

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
PERFORMANCE APPRAISAL BRANCH

Report No. 50-277/79-09; 50-278/79-10

Docket no. 50-277; 50-278

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Facility Name: Peach Bottom Atomic Power Station

License No. DPR-44; DPR-56

Inspection At: Peach Bottom Atomic Power Station, Delta, Pennsylvania,
and Philadelphia Electric Company General Offices,
Philadelphia, Pennsylvania

Inspection Dates: March 19-30, 1979

Inspectors:

D. R. Hunter
D. R. Hunter

2/8/80
(Date)

T. T. Martin
T. T. Martin

2/19/80
(Date)

W. D. Shafer
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2-8-80
(Date)

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2/12/80
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Accompanying Personnel: E. G. Greenman, Resident Inspector, IE, RI

Approved By:

J. E. Gagliardo
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Performance Appraisal Branch

2/14/80
(Date)

Inspection Summary

Inspection on March 19-30, 1979 (Report No. 50-277/79-09; 50-278/79-10)
Areas Inspected: Special, announced inspection of the licensee's manage-
ment controls over licensed activities. The inspection involved 168

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inspector-hours onsite and 136 inspector-hours in the corporate offices by four NRC inspectors.

Results: Of the eleven areas inspected, no items of noncompliance or deviations were identified in eight areas; three items of noncompliance were identified in three areas (infraction - failure to provide an adequate retraining program for non-licensed personnel, paragraph 7; infraction - failure to perform quality assurance audits, paragraph 9; deficiency - failure to follow procedures, paragraph 12) and one deviation was identified in one area (unqualified receipt inspectors, paragraph 7).

DETAILS

1. Persons Contacted

The following lists (by title) the individuals contacted during this inspection. The matrix to the right of the listing indicates the areas (number corresponds to paragraph number in the report) for which that individual provided significant input. Other individuals were contacted during the inspection but the extent of their input to the inspection effort was not significant to the findings delineated in this report.

Title of Individual

General Office	3	4	5	6	7	8	9	10	11	12	13
Vice President, Electric Production	X	X		X			X				X
Vice President, Engineering and Research											
+Vice President, Purchasing and General Services											
+Manager, Electric Production	X	X	X	X			X	X			X
+Manager, Purchasing and Stores											
+Manager, Engineering and Research			X								
+Manager, Safety Department											X
Manager, Claims Security Division											X
+General Superintendent, Stores Division											
+Assistant General Superintendent, Construction											
Assistant General Superintendent, Maintenance Division								X			
+Superintendent, Maintenance Division								X			
+Superintendent, Generation Division - Nuclear	X	X		X	X	X	X	X		X	X
+Superintendent, Quality Assurance Division, Electric Production	X			X			X		X		
+Superintendent, Administrative Training Section					X						
Superintendent, Services Division	X			X			X				
+Superintendent, Administration Division, Electric Production											
+Superintendent, Methods Section Administration Division				X							X
Electrical Superintendent, Maintenance Division					X					X	
+Superintendent, Limmerick, Electric Production											
Engineer, Training and Testing					X						
Engineer, Security											X
Engineer, Safety (2)					X						
Supervising Engineer, Radiation Protection											X
Senior Auditor				X							
Auditor, Quality Assurance Section, Engineering and Research					X		X		X	X	
Auditor, Quality Assurance, Electric Production							X		X		

Title of Individual

On-Site	3	4	5	6	7	8	9	10	11	12	13
+*Station Superintendent	X	X	X	X	X	X	X	X	X	X	X
*Assistant Superintendent		X			X	X	X	X	X	X	X
Operations Engineer	X	X					X		X		
*Engineer, Technical	X	X	X	X	X	X	X	X	X		
*Engineer, Maintenance	X			X	X			X		X	X
*Engineer, Administrative											
*Engineer, Chemistry	X						X		X		
*Engineer, Health Physics	X				X		X	X	X		X
*Engineer, Instrument and Control				X	X		X		X		
Shift Superintendent	X							X			
*Shift Supervisor (2)	X	X		X			X		X		X
*Engineer, Quality Assurance	X			X							X
Training Coordinator					X						
Security Supervisor											X
Electrical Foreman				X				X			
Mechanical Foreman				X				X			
Engineer, Mechanical								X			
*Quality Assurance Engineer,					X		X		X	X	
Electrical Production (2)											
Auditor, Quality Assurance,					X				X	X	
Electrical Production (2)											
*Results Engineer				X	X	X				X	
*Reactor Engineer					X					X	
Health Physics Technician					X				X		
Health Physics Training Supervisor					X						
Instrument and Control Foreman								X			
Instrument and Control Technician					X				X		
Chemistry Technician					X						
Chemistry Assistant Technician					X						
Engineer, Surveillance Coordinator							X				
Modification Coordinator			X								
Engineer (SLD)			X								
Control Operator	X	X			X		X		X		X
Assistant Control Room Operator	X			X			X		X		X
Plant Operator	X				X						
Auxiliary Operator					X						
Repairman, Mechanical					X						
Repairman, Electrical					X						
Quality Assurance Receipt Inspector					X					X	

Title of Individual

<u>On-Site</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>
Storekeeper					X					X	
Quality Assurance Auditor				X							X
Health Physics Area Supervisor											X
Health Physics Crew Leader											X
Operations Health Physics											X
Guards (4)											X

*Attended the exit interview at the site on March 23, 1979.

+Attended the exit interview at the General Offices on March 30, 1979.

2. Inspection Scope and Objectives

This report documents the inspection by the NRC/IE Performance Appraisal Branch (PAB) of the licensee's management controls of licensed activities. The objective of the inspection was to determine how the licensee performs licensed activities, the results of which will provide input to the PAB evaluation of licensees from a national perspective.

The inspection effort covered licensed activities in selected functional areas. In each of the functional areas the inspectors reviewed written policies, procedures, and instructions; interviewed selected personnel and reviewed selected records and documents to determine whether:

- a. the licensee had written policies, procedures, or instructions to provide management controls in the subject area;
- b. the policies, procedures, and instructions of (a) above, were adequate to assure compliance with regulatory requirements;
- c. the licensee personnel who had responsibilities in the subject area were adequately qualified, trained, and retrained to perform their responsibilities;
- d. the individuals assigned responsibilities in the subject area understood their responsibilities; and
- e. the requirements of the subject area had been implemented to achieve compliance and activities sampled had been appropriately documented.

The inspection findings in each of the selected areas are presented in subsequent numbered paragraphs. The findings in each area are presented in two parts. The first part contains the enforcement findings which document any identified items of noncompliance, deviations, or unresolved items. The corrective action for these findings will be evaluated by the Regional office, which will also process enforcement action and close out the items. The second part of each area addresses other lesser inspection findings and is entitled "Observations". These are observations that the inspectors believe to be of sufficient significance to be considered in the subsequent evaluation of the licensee's performance. The observations include the perceived strengths and weaknesses in the licensee's management controls for which there may be no well-defined regulatory requirement or guidance. The observations also include information about the licensee or his management controls which cannot be categorized as a strength or weakness, but are items which could be of significance in evaluating management control systems if they are later found to be generic to licensees having success in the subject area, or to those licensees having problems in the area.

The observations in this report have been classified into one of three categories. The classification is indicated at the end of each observation by a code letter in parentheses. The code letter "S" is used to indicate a perceived strength, the code letter "W" is used to indicate a perceived weakness, and the code letter "I" denotes an informational item. Since there is no regulatory basis for these observations, enforcement action relative to the observations is not appropriate, and the licensee is not required to take any action regarding them. The licensee is requested, however, to review the observations, with particular emphasis to those categorized as weaknesses, to determine their application to his management controls and quality assurance program in maintaining or improving his organizational effectiveness regarding the safety of his operation.

