottom site, was ultimately made public.

The purpose of this letter is to review the interactions that have taken place between PECo and INPO since the January 1988 letter and to provide an assessment of PECo's response to the recommendations in that letter.

Over the past year, there have been many interactions between PECo and INPO. Some of these have been at PECo's request; others have been initiated by INPO. Attachment A provides a chronological listing of the key interactions. Of the 26 interactions listed, four are discussed in detail in attachments to this letter, as follows:

- a. the INPO plant evaluation of Peach Bottom conducted in September 1988 - - Attachment B provides the significant results of that evaluation.
- b. the PECo corporate evaluation conducted by INPO in October 1988 - - Attachment C summarizes the results.
- c. the INPO re-evaluation of operations crew performance in the simulator in December 1988 - - Attachment D provides the results.
- d. the INPO plant evaluation follow-up visit to Peach Bottom in January 1989 - - Attachment E provides the results of that visit.

To: Mr. J. F. Paquette, Jr.  
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While Attachment A lists a large number of interactions over the past year, most are typical of visits that INPO makes to all its member utilities. Those listed above are the most important and the most relevant to the issues described in the January 11, 1988 letter. As can be seen from Attachments B and C, a number of shortfalls in performance were identified during the INPO Peach Bottom evaluation in September 1988, and in the corporate evaluation that followed in October. Attachments D and E report the results of our follow up to ensure that corrective actions were responsive and adequate.

The January 11, 1988 INPO letter provided three recommendations for improvement at Peach Bottom. These recommendations dealt with the need for fundamental change in the corporate approach to nuclear operations and are restated below. INPO's assessment of the effectiveness of actions taken to resolve each recommendation is provided:

a. Recommendation I:

"Conduct a detailed analysis of the internal investigation material developed by PECO. Develop a report with an appropriate executive summary, findings, conclusions, and recommendations based on this analysis. Experience shows that a full recovery from a situation such as the one developed at Peach Bottom cannot be assured unless all the relevant facts are carefully analyzed. To our knowledge this has not been done."

Subsequent to receiving this recommendation, PECO retained an independent firm to conduct the recommended analysis. Based on a review of the independent firm's report, a review of the Peach Bottom restart plan, and discussions with PECO executives, the spirit and intent of this recommendation have been carried out.

b. Recommendation II:

"Review and minimize the actions being taken or planned that bypass or work outside (and tend to undermine) the line organization. It is recognized that some in the NRC may press the company to set up measures outside the line to detect future problems. Strong management can achieve this in a balanced way, while preserving line integrity. If the approach is sound, NRC will accept it. In our view the present approach is not balanced, and perceived NRC desires are being used as a crutch."

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PECo has taken many steps to strengthen, emphasize, and support the role of line management and to clarify the role of independent support groups in the operation of its nuclear facilities. These actions are described in the Peach Bottom restart plan.

A key area of concern to INPO was the assignment of QC personnel to each shift to monitor shift operations and to ensure the operators remained awake. This practice was discontinued in favor of emphasis on the accountability of line management for monitoring shift performance.

In both the INPO plant evaluation in September 1988 and the corporate evaluation in October 1988, independent assessment activities were found to be properly supportive of line management efforts and accountability. Further actions to strengthen line management are discussed below.

c. Recommendation III:

"Major changes in the corporate culture are required. The recently announced reorganization will not achieve this. Experience shows that the same managers, placed in a different organizational arrangement, are usually unable (or unwilling) to effect major changes in standards, accountability, etc. Acquiring and installing a single outsider as "Senior Nuclear Officer" in the existing (new) PECO organization is insufficient action to bring about the necessary change.

Coincident with the acquisition of sufficient outside talent to properly upgrade the PECO nuclear situation, accountability should be exercised for the unsatisfactory situation that has been allowed to develop over a period of years."

Replacement of key personnel, organizational changes, acquisition of outside talent at many levels of the organization, and corrective actions from the restart plan have emphasized accountability and fostered attitude change within the company. It is evident to INPO and to other close observers that the company has made and is continuing to make considerable progress in achieving the necessary cultural change. INPO compliments PECO on its aggressive and wide-ranging actions to bring about this significant change.

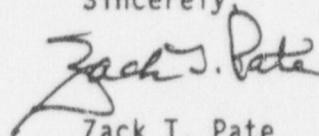
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In summary, there have been a large number of substantive interactions between PECO and INPO since the January 11, 1988 letter. On balance, INPO considers that PECO has adequately addressed the recommendations contained in that letter and, further, that actions taken by the company to resolve the additional issues raised in subsequent INPO visits listed above have been responsive and effective.

INPO requests that copies of this letter, with attachments, be provided to each member of the PECO Board of Directors. In addition, in consideration of the distribution given to the January 11, 1988 letter, we suggest that this letter be shared with outside organizations as follows:

- a. a copy, with attachments, be provided to Nuclear Electric Insurance Limited
- b. a copy, with attachments, be provided to each Peach Bottom co-owner
- c. a copy, with attachments, be made available to appropriate senior management of the Nuclear Regulatory Commission for their review -- These managers should include, as a minimum, the Chairman, the Executive Director of Operations, and the Regional Administrator (Region I).

Sincerely,



Zack T. Pate  
President

ZTP/ra  
Enclosures (as stated)

C HOLOGY

<u>DATE</u>	<u>INTERACTION</u>
January 26, 1988	The PECO Industry Review Panel <sup>1</sup> met in Philadelphia with members of PECO senior management and the PECO Board of Directors.
January 29, 1988	The INPO President and group vice president for evaluation and assistance attended a special meeting of the Nuclear Committee of the PECO Board of Directors.
February 8, 1988	INPO provided comments on Section II (plant action) of the Peach Bottom Restart Plan as requested by PECO.
February 10-11, 1988	An INPO maintenance assistance and review team conducted a follow-up to a previous similar visit in November 1987.

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<sup>1</sup> A panel of five industry executives formed by PECO on April 9, 1987, to provide review of the facts leading to and surrounding the "sleeping on shift" situation that led to the NRC's shutdown order, review the recovery plan developed by PECO, and make recommendations for modifications and enhancements to the recovery plan.

Letter to J. F. Paquette, Jr.