3. Control of Plant Activities

The objective of this portion of the inspection was to determine the adequacy of the management controls over licensed activities associated with plant operations.

a. Documents Reviewed

(1) Administrative Procedures

- (a) A-2, Procedures for Control of Procedures, rev. 13
 - (b) A-3, Procedures for Temporary Changes to Approved Procedures, rev. 5
 - (c) A-7, Shift Operations, rev. 7
 - (d) A-8, Procedure for Control of Locked Valves, rev. 2
 - (e) A-20, Generation of System Procedures, rev. 2
 - (f) A-22, Generation of Operational Transient, Emergency & Special Event Procedures, rev. 2
 - (g) A-36, Periodic Review of Procedures, rev. 2
 - (h) A-42, Jumper Log Procedure, rev. 6
 - (i) A-43, Surveillance Testing System, rev. 10
 - (j) A-46, Procedure for the Maintenance of Records During Commercial Operation, rev. 4
- (2) General Plant Procedure GP-3, Normal Plant Shutdown, rev. 16
 - (3) Routine Test Procedure RT-9.2, Jumper Log Review, rev. 0
 - (4) Station Operating Handbook on Permits and Blocking, 1967
 - (5) Final Safety Analysis Report, Section 17.2 Peach Bottom Atomic Power Station (PBAPS) - Operational Quality Assurance Program, May, 1977
 - (6) Technical Specifications (TS) 6.0, Administrative Controls
 - (7) Peach Bottom Quality Assurance Program, rev. 3
 - (8) Operations and Safety Review Committee minutes for meeting #15, meeting #16, and meeting #38.

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

Technical Specification 6.5.1.6.d requires the Plant Operation Review Committee (PORC) to be responsible for the review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety. 10 CFR 50.59(b) requires that records of changes be kept, including safety evaluations which provide the basis for determination that the changes do not involve unreviewed safety questions. Administrative Procedure A-42, Jumper Log Procedure did not require that PORC review and approve installation of jumpers that change the facility as described in the FSAR. At the time of the inspection, no jumpers constituting unreviewed safety questions were identified. This item (277/79-09-01; 278/79-10-01) is unresolved pending the establishment of adequate administrative controls to prevent initiation of jumper modifications of the facility as described in the FSAR, until safety evaluations are developed and reviewed which demonstrate the modifications do not result in unreviewed safety questions.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) The operations organization met or exceeded the requirements of TS 6.2. The shift manning requirements were regarded as minimums with routine additions including a second Plant Operator, a second Auxiliary Operator, and several Helpers. Additional tiers of supervision were provided in the functional areas of Chemistry, Health Physics, Security, and Maintenance. The positions entitled Engineer I&C (or Results) and Engineer Health Physics and Chemistry had each been split and manned by separate engineers. A Quality Assurance Engineer, independent of the corporate QA organization, had been assigned to the station reporting to the Station Superintendent on QA matters. The corporate Generation Division had both a Nuclear and Radiation Protection Section, each staffed with professionals having responsibility for planning, regulatory interface, and corporate overview in their functional areas. (I)
- (2) The control panels for Units 2 and 3 were situated in a common control room. Each unit had a dedicated licensed

operator assigned to its individual panels. An additional licensed operator was stationed in the control room for coordination of actions on the two units, for the routine direction of non-licensed operators, and for backup of each unit licensed operators, should their individual unit experience a transient. Discussion with licensed operators and station management determined there existed no formal mechanism or requirements for the transfer of unit control responsibility, should a licensed operator need to leave the area of sight contact with the controls to which he was assigned. Further, the licensee did not delineate an area within which the licensed operator must remain during his shift tour. (W)

- (3) Individuals manning posted shift positions were required to remain on the job until properly relieved. Shift management was charged with the responsibility to ensure adequate personnel would be available for oncoming shifts to accommodate planned activities. Neither overtime rules or administrative procedures precluded assignment to unit controls in excess of 16 hours; nor did the procedures provide for backup or additional supervisory coverage should this condition exist. Discussions with licensed operators and station management indicated 16 hour assignments were not unusual, but longer assignments were extremely unlikely. (W)
- (4) The Maintenance Request Form (MRF) was a multi-function document for the historical documentation of malfunctions, the request for repairs, the approval of equipment outage and work, the request for equipment clearance and blocking, the request for a Radiation Work Permit, the documentation of the work performed and the material used, and the description of the post-repair test performed and its acceptance or rejection. Procedures required that the work site be cleaned and inspected by the lead craftman prior to turnover of the equipment or system to Operations for acceptance testing. (I)
- (5) The Station Operating Handbook on Permits and Blocking established a formal system for removal of equipment from service. Equipment or system outages which degraded plant capacity or reliability required permission from the electric distribution Load Dispatcher. Lesser outages only required the permission of the Shift Superintendent or Shift Supervisor. The licensee had provided and required the use of detailed blocking sequence diagrams and lists, which had been developed for many of the frequent or anticipated equipment outages. Component conditioning and the hanging of tags was required to be performed in the described sequence prior to the turnover to Maintenance; and then, the tags were required to be removed and the components restored to required conditions in the reverse

sequence, following turnovers to Operations. Tags removed during the restoration to service were audited against the Blocking Permit listing. (S)

Administrative procedures required that the Control Operator refer to the Locked Valve Lists, when clearing a permit, and inform the individual clearing the tags which valves were to be locked. Interviews of Control Operators and Plant Operators failed to demonstrate a familiarity with this requirement. (W)

- (6) Administrative procedures established the controls utilized for electrical jumpers and lifted leads. The procedures did not require duplication of documentation or control for those jumpers and lifted leads subject to the procedures for MRFs, Surveillance Tests or Blocking Permits, since these procedures were believed, by the licensee, to provide equivalent administrative protection. (I)

The Jumper Log procedure indicated that a senior licensed operator would review appropriate electrical schematics and then physically verify the jumpers or lifted leads were properly installed or performed, respectively. The procedure section devoted to the steps required to fill out the Jumper Log failed to address the need for physical verification. Interviews with several senior licensed operators indicated that physical verification of proper installation, meeting the intent of the jumper or lifted lead, was not routinely practiced by them. (W)

The Jumper Log procedure did require that a member of shift supervision approve and personally inspect the restoration of circuits subject to lifted leads or jumpers. Further, the I&C Engineer was required to review the Jumper Log quarterly. (I)

- (7) Site management utilized a series of daily meetings to control activities and assure adequate feedback. The Maintenance Department held short morning and afternoon meetings; the former to discuss the status of on-going jobs and resolve problems encountered, with the latter to establish plans and priorities for the next day's jobs. This sequence of meetings appeared to ensure administrative or prerequisite bottlenecks did not develop. Following the early morning maintenance meeting, the Station Superintendent held a meeting addressing the experiences since his previous meeting and planned activities for the upcoming period. Additional department meetings were held as required, but reportedly with less regularity or formality than those discussed above. (I)
- (8) Surveillance tests were scheduled by the Surveillance Test Coordinator, who issued a list of tests to be completed

weekly to each cognizant engineer. Tests which could not be conducted that week were reported to the coordinator, who then rescheduled the test to be performed within the allowable grace period. Completed weekly schedules and reviewed and approved test results were returned to the coordinator for logging and filing. (S)

- (9) TS 6.8 established the requirements for performing temporary changes to approved procedures. Administrative procedures allowed the required second approval of the change by a PORC member to be granted by telephone. The administrative procedures also allowed partial implementation of procedures without classifying this action as a temporary change if:
- (a) portions of the procedure need not be performed to satisfy the purpose for which the procedure is being implemented;
 - (b) a PORC member designates those portions of the procedure not to be performed; and,
 - (c) the PORC member records the reason for partial implementation of the procedure and initials same. (I)
- (10) Administrative procedures established requirements for shift relief which included the necessity for arriving supervision and operators to receive verbal reports of plant status, experiences, and plans. Shift relief was allowed to occur prior to the review of applicable logs and the inspection of plant instrumentation, controls, equipment, and areas of responsibility by the arriving personnel. (W)
- (11) Administrative procedures established the authority of any licensed operator to initiate a plant shutdown or scram upon his detection of a safety hazard. The plant could not be restarted or returned to power without approval of the Station Superintendent. Station procedures required that the Station Superintendent be notified of any condition which affected plant reliability or capacity. (I)
- (12) Personnel working for the Results Engineer provided technical services, developed procedures, monitored plant performance, researched problems, provided some specific operator training, and drafted reports. The staff involved in these activities frequently included co-op students on work assignment, who were subject to appropriate levels of supervision depending on their experience, level of education, and the difficulty of the assignments. (I)

- (13) Several managers, both at site and corporate headquarters, indicated they utilized the concepts of "Management by Objectives" to fulfill their responsibilities. Goals were established annually through negotiations between the manager and his subordinate based on analysis of the previous years performance, a review of the corporate goals, and a decision on what was reasonably obtainable in performance improvement. The subordinate was then required to periodically report on the progress made toward the established goals. Annual performance appraisal and decisions related to changes in compensation were made based on the degree to which the goals were met or exceeded. (S)
- (14) The Station Superintendent routinely visited the Control Room for the purpose of observation of activities and discussion with shift personnel. Reportedly, these visits were not restricted to the normal daylight hours and the shift personnel interviewed indicated their belief that little occurred on site for which the Station Superintendent was unaware. (S)

Interviews with site and corporate personnel indicated that the corporate chain of command for operations from the Vice President - Electric Production Department down, frequently were on site to observe activities and plant conditions, while making themselves available for discussion of problems. (I)

- (15) The Station Superintendent attended a bi-weekly superintendents' meeting which included representatives of both fossil and nuclear plants. The Superintendent Generation Division - Nuclear attended a bi-weekly meeting with the Vice President - Electric Production Department and Manager - Electric Production Department. The Vice President - Electric Production Department attended a bi-weekly executive staff meeting. All these meetings were established mechanisms for the discussion of problems and plans, with the intent to coordinate activities and efficiently determine appropriate courses of action. (S)
- (16) Information flow within the top three tiers of the corporate Operation's chain-of-command included daily oral reports of plant status, written summaries of the LERs and NRC reports, monthly highlight reports, and the annual operating report. This feedback was supplemented by the circulation of Quality Assurance Division audit reports, accident reports, bi-weekly outstanding item status reports, and minutes of the Station Superintendents, OSRC, and PORC meetings. (I)

4. Review and Audit of Licensed Activities

The objective of this portion of the inspection was to determine the adequacy of the licensee's management controls associated with reviewing, monitoring, and auditing the performance of licensed activities by all levels of management.

a. Documents Reviewed

- (1) PBAPS - Operational Quality Assurance program, Section 17.2, Safety Analysis Report
- (2) Peach Bottom Quality Assurance Plan, Volumes I and III
- (3) Job description for the General Supervisor, Quality Assurance Division, Electric Production, August 30, 1978
- (4) Selected portions of the following operating logs and records covering the first three months of 1979
 - (a) Assistant Control Operator Log
 - (b) Control Operator Log
 - (c) Shift Superintendent Log
 - (d) F.O.G. (Franz O'Gram) Reports
- (5) 1978 and 1979 biweekly QA Division Activities Reports
- (6) Various minutes of the biweekly meetings of the Vice President, Electric Production, and his staff for 1978 and 1979
- (7) 1978 Annual Report to Management by Quality Assurance

b. Findings

- (1) Items of Noncompliance
None.
- (2) Deviations
None.
- (3) Unresolved Items
None.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory

requirements provide the bases for subsequent performance evaluations.

- (1) There were no detailed job descriptions in writing for members of the licensee's management staff providing specific guidance on the key facets of their duties, responsibilities, and lines of authority. One exception to this was the QA Division of the Electric Production Department.

There were no written procedures or instructions which specifically identified the records and plant activities to be reviewed by members of the licensee's management staff, and there were no written instructions assigning responsibilities to managers to sign various types of outgoing correspondence (to NRC) as representatives of the company. (W)

- (2) Top level managers at the corporate offices did not routinely review plant operating records (such as logs, maintenance and surveillance records). The managers in the operational line above the Station Superintendent did receive a daily verbal report of operating status. In addition, they routinely reviewed Quality Assurance Division audit reports (via biweekly staff meetings), a monthly report from the site, Plant Operations Review Committee (PORC) meeting minutes, Operation and Safety Review Committee (OSRC) meeting minutes, Licensee Event Reports, and all NRC correspondence. (I)
- (3) The Vice President, Electric Production; Manager, Electric Production; and Nuclear Superintendent, Generation Division stated that they periodically visited the site to observe activities, but they did not document the visits (other than through scheduled OSRC meetings at the site) or formally report visit findings to site management. (I)
- (4) The Vice President, Electric Production, held biweekly meetings with his staff. The meetings were documented. The Manager, Electric Production and Nuclear Superintendent, Generation Division stated that they held no routine staff meetings, but that special meetings were called when there was a need. (I)
- (5) Licensee management periodically reviewed the implementation of the training program, but they did not formally evaluate the adequacy or effectiveness of the program. (W)
- (6) No system had been established to assure that licensee amendments and TS changes were received by the personnel responsible for implementing the changes, nor was there assurance that superseded pages were properly discarded.

Interviews with plant personnel revealed that TS changes did not have wide distribution and were not effectively communicated. Other than operators, several non-supervisory personnel to whom specific TS changes had direct application stated that they had never seen them. (W)

- (7) No system had been established to assure the prompt distribution of changes in regulations, guides, and standards to the personnel having a need to know about the changes. Interviews showed that these changes did not have wide distribution. (W)
- (8) F.O.G. (Franz O'Gram) reports (named for a former employee) were written by the Operations Engineer to his staff. They served the purpose of night orders and appeared to be an informal, but effective means of communicating information to the shift personnel. The F.O.G.'s typically contained temporary operating instructions, some pertinent changes to regulatory standards or guides, and items of a general interest to operating personnel. They came out usually more than once a week during operations and daily during outages. (S)
- (9) The Station Superintendent and Assistant Station Superintendent routinely reviewed the Shift Superintendent's Log and selected periodic surveillance tests. These reviews were documented with initials or signatures. No other operating records were routinely reviewed by them. (I)
- (10) The Station Superintendent stated that he entered the Control Room daily and toured other areas of the plant approximately once every three months. The Assistant Station Superintendent stated that he toured at least one portion of the plant every day. Neither of these persons documented their tours nor the problem areas identified. (I)
- (11) The Station Superintendent routinely held a meeting with the plant supervisory staff each morning to discuss projected activities and any identified problem areas. (S)
- (12) Operating staff supervisors, who were also members of PORC, indicated that they routinely toured only those areas of the plant which had a direct bearing on their job function. None of these tours or the problem areas identified were documented. (W)
- (13) In contrast to the practice described in item 12, the shift supervisors toured all areas of the plant in accordance with a posted weekly schedule. These tours were logged both on the posted schedule and on the plant operator's and auxiliary operator's "rounds" sheets. (I)

- (14) Various records of plant activities were not effectively communicated between management and non-supervisory personnel as evidenced in the following examples.
- (a) Records of design changes and modifications were not distributed or readily available to shift personnel, both supervisory and non-supervisory, prior to or during the installation. Only after the design change or modification had been completed were the records made available through training packages or in post-outage summary reports. (W)
 - (b) PORC meeting minutes, QA audit reports, and Licensee Event Reports were not routinely distributed to plant personnel, either supervisory or non-supervisory, unless there was a direct cause-and-effect relationship between the specific report and the individual's activities. (W)
- (15) Staff and management individuals who were interviewed stated that there were no written instructions to review identified problem areas (as identified in inspection reports, audit reports, LER's etc.) for possible generic implication. Most of them indicated, however, that such generic reviews were conducted. (W)

5. Design Changes and Modifications

The objective of this portion of the inspection was to determine the adequacy of management controls associated with engineering, design changes, and modifications.

a. Documents Reviewed

- (1) PBAPS - Operational Quality Assurance Program, Section 17.2, Safety Analysis Report
- (2) Technical Specifications, Section 6.0
- (3) Quality Assurance Program Procedures
 - (a) Section 1, Introduction
 - (b) Section 2, General Program Description
 - (c) Section 3, Activities
 - . ST, Surveillance Testing
 - . MI, Maintenance of Instruments
 - . MEM, Maintenance, Electrical and Mechanical
 - . MOD, Modifications
- (4) Plant Administrative Procedures
 - (a) A-2, Procedure for Control of Procedures, rev. 13
 - (b) A-3, Procedure for Temporary Changes to Procedures, rev. 5
 - (c) A-4, PORC Procedures, rev. 13
 - (d) A-6, Procedure for Control of Drawings and Drawing Logs, rev. 6
 - (e) A-7, Shift Operations, rev. 7
 - (f) A-8, Locked Valves, rev. 2
 - (g) A - 13, Procedure for Reporting Defects and Noncompliances, rev. 2
 - (h) A-14, Plant Modifications, rev. 6
 - (i) A-14.1, Process Computer Modification Procedure, rev. 1
 - (j) A-20, Generation of System Procedures, rev. 2

- (k) A-27, Material Control, rev. 10
 - (l) A-42, Jumper Log Procedure, rev. 6
 - (m) A-46, Maintenance of Records During Commercial Operations, rev. 4
- (5) Engineering and Research Department Procedures (ERDP).
- (a) ERDP 3.1, Procedure for Handling Q-Listed Modifications, rev. 0
 - (b) ERDP 3.2, Procedure for Maintenance and Revision of the Project Q-List, rev. 1
 - (c) ERDP 3.3, Procedure for Performance of Safety Evaluations and Applications for Amendments to Facility License, rev. 1
 - (d) ERDP 3.4, Procedure for Design Control, rev. 1
 - (e) ERDP 3.6, Procedure for Preparation and Review of Engineering Drawings for Nuclear Plant Modifications, rev. 1
 - (f) ERDP 3.7, Procedure for Control and Revision of Quality Assurance Diagrams, rev. 0
 - (g) ERDP 3.8, Procedure for Processing Engineering Review Requests, rev. 1
 - (h) ERDP 3.9, Procedure for Preparation and Control of Design Calculations, rev. 1

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

- (a) 10 CFR 50.59 (a)(1)(i) specifies that a licensee may make changes in the facility as described in the safety analysis report without prior commission approval, unless the proposed change, test, or ex-

periment involves a change in the Technical Specifications incorporated in the license or is an unreviewed safety question. 10 CFR 50.59(b)(2) indicates records of changes in the facility and procedures made pursuant to this section to the extent that such changes constitute changes in the facility as described in the safety analysis report shall be maintained and these records shall include a written safety evaluation which provides the basis for the determination that the change does not constitute an unreviewed safety question.