- February 29-March 4, 1988      An INPO team conducted a special assistance visit in the area of radiological protection as requested by PECO.
- March 10, 1988      The Industry Review Panel for PECO was discontinued, having fulfilled its mission.
- March 25, 1988      The PECO chairman, CEO and president, and executive vice president - nuclear visited INPO for discussions and briefings related to the Peach Bottom situation.
- April 14, 1988      PECO responded to INPO's January 11, 1988 letter to Mr. Robert D. Harrison. The reply described the corrective action planned and completed for each of the three principal recommendations in the January letter.
- July 1, 1988      PECO provided INPO a copy of the PECO Commitment to Excellence in Nuclear Operations statement, noting that it was still being refined.
- July 25-29, 1988      INPO conducted a special assistance visit at the PECO corporate office in the area of configuration management.

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August 9-11, 1988 A second maintenance assistance and review team follow-up visit was conducted.

August 19, 1988 The Peach Bottom site vice president advised INPO of actions taken by Peach Bottom to resolve the remaining items from the INPO list of actions to be completed prior to startup developed after the 1987 INPO plant evaluation.

September 7-8, 1988 An INPO accreditation assistance visit was conducted at the Peach Bottom site.

September 14, 1988 PECO responded to INPO's letter to the industry of March 30, 1988, on the Principles for Enhancing Professionalism of Nuclear Personnel.

September 15, 1988 Two members of the PECO Board of Directors Nuclear Oversight Committee visited INPO for a general briefing on INPO activities.

September 12-23, 1988 INPO conducted a full plant evaluation at Peach Bottom.

September 29-30, INPO conducted a special assistance visit to aid

Letter to J. F. Paquette, Jr.

1988 the Peach Bottom simulator instructors in conducting effective training and evaluations for licensed operators.

September 30, 1988 INPO forwarded the simulator crew performance observations resulting from the September 1988 INPO plant evaluation.

October 3-7, 1988 INPO conducted a corporate evaluation of Philadelphia Electric Company.

October 7, 1988 The Peach Bottom site vice president forwarded to INPO copies of the accreditation self-evaluation report of the Peach Bottom training program.

November 3-4, 1988 A follow-up training assist visit in the simulator training area was conducted.

December 5-9, 1988 INPO re-evaluated the performance of four operations crews in the simulator.

December 7-14, 1988 An INPO team evaluated the emergency response organization readiness at Peach Bottom.

January 9-13, 1989 An INPO accreditation team visited Peach Bottom.

Letter to J. F. Paquette, Jr.

January 16-20, 1989 An INPO follow-up team evaluated progress made in correcting remaining key problem areas from the September 1988 plant evaluation.

## EXECUTIVE SUMMARY

The following beneficial practices and accomplishments were noted:

- o improved state of preservation of unit 2, reduction in contaminated plant areas, increased efforts to improve the reliability of motor-operated valves, and protection of plant systems and system components from corrosion by extensive lay-up measures
- o human factors enhancements to support operations including installation of mimic bussing, color-coding, and other operator aids in the control room; and consistent application of detailed, easy-to-read labels on components and piping throughout the plant
- o the positive attitude and motivation exhibited by craftsmen and an improvement in teamwork among most plant groups
- o achievement of low, cumulative radiation exposure in the replacement of the unit 3 recirculation piping by effective application of proven ALARA principles and lessons learned from replacement of the unit 2 piping

Improvements were recommended in a number of areas. The following are considered to be among the most significant areas in need of improvement:

1. The ability of shift crews to respond to plant transients as demonstrated in the simulator needs significant improvement. (OP.4-1) Examples include the following:
  - a. Both crews observed had problems executing instructions in the transient response implementing procedures.
  - b. Both crews observed experienced difficulty operating key systems important to cooling the reactor.
  - c. Both crews observed had difficulty controlling reactor vessel water level when recovering from simulated events.
  - d. One crew failed to recognize several abnormal conditions.
2. Operations management and shift supervision are not sufficiently aggressive in providing needed guidance, holding personnel accountable, and ensuring effective action is taken to correct operational and administrative problems. (OP.1-1) Examples of this problem are as follows:
  - a. Shift operations crew performance in the simulator needs improvement. See paragraph 1 above.
  - b. Managers and supervisors need to ensure that some significant operational problems are promptly investigated and corrected.

- c. Implementation of the Operations Management Manual and Operators Manual has been impeded by lack of clear direction, management follow-up, and personnel accountability.
  - d. Implementation of the permit and blocking system is impaired by lack of clear direction and by insufficient management follow-up to ensure standards are met.
3. The ability of control room operators to readily and accurately determine plant status is impeded by problems with many of the administrative tools provided to control the status of plant systems and components. (OP.1-1, OP.3-1, OP.3-2, TS.3-1, TS.7-1) Problems were noted in the following areas:
- a. Administrative provisions of the permit and blocking system hamper the operators' ability to determine the status of all blocked components in the plant.
  - b. Control room piping and instrumentation drawings (P&ID) need to be annotated to reflect the installation of temporary plant alterations to support timely and appropriate response to plant casualties and to facilitate proper isolation when needed.
  - c. Control room P&IDs omit many installed valves and most assigned valve numbers, thereby decreasing the operators' ability to determine and communicate plant configuration and needed changes, especially during off-normal plant conditions.
  - d. Operations narrative logs need to be consistently maintained to a level of detail sufficient to enable oncoming shift crews to accurately assess the status of the plant, including events in progress.
4. Higher standards of performance need to be effectively established or implemented in several areas. (OA.3-1) Examples include the following:
- a. Some management personnel do not provide needed direction or hold personnel accountable to maintain a high level of shift operations crew performance.
  - b. Some important plant events are inadequately investigated for root cause and lessons learned; a threshold level for the initiation of internal event investigations based upon event significance needs to be established.
  - c. Workers frequently use improper radiological protection practices; managers and supervisors infrequently monitor field work and sometimes miss opportunities to correct improper practices observed.
  - d. Standards for instructor use in evaluating operations crew performance in the simulator are needed. Lack of standards frequently results in performance evaluations that inadequately address performance weaknesses and needed improvements; this significantly reduces the usefulness of simulator performance evaluations as an effective training tool.

- e. Improper industrial safety practices and working conditions are common. Managers and supervisors rarely assess and correct improper practices and conditions.

Findings and recommendations are listed under the performance objectives to which they pertain. Findings describe conditions that detract from meeting the performance objectives. Particularly noteworthy conditions that contribute to meeting performance objectives are identified as good practices and strengths. Good practices are considered sufficiently unique within the industry such that they would be useful to other utilities.

The recommendations following each finding are intended to assist the utility in ongoing efforts to improve all aspects of its nuclear programs. In addressing these findings and recommendations, the utility should, in addition to correcting or improving specific conditions, pursue underlying causes and issues. Additional supporting details for selected findings are provided in Appendix II.

As a part of each station evaluation, the evaluation team follows up on responses to findings in previous reports. Findings with response actions that are incomplete, but progressing on a reasonable schedule, are carried forward in Appendix I to the report. In areas where additional improvements are needed, or where response actions have not been timely, a related finding that stands on its own merit is written. The finding(s) from the previous report to which the new finding is related are listed with the new finding. For this report, there are six findings related to previous findings and five findings carried forward in Appendix I.

The findings listed herein were presented to Philadelphia Electric Company management at an exit meeting on October 19, 1988; findings, recommendations, and responses were discussed on December 5, 1988, and the responses are considered satisfactory.

To follow the timely completion of the improvements included in the responses and the Appendix I items, and any SOER recommendations evaluated as not satisfactory, including each red-tab SOER recommendation received subsequent to this evaluation, (see Appendix II), INPO requests a written status report by June 30, 1989. A final update will be requested six weeks prior to the next evaluation.

## EXECUTIVE SUMMARY

The Institute of Nuclear Power Operations (INPO) conducted an evaluation of the corporate support and monitoring of the nuclear stations from October 3 through 7, 1988.

As a basis for the evaluation, INPO used the December 1987 Performance Objectives and Criteria for Corporate Evaluations; these were applied in light of the experience of INPO's team members, INPO's observations, and good practices within the industry. Information was gathered from discussions, interviews, reviews of documentation, and the evaluations of the stations.

Several beneficial practices and accomplishments were noted, including the following:

- o Implementation of an effective and comprehensive goals and objectives program
- o Use of engineering work controls to provide timely modification packages for the upcoming outage and timely engineering support as requested by the stations
- o Visible support by upper management for the ALARA program, resulting in radiation exposure reduction during major maintenance and modification efforts

In addition, improvements were recommended in a number of areas. The following are considered to be the most significant areas in need of improvements:

1. Continue to improve the corporate support necessary to achieve operational excellence at both nuclear stations.
  - a. Cultural and behavioral improvements sought by senior management during the past year need to be firmly established as part of conducting day-to-day business. (Finding 1.1A-1)
  - b. Additional operational experience and inquisitiveness are needed on the corporate staff to critically evaluate abnormal events and routine operations at the stations. (Finding 1.2A-2)
  - c. The permit and blocking program has caused personnel and equipment safety problems at one station and administrative problems at both stations for years. Aggressive corporate action has not been taken to correct longstanding issues that inhibit implementation of an effective permit and blocking program. (Finding 1.2A-3)
  - d. The corporate staff needs to provide more assistance to improve performance of station activities in several areas (i.e., performance of operations shift crews, maintenance of accredited training programs, use of operating experience, proactive technical and materiel management support, and maintenance support). (Finding 1.2A-6)

2. Monitoring and assessment of training activities at both nuclear stations by the corporate training organization are not effective in verifying that certain areas of the accredited training programs are properly maintained. (Finding 2.9C-1)
3. Important in-house operating experience information is inadequately shared between the stations, and industry operating experience information needs to be provided to groups within the corporate organization for review and use. (Finding 1.2A-4)

In addition, the following two previously identified areas for improvement need strong and continuing emphasis:

1. Implement the planned management development program to prepare prospective managers for nuclear management positions and to provide necessary supervisory skills training and career paths for supervisors. (1987 - Recommendation 2.6B-1)
2. Implement the necessary controls to ensure effective configuration management of the nuclear stations. (1987 - Recommendation 1.2B-1). This includes establishment of a transition plan including action items and milestone dates for the transfer of design responsibilities and documents from the architect/engineer to the company. (Finding 1.2B-2)

Findings and recommendations are listed under the applicable performance objectives. Findings describe conditions that detract from meeting the performance objectives. Particularly noteworthy conditions that contribute to meeting performance objectives are identified as strengths. As a result, most of the findings highlight conditions that need improvement.

The recommendations are intended to assist the utility in ongoing efforts to improve all aspects of its nuclear programs. In addressing these findings and recommendations, the utility should, in addition to correcting or improving specific conditions, pursue underlying causes and issues.

INPO's goal is to assist member utilities in achieving the highest standards of excellence in nuclear plant operation. The corporate findings and recommendations are based on apparent needs and on best practices, rather than minimum acceptable standards or requirements. Accordingly, areas where improvements are recommended are not necessarily indicative of unsatisfactory performance.

The findings and recommendations listed herein were presented to management at an exit meeting on October 19, 1988. Findings, recommendations, and responses were discussed on December 6, 1988, and the responses are considered satisfactory.

To follow the timely completion of the improvements included in the responses, INPO requests a written status by June 30, 1989. A final update will be requested six weeks prior to the next evaluation. In these status updates we request an assessment of the effectiveness of corrective actions taken for those key findings that are reflected above in the "most significant areas in need of improvement" be provided.



Institute of  
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Atlanta, Georgia 30339-3064  
Telephone 404 953-3600

December 27, 1988

Mr. Corbin A. McNeill, Jr.  
Executive Vice President, Nuclear  
Philadelphia Electric Company  
Correspondence Control Desk  
Post Office Box 7520  
Philadelphia, PA 19101

Dear Mr. McNeill:

This letter documents the results of INPO's special assistance visit conducted at the Peach Bottom simulator from December 5 through 9, 1988, as requested by Mr. J. F. Paquette, Jr. The purpose of the visit was to evaluate shift crew performance in the simulator.

The results of the visit were discussed with appropriate members of the plant staff on December 9, 1988. Written material was not provided by the team at this briefing. In accordance with our policy, the team returned to INPO and discussed their thoughts with other experienced personnel and department management before providing these recommendations in writing.

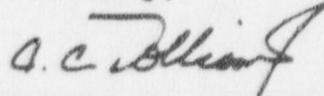
Enclosed is a copy of our team's trip report. It is provided to you independent of INPO's evaluation program and is intended for assistance in enhancing nuclear plant operations.

The team noted improvement in the performance of the operating shift crews observed. Weaknesses were noted in teamwork for one crew.

Mr. Corbin McNeill, Jr.  
Page 2

I hope you find the information useful. Please do not hesitate to contact me, or have your staff contact Bob Link at 404/953-5452 on this matter.