TS 6.5.1.6(d) requires that the Plant Operations and Review Committee (PORC) review all proposed changes or modifications to plant systems or equipment that affect nuclear safety, and TS 6.5.1.7(a) requires that the PORC recommend to the Station Superintendent written approval or disapproval of the items considered.

A review of Procedure ERDP - 3.2, Maintenance and Revision of the Project Q-List, revealed that the change process did not include the determination of the need for a required safety evaluation. Additionally, the proposed Q-List changes were not reviewed by the PORC. Discussions revealed that approximately 24 items on the Q-List had been previously changed with no written safety evaluations or review as appropriate.

This matter is an unresolved item (277/79-09-02; 278/79-09-02).

- (b) Criterion III of Appendix B to 10 CFR 50 requires that design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design.

FSAR, Section 17.2, PBAPS - Operational Quality Assurance Program, specified that design control measures adequate to meet the applicable codes, standards, and regulations will be provided by administrative procedures.

Peach Bottom Quality Assurance Program (PBQAP), Volume III, Section 3.0, Design Control, specified the use of design control measures adequate to identify, document, and control changes or deviations from design or quality standards and that the design requirements were being met.

PBAPS Quality Assurance Plan, Volume I, Section 3.0, Design Control, specified design control measures,

including design changes and field changes, shall be subject to design control measures commensurate with those applied to the original modification design.

A review of procedures ERDP-3.4, Design Control, and ERDP-3.8, Processing Engineering Review Requests, revealed that control of changes to design in the field lacked requirements for specific verification and documentation that no change to the original written safety evaluation-safety analysis was involved.

Discussions revealed that a substantial number of field changes had been made using an Engineering Review Request Form (ERRF) which did not require a safety evaluation.

This matter is an unresolved item (277/79-09-03; 278/79-10-03).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) The responsibilities and requirements for design control were provided in Administrative Procedure A-14, Plant Modification, and in ERDP 3.4, Procedure for Design Control. Interviews of selected personnel revealed that the site and corporate personnel understood the design control procedures. (I)
- (2) Major modifications were implemented by the Engineering and Research Department, or by the Electric Production Department if the design was performed by an approved vendor. (I)
- (3) The modification review and approval at the site and corporate office appeared acceptable and included the appropriate onsite, offsite, and NRC approval requirements. Interviews revealed that major modifications initiated within the Electrical Production Department were processed through the Superintendent, Nuclear-Generation. Written procedures were not established to control the processing of modifications at the Superintendent, Nuclear Generation level. (W)
- (4) The determination that a proposed change was to be considered as a major or minor safety-related modification was made by the Station Superintendent or a designated staff engineer

with a senior license based on specific criteria within the Quality Assurance Program and Administrative Procedure A-14, Plant Modification. The criteria for a major modification included, as examples, changes to the reactor coolant system pressure boundary, changes to the safeguards instrumentation systems, performance of a stress or seismic analysis, and changes to certain portions of the fire protection system. (S)

- (5) The modifications determined to be minor were implemented by plant or contractor personnel. (I)
- (6) Interviews indicated that modifications were specifically utilized to improve plant safety and operating conditions. Generally the request for modification could be initiated by anyone and submitted for consideration, review, and approval. (I)
- (7) The licensee had developed a detailed written procedure concerning changes to the process computer program. A-14.1, Process Computer Modification Procedure, controlled the modifications made to the computer program and to the data bank. (S)
- (8) The licensee had developed a detailed written procedure concerning temporary and permanent setpoint changes. Administrative Procedure, A-32-A, Review, Approval, and Implementation of Temporary and Permanent Setpoint Changes, included the requirement to perform the setpoint or range change for safety related equipment in accordance with Administrative Procedure A-14, Plant Modification.

The setpoint or range changes were researched by the I&C Engineer and implemented through the Maintenance Request Form (MRF) system. (S)

- (9) The completed design control steps at the site were traced utilizing a Plant Modification Control Sheet (PMCS) which included major administrative steps such as modification number, system, description, purpose, Q-list items, design, design review, PORC review/approval, operating shift notification, and date completed. Interviews revealed that a monthly report from the Engineering and Research Department was provided to the Electric Production Department and that approximately 40 major and 20-30 minor modifications were outstanding at the time of the inspection. (I)
- (10) The Modification Coordinator provided control and input into the initiation, processing, and presentation for review of the modifications. (I)

- (11) The responsibilities for design control within the Engineering and Research Department were assigned to the Chief Mechanical or Electrical Engineer and Project Engineers. Engineering and Research Department procedures were utilized to perform the design work. Personnel interviews revealed that the specific responsibilities for design control were understood. (I)
- (12) The responsibility for design control within the plant staff was assigned to a Modification Coordinator and an Engineer with a senior operator license. Personnel interviews revealed that the responsibilities for design control were understood. (I)
- (13) The implementation of the modifications by licensee personnel was performed within the maintenance program; which included quality assurance requirements such as procedures, QC hold points, inspections, and the verification activities. (I)
- (14) The licensee controlled the Q-list utilizing a detailed written procedure ERDP-3.2, Procedure for Maintenance and Revision of the Project Q-list. The specific responsibility for Q-list control and revision was assigned to the Mechanical Project Engineer. Interviews revealed that the personnel were cognizant of the requirements. (I)
- (15) Administrative Procedure A-6, Control of Drawings and Drawing Logs, required pen and ink updating the controlled drawings to show only the significant changes prior to operating the system following major or minor modifications. (W)
- (16) The Plant Modification Control Sheet (PMCS) required that the operating shift be informed of the modification prior to the modification being completed; and the modification procedure A-14 specifically addressed the requirements for the return of modified equipment to service. The Modification Coordinator was responsible for procedure and drawing update prior to returning the equipment to service. Personnel interviews revealed that information concerning modifications was often provided after installation to the operations staff via a letter from the Engineering and Research Department. This method of providing information did not appear to ensure that all operators received the information or were appropriately trained prior to assuming the shift. Additionally, this method did not ensure that all required procedure changes were made prior to the return of equipment to operations. (W)
- (17) Plant and corporate personnel interviewed appeared to be technically qualified for the positions concerning design control. (I)

- (18) Changes had not been made to the FSAR to reflect the modifications made to safety-related systems, components, and structures. (W)
- (19) Individual personnel responsibilities and authorities for design control were assigned by job title through the administrative procedures. (I)
- (20) The quality assurance group was procedurally involved with design control and review activities performed by site and corporate engineering groups. Personnel interviews revealed that the requirements were understood. (I)
- (21) The quality assurance group conducted audits, conducted surveillance, and tracked nonconformance report (NCR) closeout for major modifications being performed at the site. (I)
- (22) Communication channels between onsite and offsite support personnel appeared to be free and open. Personnel interviews indicated that the communications were satisfactory. (I)

6. Corrective Action System and Management of Generic Issues

The objective of this portion of the inspection was to determine the adequacy of the licensee's corrective action system and management of generic issues.

a. Documents Reviewed

(1) Administrative Procedures:

(a) A-13, Procedure for Reporting Defects and Noncompliances, rev. 2

(b) A-26, Procedure for Corrective Maintenance, rev. 18

(c) A-27, Procedure for Material Control System, rev. 10

(2) Final Safety Analysis Report Section 17.2, PBAPS - Operational Quality Assurance Program, May 1977

(3) Technical Specifications Section 6.0, Administrative Controls

(4) Peach Bottom Quality Assurance Program, rev. 3

(5) Quality Assurance Division Procedures:

(a) QADP-9, Procedure for Reporting Noncompliance/Nonconformance and Corrective Action (NCR's), rev. 5

(b) QADP-19, Procedure for the Identification and Closure of Open QA Items, rev. 2

(6) Quality Assurance Division Audit Report 79-1-PR, an audit of corrective action for the OSRC.