Sincerely,



*for* Kenneth A. Strahm  
Group Vice President  
Evaluation and Assistance

KAS/cap

Enclosures: (as stated above)

cc/w: J. F. Paquette, Jr.  
G. A. Hunger, Jr.  
J. S. Franz  
Z. T. Pate  
A. C. Tollison, Jr.



## Memorandum

Date December 21, 1988

To Ken Strahm

From Bob Link

Subject Trip Report - Special Assist Visit to Peach Bottom  
Atomic Power Station Simulator

### I. Background and Purpose

A special assistance visit was conducted at the Peach Bottom simulator from December 5 through December 9, 1988. The purpose of the visit was to observe four operating shift crews on the plant specific simulator conducting normal operations and responding to emergency situations. Observation of the operating shift crews in the simulator was conducted after satisfactory evaluation by Philadelphia Electric Company management as stated in a letter from Mr. J. F. Paquette, Jr. to Mr. Z. T. Pate dated December 2, 1988. The observations were conducted at the Peach Bottom simulator located at the simulator vendor's manufacturing facility in Columbia, Maryland.

Team members included the following individuals:

<u>Name</u>	<u>Title</u>
R. W. Link	Team Manager
G. K. Adkins	Operations Evaluator
S. M. Garchow	Training Evaluator
G. C. Tietz	SRO Peer Evaluator (Assistant Superintendent Operations, Quad Cities)

Information used by the team members to prepare for the visit included the Peach Bottom Atomic Power Station October 1988 First Draft Evaluation Report, plant experience report, special assistance visit reports to assist simulator instructors dated October 4, 1988 and November 7, 1988, as well as the Peach Bottom emergency operating procedure flow charts. Additionally, the team members were briefed by the original INPO operations and training evaluation team members.

## II. On-Site Activities

Team members arrived at the Peach Bottom simulator vendor's manufacturing facility around noon on Monday, December 5, 1988. A 30 minute entrance meeting was conducted with Peach Bottom operations and training management to discuss the activities planned for the rest of the week. Team members familiarized themselves with the control panels and reviewed the sequence of events for the simulator scenarios selected by the INPO team for the next day's observation. Later, Peach Bottom operations management discussed operating crew composition, division of responsibility among crew members, and the operating philosophy concerning the use of the emergency operating procedures.

The next four days consisted of observing four operating shift crews conducting normal operations and responding to emergency situations on the simulator. Each crew was observed during three scenarios in the evaluation mode over a four to five hour period starting at 0730 each morning. In the afternoon the team members re-constructed the scenarios using a common time line and compared observed crew performance against expected crew performance as specified in the Peach Bottom procedures or operating philosophy. Questions on observed activities were resolved through daily discussions between team members and the plant operations and training management. Additionally, team members reviewed the sequence of events for the simulator scenarios for the next day with the simulator instructors on the simulator.

Plant personnel contacted while conducting the observations are shown on Attachment A. A briefing was held on Friday, December 9, 1988, where team members presented verbal feedback to plant operations and training management on the operating crew performance.

## III. Summary

The team noted improvement in the performance of the operating shift crews observed. However, while the performance of one crew was generally in keeping with the high standards expected, significant weaknesses were noted in crew teamwork. During an anticipated transient without scram (ATWS), the crew exceeded the torus heat capacity limit and inadvertently allowed reactor water level to drop below the top of the active fuel due to miscommunications and improper monitoring of plant parameters.

During the ATWS recovery phase, two crews stopped injecting water into the reactor at approximately -70 inches to ensure the reactor vessel 100 degree per hour cooldown rate was not exceeded. Another crew, in a similar situation, continuously re-established reactor water level in a controlled manner to the normal operating band. The unexpected action of the first two crews, (stopping all injection into the reactor) was discussed with operations management who stated that the action was correct because the procedure caution that states, "Normal cooldown rates may be exceeded," does not apply during the recovery phase. Further discussions with the INPO Plant Analysis Department revealed that this action has not been observed during other simulator evaluations and needs to be discussed with the Boiling Water Reactor Owners Group (BWROG) as a generic issue. It was agreed that Peach Bottom operations management and INPO Plant Analysis Department would submit this issue to the BWROG for resolution.

In summary, the performance of the operating shift crews observed in the simulator was satisfactory. However, additional simulator training for the operating crew that experienced teamwork deficiencies noted above is recommended. The focus of this training should be on the development of teamwork skills.

#### IV. Discussion and Recommendations for Improvement

Discussion: During a turbine trip with anticipated transient without scram (ATWS), several actions were taken by one operating crew that do not follow best industry practice. The following observations were noted:

- o Although the shift supervisor was aware reactor pressure and suppression pool temperature were approaching the torus heat capacity temperature limit, action to correct the adverse trend was initiated at the limit and as a result the limit was exceeded.
- o While lowering reactor water level to reduce reactor power in accordance with the plant procedure, crew members monitored the wide range level instrument that reads downscale at -165 inches. As a result, reactor water level was allowed to decrease to -175 inches or approximately three inches below the top of the active fuel. Crew members were not aware that reactor water level had fallen below the top of the active fuel.

- c During an ATWS condition, reactor water level is decreased to reduce reactor power level until the average power range meters (APRM) reach the downscale alarm setpoint. Crew members were not monitoring the APRMs, did not observe when the downscale alarms initiated, and continued to lower reactor water level unnecessarily. This resulted in an inadvertent lowering of reactor water level below the top of the active fuel.

On several occasions crew members were shouting to each other and one supervisor cupped his hands to make himself heard. This resulted in confusion and miscommunication among crew members. For example, drywell pressure was reported as 3.8 psig when the recorder was indicating 2.0 psig, torus water temperature was reported as 169 degrees when it was actually 149 degrees, and reactor water level was reported as -190 inches when it was actually -90 inches. The shift supervisor uses parameter values such as these to determine appropriate operator action in the emergency operating procedures.

**Recommendation:** Provide additional simulator training for the operating crew that experienced teamwork deficiencies resulting in exceeding the torus heat capacity temperature limit, inadvertent lowering of reactor water level below the top of the active fuel, and errors in reporting torus temperature and reactor water level that were not corrected by other team members. During the training, emphasize the importance of the delineation of crew responsibilities in order to improve crew performance.

RWL/cu

Attachment: A - Personnel Contacted

**Trip Report - Special Assistance Visit to Peach Bottom Simulator**

**Supervisory Personnel Contacted  
(Also attended Friday briefing)**

<b>Name</b>	<b>Title</b>
John Cotton	Operations Superintendent
Ernie Till	Training Manager
Rick Andrews	Operations Training Superv.
Al Fulvio	Senior System Engineer
Denny McClellan	Lead Simulator Instructor

**Plant Personnel Contacted**

**OPERATIONS**

Shift Manager - 4  
Shift Supervisor - 4  
Chief Operator - 4  
A Control Operator - 4  
Shift Technical Advisor - 4

**TRAINING**

Simulator Instructors - 3  
Off-Site Dose Calculation Assistant - 4



Institute of  
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January 31, 1989

Mr. Joseph F. Paquette, Jr.  
Chairman, CEO and President  
Philadelphia Electric Company  
Correspondence Control Desk  
Post Office Box 7520  
Philadelphia, PA 19101

Dear Mr. Paquette:

This letter forwards the results of INPO's plant evaluation follow-up visit conducted at the Peach Bottom Atomic Power Station from January 16 through 20, 1989. The purpose of the visit was to evaluate progress in key problem areas identified in the September 1988 INPO evaluation report.

The results of the follow-up visit were discussed with the plant staff on January 20, 1989. Written material was not provided by the team at that briefing. In accordance with our policy, the team returned to INPO and discussed their thoughts with other experienced personnel and department management before providing these recommendations in writing.

A copy of the team's trip report is enclosed as Attachment A. As noted in the "SUMMARY" section of the report, the team concluded that substantial and adequate overall progress had been made in resolving the performance problems noted in the September 1988 evaluation report. The team noted significant improvements in the areas of teamwork, attitude, and professionalism among shift operations crew personnel and in control room discipline.

The trip report identifies several areas needing further improvement, including some, listed below, that need attention prior to startup. We do not intend to evaluate further progress in these areas prior to startup because of the nature of remaining actions. Rather, we request that PECO management assess the following areas and determine that progress is adequate to support startup.

- a. continuation of current efforts to upgrade the implementation of the permit and blocking system, including planned training on use of the system
- b. strengthening the process for transferring operational information from shift to shift

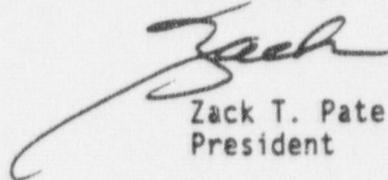
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J. F. Paquette, Jr.  
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- c. updating piping and instrumentation drawings and 120/208 VAC power distribution drawings for operator use in equipment isolation and plant operation
- d. removal or technical evaluation of temporary electrical attachments to welding receptacles

Please call me at 404-980-3200 or Ken Strahm at 404-980-3214 if there are any questions.

Sincerely,



Zack T. Pate  
President

Enclosure (As stated)

cc/w: Mr. C. A. McNeill, Jr.  
Mr. G. A. Hunger, Jr.  
Mr. J. F. Franz



Date: January 31, 1989

## Memorandum

To: K. A. Strahm

From: *E. R. Eckstein*  
E. R. Eckstein

Subject: TRIP REPORT - EVALUATION FOLLOW-UP VISIT TO PEACH BOTTOM ATOMIC POWER STATION

### I. BACKGROUND AND PURPOSE

An evaluation follow-up visit to Peach Bottom Atomic Power Station was conducted on January 16-20, 1989. The purpose of the visit was to review the status of the station's corrective action on key aspects of performance discussed in the Executive Summary of the September 1988 INPO evaluation report of the Peach Bottom station, as follows:

- o Operations management and shift supervision are not sufficiently aggressive in providing needed guidance, holding personnel accountable, and ensuring effective action is taken to correct operational and administrative problems.
- o The ability of control room operators to readily and accurately determine plant status is impeded by problems with many of the administrative tools provided to control the status of plant systems and components.
- o Higher standards of performance need to be effectively established or implemented in several areas.

The team members were as follows:

E. R. Eckstein	Team Manager
W. E. Webster	Assistant Team Manager
E. P. Shankle	Operations Evaluator
D. J. Moss	Radiological Protection/Industrial Safety Evaluator
D. C. Winterich	Operating Experience Evaluator

### II. ON-SITE ACTIVITIES

During the visit, five of six operations shift crews were observed conducting normal day shift and backshift operations. In addition, specific maintenance activities and other evolutions were observed.

An entrance briefing was conducted during the first morning on site and a final informal briefing for the site vice president and plant manager was conducted on Friday afternoon prior to the team's departure from the site. Key personnel contacted during this visit are listed in Attachment A.

### III. SUMMARY

The team concluded that substantial and adequate overall progress has been made in the problem areas described above but that some additional efforts to implement planned corrective measures are needed to ensure the desired level of performance is attained. The following are significant changes that have been achieved since the September 1988 INPO evaluation:

- o enhanced teamwork, attitude, and professionalism among the shift operations crews
- o improved control room discipline

### IV. DISCUSSIONS AND RECOMMENDATIONS FOR IMPROVEMENT

Several areas were identified where additional emphasis is required. These are discussed in the Recommendations paragraphs below. Many of these areas were recognized by the station and the additional effort required is already planned.

#### PERMIT AND BLOCKING PROGRAM

##### A. Discussion

Significant improvement was noted in the implementation of the permit and blocking system. Further efforts are planned to complete development of the automated permit data base and hard copy equipment status files for each unit. However, plant events related to the application of the permit and blocking system continue to occur. Root causes for these events include improper permit isolation boundaries, incorrect component identification on a permit, and inadequate understanding of the work to be performed under a permit or of the effect of establishing permit boundaries. For example, in one instance, an inadequate isolation boundary established for work on the generator hydrogen seal oil system resulted in about 100 gallons of lube oil being spilled on the floor of the unit 2 Turbine Building. These events indicate a need for additional attention to detail in the administration of the permit and blocking system and for increased sensitivity to the safety significance of the system.

### Recommendation

Continue with current efforts to upgrade the implementation and management oversight of the permit and blocking system including planned training on use of the system. Complete update of the permit manager data base and equipment status files. In addition, continue to investigate plant events related to the permit and blocking activities to determine root causes, identify programmatic weaknesses, and effect necessary corrective actions. Emphasize to operations personnel the importance of attention to detail in implementing the permit and blocking program.