(7) QA Division Open Item List, January 1979.

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

(a) Technical Specification (TS) 6.5.1.6.e requires the Plant Operation Review Committee (PORC) to investigate all violations of Technical Specifications, to evalu-

ate and make recommendations to prevent recurrence, and to forward a report to upper management and the Chairman of the OSRC. TS 6.5.2.7.e requires the OSRC to review all violations of internal procedures or instructions having nuclear safety significance. TS 6.8.1 requires procedures be followed.

Interviews of station and corporate personnel indicated that failure to follow procedures would not result in a Suspected Reportable Occurrence Report unless the failure led to an actual violation of TS sections 3 or 4, or to a visible and identifiable problem. Reportedly, repetitive or blatant failures to follow procedures were subject to investigations by station staff; the reports of which, were subject to limited distribution, due to an apparent perception of need to maintain confidentiality.

The licensee had no written program or documentation to demonstrate PORC and OSRC, as committees, would perform or were performing their responsibilities for review, evaluation, and corrective action relative to failure to follow procedures. This item (277/79-09-04; 278/79-10-04) is unresolved.

- (b) FSAR section 17.2.15.6 required nonconformance reports (NCRs) to be reviewed and analyzed by the appropriate superintendent, PORC, and OSRC. All station related NCRs were sent to the Station Superintendent for his review.

Reportedly, only those NCRs deemed significant by the Superintendent-Quality Assurance Division (QAD) were sent to the OSRC for their review. How the OSRC obtained the rest of the NCRs and whether both the PORC and OSRC reviewed and analyzed all NCRs was not determined. This item (277/79-09-05; 278/79-10-05) is unresolved.

- (c) FSAR Appendix 17.2A, paragraph A.2.b, indicated the Peach Bottom Quality Assurance Plan for Operations complied with the ANSI standard N18.7-1972. Section 4.1 of this standard requires establishment of review and audit programs that, among other things, detect trends that may not be apparent to the day to day observer.

Responsibility to identify and seek corrective action for repetitive failures or evidence of design deficiencies, of "Q" listed equipment or equipment required for electric generation, had been assigned as part of

the procedure for corrective maintenance. Documentation demonstrating the implementation of this responsibility was not presented on request. Other than in the area of corrective maintenance, an implemented program or group of programs which specifically addressed this requirement and assigned responsibilities for the detection of trends was not identified. This item (277/79-09-06; 278/79-10-06) is unresolved.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) The Quality Assurance Division (QAD) maintained a computer based Open Items (O/I) List, which identified and indicated the status of the following:
 - (a) Unresolved apparent deficiencies identified during QA audits.
 - (b) Closed Nonconformance Reports awaiting corrective action verification by QA.
 - (c) Open Nonconformance Reports (apparent deficiencies upgraded to nonconformances due to safety significance or indications of QA program breakdown).
 - (d) Open response items to NRC notices of violations or unresolved items.
 - (e) Open quality related licensee commitments.
 - (f) Other items as requested by the Superintendent-QAD.
- (2) The O/I list was updated and issued monthly. QAD also issued a biweekly activity report, which included status of O/Is to the Vice President-EPD, Manager-EPD, the Superintendent-Generation Division-Nuclear, and the Station Superintendent.

NCRs responses were due within 30 days. The response could be found satisfactory prior to corrective action completion if the plans and schedule for that corrective actions were accepted. Overdue NCR responses or corrective actions were reported to the Vice President-EPD.

O/I List entries could not be cleared without auditor verification of corrective action. Unresolved deficiencies were sampled for corrective action adequacy every six months. Reaudits of functional areas required reexamination of all applicable outstanding items and those items cleared during the original audit or during the last audit cycle. These reaudits were conducted to verify the adequacy and effectiveness of the corrective action. (I)

- (3) Corrective action for NRC inspection, OSRC audit, and QAD audit and surveillance items were audited and documented in QAD Audit Report 79-1-PR. The report was sent to the OSRC. Of the 39 items selected in a random sample, 31 were found acceptable. The effectiveness of the corrective action was not addressed. (W)
- (4) The Superintendent-QAD was required to make an annual appraisal of the QA plan and its implementation. Interviews indicated the 1978 report was developed without benefit or knowledge of the investigation reports of operator failure to follow procedures. The 1978 QAD activity report indicated 85 apparent deficiencies were identified with only 37 categorized and documented as the more significant NCRs. (I)
- (5) The Vice President-EPD stated that he reviewed written summaries of License Event Reports (LERs) and NRC reports. He also received copies of QAD audit reports. (I)
- (6) Receipt inspections were performed by station employees using a "Receipt Inspection Form for Quality Assurance Items." Items failing inspection received a "Hold for QA Clearance" tag. Corrective action was initiated by letters or memoranda issued by station personnel. NCRs were not initiated since, it was explained they would simply be redundant documents. Station personnel were assigned responsibility to notify QAD of nonconformances they discovered as QAD was assigned responsibility to notify the Station Superintendent of nonconformances they found. Resolution of receipt inspection deficiencies were documented on the original inspection form or on an attachment to it. (I)
- (7) Station procedures required the Shift Superintendent to notify the Station Superintendent of all equipment problems affecting plant capacity or reliability. Maintenance Request Forms (MRFs) were initiated for all corrective maintenance of "Q" listed equipment. The MRF provided the mechanism for problem identifi-

cation, corrective action prioritization and documentation, computerized planning and resource allocation, and historical record generation. Station personnel maintained equipment history files containing completed MRFs, filed by affected equipment. Area Maintenance personnel stated they also maintained machinery history records. (I)

- (8) All process irregularities and equipment malfunctions were reported to station management in shift logs. Items potentially reportable to NRC were documented in "Suspected Reportable Occurrence Reports" or LERs directly. The PORC reviewed all occurrence reports and LERs. The OSRC was made aware of all documented occurrences through their review of the PORC minutes. LERs were normally typed on site with the station responsible for prompt notification requirements. Longer time frame LERs were reviewed at corporate headquarters by the Superintendent Generation Division-Nuclear, or his staff, prior to NRC notification. Changes to LERs by the corporate staff were cleared by station personnel prior to issuance. (I)
- (9) The station was in the process of developing a Plant Performance Monitoring Program for the purpose of tracking equipment performance and degradation. At the time of the inspection a document scoping the program had been developed and initial data gathering reportedly had begun. (I)
- (10) Commitments to NRC contained in licensee responses to Bulletins, Circulars, Inspection Reports, or other documents were controlled by corporate office generated "Obligations to NRC" forms. The forms identified the document containing the commitment, assigned responsibility for action, briefly described the item, and specified the target date for completion. Copies of the form were distributed to cognizant personnel for comment and action. (S)
- (11) Both PORC and OSRC maintained current O/I Lists which were attached to meeting minutes. Neither showed due dates for completion of the items. Details concerning the items were available in the meeting minutes or audits in which the items were opened, and these source documents were identified on both lists. The O/I Lists were reportedly discussed at each meeting. PORC item closure was indicated by reference to a meeting minutes paragraph, while OSRC item closure was simply shown by a closure date. Neither list was reported to be routinely audited for accuracy and a review of OSRC items indicated 4 O/I items were unaccountedly dropped in revision 57 of that list. (W)

7. Training

The objective of this portion of the inspection was to determine the adequacy of the licensee's management of training activities, both onsite and in the corporate offices.

a. Documents Reviewed

- (1) Quality Assurance Program, FSAR Section 17.2, May, 1977
- (2) Quality Assurance Plan, Operations, rev. 3
- (3) Quality Assurance Plan, Design and Construction, rev. 3
- (4) Operator Requalification Program, October, 1974
- (5) Training Procedure, A-50, rev. 5
- (6) Procedure for Reporting Defects and Noncompliances, rev. 2
- (7) Testing Section Procedure for Training, R-2-0008, rev. 1
- (8) Training of Maintenance Division Personnel, MA-9, rev. 0
- (9) Health Physics and Chemistry Technician "C" Training, rev. 0
- (10) QA Training Program, QA Division Personnel, QADP-13, rev. 3

b. Findings

(1) Items of Noncompliance

TS 6.4.1 requires a training and retraining program for the facility staff which meets the requirements of ANSI N18.1-1971, Section 5.5.