### TRANSFER OF OPERATIONAL INFORMATION FROM SHIFT TO SHIFT

#### B. Discussion

In some cases, operational information is not effectively transferred from shift to shift. For example, after placing the reactor building closed cooling water system in service, operations personnel took several days to correctly diagnose a leak in that system through a leaking relief valve on the non-regenerative heat exchanger resulting from an unusual system line-up. Resolution of an identical leak a month earlier was fully discussed in the unit reactor operator's log, yet the information exchange from shift to shift was insufficient to preclude recurrence of this abnormal condition. In another case, the unit 2C air compressor was placed in service after having failed its routine air capacity check the previous day. The shift reactor operator and shift manager were not aware of the failure even though it was entered in the unit 2 reactor operator log.

### Recommendation

Strengthen the process for transferring information among operations crews. Emphasize to operators the need to thoroughly review narrative logs prior to assuming shift duties. Continue recent efforts to upgrade the quality of narrative log entries. Use other available tools such as turnover sheets, information tags, and the equipment status file to document abnormal system lineups and equipment problems.

### PLANT INCIDENT INVESTIGATION PROCESS

#### C. Discussion

Progress has been made in developing a program for the identification and investigation of plant incidents in the operations area, but implementation of the program is still in progress. Although the corrective actions resulting from

investigations that have been conducted have been assigned to responsible individuals, action items do not have due dates, are not being tracked to completion. Incidents outside the operations area are not uniformly investigated. It is recognized that a procedure has been drafted to specify when and how investigations of site incidents should be initiated.

#### Recommendation

Issue guidance, applicable to all departments, that establishes the requirements for the site event investigation process. This guidance should encompass the various existing event investigation and reporting systems, and require formal tracking and closure of action items resulting from the investigations.

### PLANT STATUS CONTROLS

#### D. Discussion

Progress has been made in improving control room piping and instrumentation drawings as a plant status control tool by the inclusion of valve numbers from the critical equipment monitoring system (CEMS). However, 120/208 VAC power distribution drawing errors or omissions create a potential for human performance problems during equipment isolation and troubleshooting. Further action is also needed to incorporate temporary electrical loads connected to welding receptacles into the station temporary plant alteration (TPA) program to ensure such loads are properly analyzed for their potential effect on the station's electrical load study.

#### Recommendation

Complete the updating of piping and instrumentation drawings to incorporate CEMS-assigned valve numbers. Complete the planned update of 120/208 VAC power distribution drawings to eliminate known errors. Complete the incorporation of temporary electrical attachments to welding receptacles into the station TPA program.

### CONTAMINATION CONTROL

#### E. Discussion

Improved station radiological work practices were noted during a variety of maintenance and other activities involving potentially contaminated material. Nevertheless, the total number of personnel contaminations occurring each month has not significantly improved and remains among the highest in the industry. A recent report prepared for management by health

physics personnel indicated that 60 percent of the contaminations were due to improper radiological work practices. Additional actions are needed at both the individual worker level to improve work practices and at the first-line supervisor level to ensure proper practices are being enforced.

Recommendation

Continue to implement previously identified corrective actions to reduce personnel contaminations as follows:

- o improved supervisory awareness and monitoring training
- o improved general employee training
- o escalation of worker counseling to more senior management levels
- o improved use of work area containments
- o identification and elimination of contamination sources

TRIP REPORT - FOLLOW-UP VISIT  
PEACH BOTTOM ATOMIC POWER STATION

Key Personnel Contacted

C. McNeill	Executive VP, Nuclear
D. M. Smith	Peach Bottom Site VP
J. F. Franz	Peach Bottom Plant Manager
J. Cotton	Superintendent, Operations
G. Rainey	Superintendent, Maintenance
D. Lequia	Superintendent, Services
G. Daebeler	Technical Superintendent
K. Powers	Peach Bottom Project Manager

Plant Personnel Contacted  
(number contacted by position)

Shift manager 5  
Shift supervisors 5  
Unit reactor operators 10  
Non-licensed operators 3



# Maryland Department of Natural Resources

Tidewater Administration  
Tawes State Office Building  
580 Taylor Avenue  
Annapolis, Maryland 21401

William Donald Schaefer  
Governor

Torrey C. Brown, M.D.  
Secretary

March 7, 1989

William F. Kane, Director  
Division of Reactor Projects  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Dear Bill:

On behalf of the State of Maryland I would like to thank you for the opportunity to participate in the Integrated Assessment Team Inspection of the Peach Bottom Atomic Power Station. The information I gathered and the insights I gained will be very important in determining the State's position concerning restart. I was pleased to have the opportunity to work with your inspection team.

I have enclosed a copy of a memorandum I prepared for the Secretary of Natural Resources concerning the inspection. This memorandum addresses my observations concerning strengths and weaknesses of PECO's operation of Peach Bottom as observed during the IATI. As we have discussed, my principal outstanding concern is with the modifications which have been installed during the current outage and the ability of PECO's quality control inspections to assure that these modifications were properly installed. My concerns are described in more detail in the memorandum.

I look forward to continuing to work with the NRC and PECO in ensuring that the remaining outstanding issues are adequately addressed.

Sincerely,

Thomas E. Magatte, Manager  
Nuclear Programs

Encl.

cc: James C. Linville, NRC  
Corbin A. McNeill, PECO

Telephone: \_\_\_\_\_  
DNR TTY for Deaf: 301-974-3683

~~89-322-254~~ 8pp



TORREY C. BROWN, M.D.  
SECRETARY

JOHN R. GRIPPIN  
DEPUTY SECRETARY

STATE OF MARYLAND  
DEPARTMENT OF NATURAL RESOURCES  
TIDEWATER ADMINISTRATION  
TAWES STATE OFFICE BUILDING  
ANNAPOLIS 21401

MEMORANDUM

March 6, 1989

TO: Torrey C. Brown, M.D.  
FROM: Thomas E. Magette *TEM*  
SUBJ: NRC Team Inspection of Peach Bottom

From February 5 through February 17, 1989 the NRC conducted an Integrated Assessment Team Inspection (IATI) of the Peach Bottom Atomic Power Station. I participated in this inspection on behalf of the State. The purpose of this memorandum is to briefly describe my impressions of the inspection.

Since being shut down by the NRC in March 1987 the Philadelphia Electric Company (PECO) has made many changes in the operation and management of both the company and Peach Bottom. During the shutdown the NRC has conducted several inspections to evaluate the status and adequacy of PECO's corrective actions. The purpose of the IATI was to review the adequacy of changes not previously inspected or which require follow-up inspection, determine if improvements are effective and appear long lasting, and determine if PECO is prepared to support restart and safe operation of Peach Bottom.

I had two objectives during the IATI. The first was the same as the NRC's, i.e., to evaluate the effectiveness of the corrective actions taken by PECO. This was done both by participating directly in the inspection activities of the NRC and by my own independent inspection activities. My second objective was to evaluate how the NRC conducted its inspection and how it reached conclusions. Because we could never duplicate the inspection resources of the NRC, either in terms of expertise or manpower, we are obviously interested in the results of their inspection. Furthermore, because they are the regulatory agency which will ultimately determine if and when restart is permitted, we are equally dependent on their conclusions. It is therefore important for us to understand how they reached their conclusions so that we can have confidence in their results.

The inspection was conducted by 15 NRC experts from their Region I and headquarters offices. The team reviewed the following areas:

- Station and Corporate Culture
- Operator Resource Development
- Operations Site Management
- Corporate Oversight and Quality Assurance
- Engineering
- Surveillance and Maintenance
- Health Physics
- Security

The results of the inspection will be described in an NRC Inspection Report which will be published on March 7, 1989. In general, the inspection team concluded that PECO's corrective actions are in place and being effectively implemented and that PECO has demonstrated that it is ready and able to operate Peach Bottom safely. PECO's performance as compared to its last Systematic Assessment of Licensee Performance (SALP) was determined to be improving. The NRC also identified several items which will require correction prior to approval for restart.

I am satisfied that the inspection was adequate to the task of evaluating the effectiveness of PECO's corrective actions. It was my observation that the NRC inspection team was highly competent, well focused on the areas to be inspected, and aggressive in evaluating PECO performance. While there are limits on how much can be evaluated in any inspection, the IATI was sufficient to judge PECO's readiness for operation in the categories listed above.

I am also in agreement with the conclusions reached by the inspection team. PECO has significantly improved the operation of Peach Bottom. In addition to improving, PECO's performance as measured against an absolute standard for safe operation of the plant is also acceptable. PECO has aggressively worked to upgrade performance, programs and hardware for the past year, and the results are apparent. There is, nonetheless, still room for significant improvement. As noted above, there are also problems which must be addressed prior to restart.

Among the most notable improvements I observed at Peach Bottom were improved operator attitudes, reduction of contaminated areas within the plant, improved communication between departments, and the addition of the Shift Manager position as the senior manager on shift in the control room. The most important change within the company is the change in corporate management which has occurred since the shutdown. I have listed these and other strengths I observed in an attachment. This list agrees very well with the NRC's list of strengths.

As noted above, some weaknesses significant enough to require correction prior to restart were also identified. There were also some problems identified which will require long term solutions. Some of these, e.g., establishment of off-shift career alternatives for licensed operators, will not be corrected prior to restart. Those weaknesses I consider to be most significant, both restart and long term, are listed in an attachment.

My most serious concerns at present are with plant modifications and associated quality control. I have two concerns relative to modifications: the first is with those modifications made to the plant during the present outage. The second is with PECO's modification process.

Several improperly installed modifications were discovered during a Quality Assurance audit conducted by PECO. Review of these modifications indicated problems at virtually every step of the process - design, construction, inspection and testing. Some of the improperly installed modifications identified by PECO have been corrected and were inspected during the IATI. Others will be corrected prior to restart. Correcting the specific problems identified by the audit, however, may not completely address the problem (the Quality Assurance audit was based on a relatively small sample of recently installed modifications). I believe these problems are indicative of a generic problem with the modification process.

PECO has conducted an analysis of the root cause of this problem. Hopefully, this analysis will also address the scope of the problem. The root cause analysis was in draft form at the conclusion of the IATI, and thus was not reviewed either by myself or the NRC. I believe this report should be finalized, reviewed by the NRC and the state, and any necessary corrective actions implemented prior to restart. These steps are necessary to ensure that all problems with recently installed modifications are identified and corrected.

In at least one case involving improperly installed instrument air tubing, there is no evidence that post-construction quality control inspections were ever conducted. PECO has committed to reinspect all similar tubing which was modified during the outage. This is certainly a positive move on their part, but may not be adequate to ensure that all improperly installed modifications are identified and corrected. I will pursue this issue with both PECO and the NRC.

The second problem concerning modifications involves the process under which the problems occurred. PECO has taken several steps to correct these problems on a programmatic basis. Among these are the creation of the "MOD team." The MOD team is composed of representatives of all departments involved in a modification to ensure that potential problems are identified at the design stage. This proactive move to prevent problems before they occur is a very positive step.

PECO is also taking other steps to improve this process, including supplemental training for quality control inspectors and improved criteria for modification acceptance tests. These are also positive steps. There is already evidence that PECO's improvements are starting to pay off, particularly the use of the MOD teams. However, I do not believe the evidence is sufficient to conclude that PECO has demonstrated the effectiveness of this process.

Demonstrating the effectiveness of these changes should not be an impediment to restart because the effectiveness of these changes can be better judged the next time PECO goes into an outage and has several modifications to install. Thus, this is another area where long term confirmation of effectiveness is necessary. I will also continue to pursue this with the NRC.

One other area where PECO still needs to show significant improvement is in the general area of its Quality Assurance program. The present Quality Assurance structure was established during PECO's major nuclear reorganization and is still characterized by some growing pains. It is not yet clear to me that the new program is completely effective. The NRC has also identified this area as needing additional attention. Success in this area will be crucial to PECO's overall recovery at Peach Bottom. I will continue to monitor both PECO's improvement in this area, as well as the NRC's evaluation of that improvement.

In conclusion, I believe that PECO has now demonstrated that they are capable of and ready to operate the Peach Bottom Atomic Power Station in a manner that does not pose an unacceptable threat to the citizens and environment of Maryland. While there remain a few issues that must be addressed prior to restart, no significant impediments to restart remain. I further believe that the recent IATI provided a solid foundation for reaching this conclusion.