ANSI N18.1-1971, Selection and Training of Nuclear Power Plant Personnel, Section 5.5, Retraining and Replacement Training, requires a training program be established which maintains the proficiency of the operating organization through periodic training exercises, instruction periods, and reviews covering those items and equipment which relate to safe operation of the facility. The operating organization is defined by this standard as onsite personnel concerned with the day-to-day operation, maintenance, and certain technical services.

The inspector determined that a retraining program for non-licensed operators, QA receipt inspection, reactor engineering, results engineering, health physics and

chemistry, maintenance, and I&C personnel had not been established, implemented, and maintained by the licensee. Discussions with maintenance and I&C personnel indicated that some retraining was taking place; however, the retraining did not include all personnel in those departments. A licensee representative stated that retraining consisted primarily of on-the-job training; and additionally an evaluation was made of personnel performance on a periodic basis. The inspector was informed that the evaluation did not identify what training or retraining had taken place in that evaluation period. TS 6.4.1, requires a retraining program that meets the requirements of Section 5.5 of ANSI N18.1-1971 and the failure to comply with this requirement is an apparent item of noncompliance (277/79-09-01; 278/79-10-01).

(2) Deviations

The licensee's QA program, Appendix A requires personnel performing inspection, examination, or testing activities be qualified in accordance with ANSI N45.2.6-1973. During interviews with licensee representatives the inspector was informed that quality assurance receipt inspectors were not qualified to this requirement. The failure to qualify these personnel as required by the QA Program constitutes a deviation from a licensee commitment (277/79-09-01; 278/79-10-01).

(3) Unresolved Items

None.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) Onsite retraining responsibilities appeared fragmented. No one person was responsible for maintaining a record of retraining and to assure program implementation. (W)
- (2) Maintenance department training of craft personnel was controlled and conducted by corporate personnel, independent of site management. (I)
- (3) The supervisor responsible for non-licensed operator training was not aware of his responsibility as described in administrative procedure A-50, Appendix C. He stated he had not been properly informed. (W)

- (4) The licensee's training organization had no written feedback system for evaluating the effectiveness of the training program. The licensee stated that feedback is primarily verbal. (W)
- (5) The number of LERs identifying personnel error as a casual factor increased from 15 in 1977 to 25 in 1978. The training department did not trend personnel errors. (W)
- (6) Non-licensed operators commented that site management was not adequately communicating with them. One example of this related to the licensee's practice of notifying personnel of major modifications through the recommended reading file after a modification had been completed. Site management did not agree with this observation. (W)

8. Inservice Inspections and Inservice Testing of Pumps and Valves

The objective of this portion of the inspection was to determine the adequacy of management controls over the Inservice Inspection (ISI) program and the program for the Inservice Testing (IST) of pumps and valves.

a. Documents Reviewed

- (1) Selected portions of the Unit 2/3 FSAR
 - (a) Section 17.2, PBA'S, Operational Quality Assurance Program.
 - (b) Volume VI, Appendix I.
- (2) Technical Specifications (TS), Section 3.0, 4.0, and 6.0.
- (3) Quality Assurance Program Procedure
 - (a) Section 1, Introduction.
 - (b) Section 2, General Program Description.
 - (c) Section 3, Activities.
 - . ST, Surveillance Testing.
 - . ISI, Inservice Inspection.
- (4) Plant Administrative Procedures
 - (a) A-2, Procedures for Control of Procedures, rev. 13
 - (b) A-4, PORC Procedures, rev. 13

- (c) A-26, Procedure for Corrective Maintenance, rev. 18
 - (d) A-43, Surveillance Test System, rev. 1G
 - (e) A-80, Inservice Inspection, rev. 6
 - (f) A-81, Procedure for the Generation of Visual Inservice Inspection Surveillance Tests.
 - (g) A-82, Inservice Inspection Surveillance Testing System (ST-ISI), rev. 3
- (5) Maintenance Division Administrative Procedures
- (a) MA-12, General Requirements for Quality Control Inspectors, rev. 0
 - (b) MA-13, Inservice Inspection/Visual Examination Procedure, rev. 0

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Items

Criterion XVII of Appendix B to 10CFR50, Quality Assurance Records, as amplified in Regulatory Guide 1.88-1976/ANSI N45.2.9-1974; FSAR Section 17.2.17; and Section B.5 of FSAR Appendix 17.2.A specifies the requirements for collection, storage, and maintenance of quality records.

Review of procedure A-43, Surveillance Testing System, and personnel interviews revealed that following completion of a surveillance activity the completed procedure was returned to the surveillance test coordinator for permanent filing.

The completed tests were filed in the administrative building in standard file cabinets with no fire rating as temporary records pending shipment to permanent storage and microfilming. The temporary storage of the completed tests was over an extended period of time. This issue will be submitted to NRC management for resolution.

This matter is an unresolved item. (277/79-09-07; 278/79-10-07)

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the license's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) The ISI plan was generated to provide inspection requirements of the systems and components required by the TS 10 CFR 50, ASME boiler and pressure vessel code, and the FSAR.

Interviews revealed that the cognizant personnel understood the requirements of the ISI plan. (I)

- (2) The ISI Inspection Program for the station was the responsibility of the Senior Engineer-ISI Section, Maintenance Division. The Engineer-Maintenance at the plant site remained cognizant of the ISI program and was responsible for state and federal reporting requirements when acceptance criteria were not met. Interviews revealed that engineers were routinely assigned to coordinate the program and that the personnel understood the program requirements. (I)

- (3) The ISI Program was accomplished in accordance with Administrative Procedure A-80, Inservice Inspection, and included the following items.

- (a) Prepared outage plans and schedules.
- (b) Documented review and approval of procedures.
- (c) Controlled changes, upgrading, and revision to procedures.
- (d) ISI plan prepared and reviewed by the PORC.
- (e) Specific acceptance criteria within the procedures.
- (f) Review and approval of the as-found test data. Procedure review and personnel interviews revealed that the test data was reviewed by the Senior Engineer, ISI, the authorized code inspector (AI), and the Engineer-Maintenance.
- (g) Personnel qualifications and equipment certifications.
- (h) Preparation of the ISI Report.
- (i) Review of the ISI report by the PORC. (S)

- (4) The Surveillance Test Program was accomplished in accordance with Administrative Procedure A-43, Surveillance Testing System, and included the following items.
- (a) Documented review and approval of procedures.
 - (b) Control of changes, upgrading, and revisions to procedures.
 - (c) Surveillance plan and schedule.
 - (d) Specific acceptance criteria within the procedures.
 - (e) Review and approval of the as-found test data.
 - (f) Personnel qualifications and equipment certifications. (S)
- (5) Job responsibilities and authorities were delineated in the FSAR, Quality Assurance Program, and the administrative procedures. The ISI program responsibilities were included in Administrative Procedures A-80, A-81, and A-82. These responsibilities were assigned to the senior Engineer-ISI, Maintenance Division, and the plant staff as appropriate. The inservice inspection functional operability test program was described by Administrative Procedures A-82 and A-43. These responsibilities were assigned to the Station Superintendent. The Surveillance Test Program was assigned to the Results Engineer with a Surveillance Test Coordinator assigned to schedule and document the activities. The performance of the testing activities was assigned to specific cognizant supervising engineers and weekly surveillance test schedule sheets were issued by the Surveillance Test Coordinator to those cognizant engineers. Interviews revealed that the maintenance division and plant personnel understood their responsibilities. (S)
- (6) The Inservice Test Program (ISI) was generated to provide testing of the pumps and valves as required by 10 CFR 50 and the ASME pump and valve testing requirements. The ISI Program was generated and performed within the Surveillance Test Program. Interviews and record review revealed that the plant management had taken exception to the testing of 4 pumps and 4 valves. The exemption request had been forwarded to the Superintendent, Nuclear Generation Division, Electric Production Department on March 19, 1979, and the exemption request was to be submitted to the NRC for approval.