With the conclusion of this inspection, the following steps must be addressed prior to restart:

PECO must address the outstanding issues

Corrective actions must be reinspected as necessary

Advisory Committee on Reactor Safeguards must conduct its review

The NRC Staff must make a final recommendation on restart

The NRC must vote on restart

cc: James W. Peck  
Paul Massicot  
James M. Teitt

## STRENGTHS

- \* INCREASED PROFESSIONALISM IN ALL DEPARTMENTS
- \* IMPROVED OPERATOR ATTITUDES
- \* IMPROVED MANAGEMENT
- \* INCREASED MANAGEMENT ONSITE
- \* PLANT HOUSEKEEPING/REDUCTION OF CONTAMINATED AREAS
- \* COMMUNICATION BETWEEN DEPARTMENTS
- \* CONTROL ROOM STAFFING/OPERATOR WORKLOAD
- \* SHIFT MANAGERS \*\*\*\*\*
- \* ELIMINATION OF PREVENTIVE MAINTENANCE BACKLOG FOR UNIT 2
- \* MAINTENANCE TRACKING SYSTEM
- \* MANAGEMENT ACCESSABILITY
- \* USE OF "MOD TEAM" FOR PLANNING MODIFICATIONS
- \* ALARA - PLANNING AND CORPORATE SUPPORT FOR
- \* IMPROVED WORKING RELATIONSHIP BETWEEN HP AND OTHER DEPARTMENTS
- \* IMPROVEMENTS IN SECURITY
- \* REDUCTION OF RADWASTE VOLUME
- \* PROCEDURE FOR SELECTION OF FUTURE SUPERVISORS
- \* TRAINING COURSE: "SUPERVISION OF WORK PRACTICES"

## WEAKNESSES

- \* QUALITY CONTROL INSPECTIONS/INSPECTORS/PROCEDURES
- \* PROBLEMS WITH MODIFICATIONS INSTALLED
- \* MATURITY OF NUCLEAR QUALITY ASSURANCE ORGANIZATION
- \* LACK OF CLEARLY DEFINED ACCEPTANCE CRITERIA FOR MATe
- \* OPERATOR MISTRUST OF MANAGEMENT
- \* REMNANTS OF "OLD PECO"
- \* ESTABLISHMENT OF OFF-SHIFT CAREER ALTERNATIVES FOR OPERATORS
- \* INCONSISTENT TECHNICAL PROFICIENCY AMONG HP TECHS
- \* LACK OF OPERATING PLANT EXPERIENCE FOR SOME HP TECHS"
- \* UNRESOLVED ISSUES FROM NRC ELECTRICAL INSPECTION



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

Attachment 3 to Enclosure

MAR 20 1989

Ms. Jean S. Ewing  
Peach Bottom Alliance  
3300 Jourdan Avenue  
Darlington, Maryland 21034

Dear Ms. Ewing:

Your letter to Chairman Zech dated March 2, 1989, has been referred to me for reply. In your letter, you expressed your opposition to the restart of the Peach Bottom Atomic Power Station. The bases you provided in support of your opposition are related to recent NRC staff recommendations for Mark I containment improvements and your concern over radioactive waste disposal.

A Commission decision on whether restart of the Peach Bottom station should be authorized has not been made. A Commission meeting to consider the question is tentatively scheduled for April 1989. The Commission will consider the views of the staff, the licensee, the Advisory Committee on Reactor Safeguards (ACRS), and the comments provided by members of the public during the various public meetings held in the vicinity of the plant in arriving at its decision on the question.

The staff's recommendations on Mark I containment improvements are part of the NRC's overall approach to beyond design basis accidents. These recommendations relate to the performance of the containment in response to low probability events beyond the already existing design basis performance capabilities of the containment design. The Mark I design meets current regulatory requirements and the Commission has determined that such a design does not pose an undue risk to the public health and safety. Accordingly, this issue need not be resolved prior to a restart decision. The issue is before the Commission and any required modifications at Peach Bottom will be performed in accordance with their decision.

Regarding your concern over radioactive waste disposal, we agree that there is a need to resolve the issue. The Congress and the U. S. Department of Energy (DOE) have been working on the matter for a number of years. The Nuclear Waste Policy Act of 1982 and the Nuclear Waste Policy Amendments Act of 1987 provide guidance for the work to be done by the DOE and the NRC. The DOE will be responsible for the selection, design, and construction of a nuclear waste repository. The NRC will be responsible for the safety review work. The preliminary design work is currently in progress. Detailed schedules for procedures to construct the repository have been defined. The schedule indicates an NRC decision concerning the Construction Authorization in 1998 and an NRC decision on the Operating License in the year 2003.

Sincerely,

Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation

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2 March 1989

PEACH BOTTOM ALLIANCE  
3300 JOURDAN AVE.  
DARLINGTON, MD  
21034

Lendo Zeck, Chairman  
Nuclear Regulatory Commission  
Washington DC 20555

Dear Mr Zeck

We are aware that you five men will be making decisions regarding the reopening of Peach Bottom this spring. We want to reach you directly, although we appreciate the opportunity to speak to members of your staff recently.

There are several good reasons to delay reopening this plant. There are two superb reasons for keeping it closed.

Experts on your staff have recommended, over the course of years of study, that GE plants be required to

- Speed up implementation of the Blackout Rule covering the peril of a simultaneous failure of on-site and off-site power to operate controls.
- Provide alternate water supply with independent pumping system for drywell spray;
- Harden the venting systems;
- Improve evacuation and emergency education;

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PEACH BOTTOM ALLIANCE  
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DARLINGTON, MD  
21034

Provide greater reliability in the automatic decompression system, with capacity to survive high temperatures.

If there is some good reason why the advice of Murley and Spies is to be ignored and NOT enforced by the Commission it escapes us entirely.

Meanwhile the world knows the horror of our country's radioactive waste disposal calamity. Is this beyond your ken? What do you think should take place? Who will tell the omnipotent N.R.C. to regulate the amount of waste to be disposed - to cut it to zero?

These shortcomings in regulatory responsibility are critical. They are yours and yours alone.

About a year and a half ago, Mr Zech, we heard you pronounce to Mr. Elliott of P.E. "What's to tell me you know how to run any nuclear plant, anywhere?" Some of us were thinking "and what's to tell us that you know how to regulate the industry, any way, anyhow, anywhere?"

Sincerely

Leon S. Fwing

We would like to have an answer, please. SE

3/3  
PEACH BOTTOM ALLIANCE

2300 JOURDAN AVE.

DARLINGTON, MD

21034

cc: / Commissioner Zerk, chairman, N.R.C.  
Commissioner Kenneth Carr  
Commissioner Thomas Roberts  
Commissioner Kenneth Popers  
Commissioner James Curtiss  
Dr. William Kerr, Ch. ACRS  
Dr. Forrest Remick,  
Dr. Harold Lewis  
James Carroll  
Carlisle Michelson  
David Ward  
Charles Wylie  
Dr. Chester Siess  
Dr. Paul Sherman  
Senator John Glenn  
Senator Wirth  
Senator Schroeder  
Senator Metzgerbaum  
Senator Heinz  
Senator Spector  
Senator Mikulski  
Senator Sarbanes