The interviews revealed that the cognizant personnel understood the requirements of the ISI program. (I)

- (7) The ISI Plan coordination and review was performed by the ISI Test Section-Maintenance Division. The ISI program was contracted to an outside vendor for implementation. Interviews revealed that the license ISI Test Section was attempting to increase the scope of qualifications within the group. The group was qualified to perform visual inspections in accordance with Administrative Procedures A-81, Procedure for the Generation of Visual Inservice Inspection Surveillance Tests, and MA-13, Inservice Inspection, Visual Examination Procedure. (I)
- (8) The coordination of activities concerning the AI were included in the Administrative Procedure A-80 for the ISI activities. These activities included the following items.
- (a) Notification of the AI of the impending ISI and schedule.
 - (b) Providing work areas for the AI.
 - (c) Providing coordination of AI work onsite.
 - (d) Providing the AI the final report for review.

Personnel interviews revealed that the AI was a contracted service, but the licensee did not verify the qualifications of the AI. (I)

- (9) The requirements of the Quality Assurance Program were included in the administrative procedures for inservice inspection and testing activities A-80 and A-82. The Operational Quality Assurance Division provided an overview/audit function of the inservice inspection activities and the Engineering and Research Quality Assurance Division provided an overview/audit function of the contracted vendor, including the vendor's QA program. An overall approved plan and detailed procedures were provided for the activity. The Maintenance Division provided the coordination effort and personnel to accomplish the ISI activity, including quality control inspectors as appropriate. Personnel interviews revealed that the normal audit and surveillance of the ISI activity onsite was limited to an early audit and mid-term audit during the performance of the activities. The actual ISI surveillance of the vendor activities in the field, even though they were performed, were not being documented; nor were these inspection activities being performed in accordance with preplanned checklists and schedules. The licensee indicated that certain independent inspection/ surveillance documentation was possibly available through the Authorized Inspector (AI) work log which provided a substantial degree of technical and administrative overview of the ISI activity. (W)

(10) Resolution of unsatisfactory test results revealed during the ISI-IST program was provided through the maintenance request form (MRF) as specified in Administrative Procedure A-26, Corrective Maintenance. The issuance of the MRF ensured that the proper corrective action was performed. Procedure reviews and personnel interviews revealed that the MRF scope was limited to corrective actions associated with equipment, components, and structures. Failures or inadequacies within an activity could have involved certain personnel or procedural errors which were not identified within the MRF. Additionally, the MRF did not include all of the evaluation and documentation requirements [10.b(3)(a)].
(W)

9. Committee Activities

The objective of this portion of the inspection was to determine the extent and adequacy of the overview of licensed activities by the Operations and Safety Review Committee (OSRC) and the Plant Operations Review Committee (PORC).

a. Documents Reviewed

- (1) Operation and Safety Review Committee (OSRC) Nuclear Audit Plan, March 22, 1979
- (2) Charter of the Operation and Safety Review Committee, rev. 5
- (3) Administrative Procedure A-4, Plant Operations Review Committee Procedure, rev. 13
- (4) PBAPS - Operational Quality Assurance Program, Section 17.2, Safety Analysis Report
- (5) Peach Bottom Quality Assurance Plan, Volumes I and III
- (6) Operation and Safety Review Committee (OSRC) meeting minutes for 1978 and 1979
- (7) Reports of all OSRC audits conducted in 1978
- (8) OSRC Items' List
- (9) Plant Operations and Review Committee (PORC) meeting minutes for 1978 and 1979

b. Findings

(1) Items of Noncompliance

Operational QA Program responsibilities were divided between the QA Division, Electric Production Department, and the QA Section, Engineering and Research Department. The majority of all activities required by the QA Program to meet the criteria of 10 CFR 50, Appendix B, were performed by the QA Division. The responsibilities of the QA Section, defined in Section 17.2 of the FSAR, were to establish and maintain the list of approved Q-List suppliers; audit vendor's services; and establish, administer, and coordinate the QA Program associated with major modifications.

According to TS 6.5.2.8.d., audits of the performance of all activities required by the QA Program to meet the criteria of 10 CFR 50, Appendix B, shall be performed

under the cognizance of the OSRC at least once per two years. Interviews and examination of records indicated that this had only been done on the QA Division and its activities. No audits had been performed on the QA Section or its activities. This constitutes an apparent item of noncompliance (infraction) against TS 6.5.2.8.d (277/79-09-02; 278/79-10-02).

(2) Deviations

None.

(3) Unresolved Items

TS 6.5.2.7.a. requires that the OSRC review the safety evaluations for changes to procedures, completed under the provision of 10 CFR 50.59, to verify that such changes did not constitute an unreviewed safety question. When interviewed, three members of the committee could not recall ever having seen a written safety evaluation for a procedure. A fourth member stated that he thought he had seen one in the past, but stated that he had never seen a procedure come through the committee with the PORC Review Form attached (the document which serves as a cover sheet for revisions). This matter is an unresolved item (277/79-09-08; 278/79-10-08).

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Operation and Safety Review Committee (OSRC)

(a) The licensee had issued a charter which defined the organization, responsibilities, and rules of the OSRC; and a Nuclear Audit Plan which provided guidance in the conduct of audits. No other procedures or instructions had been issued which described OSRC activities. (I)

(b) The OSRC Charter and Nuclear Audit Plan did not include the following features.

- . Requirements to review safety evaluations as stated in TS 6.5.2.7.a.
- . Requirements to review violations of applicable statutes, codes, regulations, orders, licensee

requirements (other than TS), or internal procedures as stated in TS 6.5.2.7.e.

- . Provisions for taking followup action on audit findings, including reaudit of deficient areas (ANSI N18.7-1976, Paragraph 4.2).
 - . Requirements to review NRC correspondence. (W)
- (c) The OSRC did not perform any trend analysis on LERs, outstanding deficiencies, or problem areas identified through the audits or activities of the OSRC, QA Division, QA Section, or NRC. (W)
- (d) The following observations were made regarding the OSRC audit program.
- . Independence of auditors was not maintained. The licensee's Chief Mechanical Engineer had the responsibility for auditing the area of modifications; the Director of Research and Testing audited surveillance testing. Both of these individuals had direct responsibility in managing significant portions of the areas they audited. (W)
 - . The OSRC had a newly written program (March 22, 1979) intended to provide a semiannual audit of the status of corrective actions taken as a result of audit deficiencies. This was Appendix O to the OSRC Nuclear Audit Plan, entitled "Actions Taken to Correct Deficiencies." The deficiencies were defined as those resulting from OSRC audits, QA Division audits, NRC audits and inspections, and other activities as specified by the OSRC. Missing from this list were deficiencies resulting from the vendor audits and major modification audits performed by the QA Section, Engineering and Research Department. (I)
 - . The OSRC maintained an Item List, separate from the meeting minutes, which listed the outstanding OSRC audits, but not the outstanding individual deficiencies. There were no written controls for tracking deficiencies other than the semiannual audit of corrective action mentioned above. (W)
 - . Audited organizations were not provided notification of the schedule and scope of the audit to be conducted. This was usually done by a telephone. Preaudit conferences were not routinely held. (W)

- (e) No formal training or written instructions had been given to committee members and alternate members regarding the committee's review and audit responsibilities. (W)
- (f) No written measures had been established to help ensure that all required material had been reviewed or audited by the committee. The members who were interviewed said that they relied in large measure on the Station Superintendent and the PORC meeting minutes to supply them with information on proposed changes to procedures or to the facility, problem areas, and nonconformances. (W)
- (g) Alternate members to the OSRC attended all meetings and routinely received the agenda package sent prior to scheduled meetings. They were also on the distribution list for information pertinent to OSRC activities. (S)
- (h) Most of the information provided for OSRC review was distributed and reviewed independently by the members prior to each meeting. Unless problems or questions were raised during meetings, it was the practice of the committee to approve the subject of review. (W)
- (i) When asked to discuss the scope of their review, most of the OSRC members who were interviewed indicated that they were looking for Unreviewed Safety Questions (URSQ), but some of the members did not indicate that determination of the URSQ issue was part of their review. (W)
- (j) OSRC meeting minutes were prepared by the OSRC Secretary, who was also a member of the committee, approved by the Chairman, and sent to the Vice President, Electric Production Department within fourteen (14) days following each meeting as prescribed in TS 6.5.2.10.a. The minutes were not reviewed and approved by the committee at a subsequent meeting. If a member or members disagreed with the minutes as sent to them, corrections were made, and revised "approved" minutes were then resubmitted. (I)
- (k) The OSRC routinely scheduled its regular meetings (approximately once every three (3) months) at the plant site. This appeared to be an effective method of keeping members in close touch with plant personnel and activities. Most of the OSRC members who were interviewed stated that they visited the plant site more often than the scheduled committee meetings. (S)

- (1) Examination of records and interviews with OSRC members indicated that the committee had apparently never reviewed a QA Division procedure, revisions to any of those procedures, or revisions to the QA Plant, Volumes I or III. (W)
- (m) The membership of the OSRC did not include the Superintendent, Quality Assurance Division, or any member of his staff. (W)
- (2) Plant Operation Review Committee (PORC)
- (a) The licensee had issued a charter in the form of an Administrative Procedure, A-4. No other written procedures or instructions had been issued describing PORC activities. (I)
- (b) Procedure A-4 did not contain the following features.
- . Guidance on what constitutes an unreviewed safety question.
 - . Requirements to review prior meeting minutes.
 - . Requirements to review NRC inspection reports and the responses to them.
 - . Requirements to review QA and OSRC audit reports and the responses to them.
 - . Requirements to review NRC IE Bulletins and the responses to them.
 - . Requirements to review QA Plan and QA procedure changes.
 - . Requirements to review OSRC meeting minutes.
(W)
- (c) TS 6.5.1.7.b. requires PORC to render in writing a determination as to whether a procedure or a change thereto involves an unreviewed safety question. The PORC Review Form, as described in procedure A-4, was used to meet that requirement. A-4 provided two separate methods for using the form. One method required that the form be filled out in its entirety and routed to designated PORC members for review and approval. This was a ballot type review process and did not require the document be discussed at a subsequent PORC meeting. The alternative method, and the one used routinely by the committee, required that the document be discussed, reviewed, and approved

at a meeting; and that the PORC Review Form be filled in only to indicate the PORC meeting number and date of review. This alternative method, if followed as described in the procedure, could permit a procedure or procedure change to be reviewed and approved without the written determination that it did or did not involve an unreviewed safety question. (W)

- (d) Related to item (c), procedures, procedure changes, and temporary procedures were seldom seen by the PORC members who reviewed them. The documents were approved on a verbal presentation only during the course of a meeting. The only record of review was the PORC Review Form attached to the revised document and stamped with the serialized number of the meeting and the meeting date. (W)
- (e) An examination of PORC meeting minutes revealed that there was no record in the minutes of the documents (i.e., procedures, procedure changes, and temporary procedures) which were reviewed at the meeting. (W)
- (f) The PORC meeting minutes were not reviewed and approved by individual members or by the committee as a whole at a subsequent meeting. The minutes were usually signed and submitted by the Assistant Station Superintendent, and then signed and approved by the Station Superintendent. Attendance of individual members was evidenced on the cover sheet by check marks next to a printed list of member's names. (W)
- (g) Most of the PORC members who were interviewed could not adequately define what constituted an unreviewed safety question. Two members absolutely did not know. (W)
- (h) The individuals interviewed stated that the committee did not routinely address the issue of an unreviewed safety question during their meetings. As indicated in item (d), most documents were presented to the committee in a verbal presentation by the author of the document or change. The only person who would address the issue of an unreviewed safety question was the author by virtue of having filled out the PORC Review Form. (W)
- (i) Committee members had received no instructions or training in their review responsibilities. (W)
- (j) In addition to the material required by the TS, the PORC routinely reviewed NKC correspondence, including inspection reports and responses; IE Bulletins,

Circulars, and responses; NRR requests and responses; and all LERs. (S)

- (k) The PORC did not routinely review QA audit reports, QA Plan and procedure changes, OSRC audit reports, or OSRC meeting minutes. (W)
- (l) No written measures had been established by either site or corporate management to ensure that all required material had been reviewed by the PORC. (W)
- (m) Alternate members did not normally attend PORC meetings. (W)
- (n) The PORC meetings were routinely scheduled once each week. No meeting agenda or written notice was prepared and distributed to the members. Special meetings were called by oral contact with the members, and again no agenda was prepared. (I)
- (o) The Station Superintendent generally made the decision regarding the material that was to be reviewed by the committee. Special material such as procedure and design changes were presented by the appropriate supervisor or a member of his staff. (I)
- (p) The TS requirement to review all TS violations was satisfied in part by use of SRO reports. These reports were submitted by any member of the plant staff, evaluated as possible TS violations by the Operations Engineer and Station Superintendent, and reviewed by the PORC. (I)
- (q) PORC members interviewed stated that the committee did not review specific operating records to satisfy the TS requirement to review plant operations for potential safety hazards. They noted that each member did this as part of his routine job responsibilities and that significant problems were presented to the committee by the member. The Operations Engineer usually presented a brief discussion of problem areas at each morning meeting and a summary at PORC meetings. (I)
- (r) PORC used an O/I List attached to the meeting minutes, for following the identified corrective action of noncompliances, deficiencies, and other problems reviewed by the committee. (I)
- (s) The committee members interviewed stated that the committee often pursued the generic implications of issues under review, but that this was not done

routinely, and any such reviews were not documented. They also stated that they did not specifically look for generic implications to be addressed in the LERs or responses to inspection and audit reports that they reviewed. (W)

- (t) Several committee members indicated that their principal concern as members of the PORC was how committee actions affected their own areas of responsibility. Individual concerns appeared to be more important to these members than participating as reviewers of all site activities affecting nuclear safety. One member stated that he did not participate in any PORC review which did not impact directly on his area of responsibility. Additionally, several key staff persons who were PORC members indicated that they routinely toured only those areas of the plant which had a direct bearing on their job assignment. (W)

10. Maintenance

The objective of this portion of the inspection was to determine the adequacy of management controls over the corrective and preventive maintenance activities.

A. Documents Reviewed

- (1) PBAPS - Operational Quality Assurance Program, Section 17.2, Safety Analysis Report
- (2) Technical Specifications, Section 6.0
- (3) Quality Assurance Program Procedures
 - (a) Section 1, Introduction
 - (b) Section 2, General Program Description
 - (c) Section 3, Activities
 - . ST, Surveillance Testing
 - . MI, Maintenance of Instruments
 - . MEM, Maintenance, Electrical and Mechanical
- (4) Plant Administrative Procedures
 - (a) A-2, Procedure for Control of Procedures, rev. 13
 - (b) A-4, PORC Procedures, rev. 13
 - (c) A-7, Shift Operations, rev. 7
 - (d) A-12, Inspection Source Control Procedure, rev. 1
 - (e) A-14, Plant Modifications, rev. 6
 - (f) A-19, Administrative Procedure for Preparation and Distribution of Maintenance Procedure, rev. 11
 - (g) A-25, Preventive Maintenance Program, rev. 1
 - (h) A-26, Procedure for Corrective Maintenance, rev. 18
 - (i) A-27, Material Control, rev. 10
 - (j) A-28, Cleaning of Fluid Systems Components, rev. 0
 - (k) A-30, Plant Housekeeping Controls, rev. 0
 - (l) A-42, Jumper Log Procedure, rev. 2

- (5) Maintenance Division Administrative Procedures
 - (a) MA-1, Procedure for Generation of Administrative Procedures, rev. 0
 - (b) MA-2, Procedure for Control of Administrative Procedures, rev. 0
 - (c) MA-3, Documentation and Control of Maintenance of Design Shops, rev. 0
 - (d) MA-11, Procedure for Preparation of Maintenance Shop Procedures, rev. 0
 - (e) MA-12, General Requirements for Quality Control Inspectors, rev. 0
 - (f) MA-13, In-service Inspection Visual Examination Procedure, rev. 0
- (6) Research Division Procedure
 - (a) R-2-0006, Maintenance of Plant Equipment, rev. 1

b. Findings

(1) Items of Noncompliance

None.

(2) Deviations

None.

(3) Unresolved Item

Criterion XVI of Appendix B to 10CFR50, Corrective Action, and ANSI N18.7-1972, Section 5.1.6.1 as amplified in the FSAR, Section 17.2.16 and the PBQAP, Volume III, Section 16, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected, including as examples, failures, malfunctions, and defective material and equipment. The measures shall include that the cause of the condition be determined and documented, and that corrective action be taken and documented to preclude repetition.

A-26, Procedure for Corrective Maintenance, did not require the licensee to address the cause of the condition (failure, malfunction, or defect), including the performance and documentation of the determination of the cause and correc-

tive action taken to preclude repetition. Personnel interviews revealed that the review of equipment failures was performed in morning meetings, general discussions, and through individual effort. The lack of a documented program indicated the possibility that the licensee may not be performing the requirements.

This matter is an unresolved item (277/79-09-09; 278/79-10-09).

c. Observations

The following observations include general information items and perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

- (1) The maintenance program at the station was controlled by the plant staff. The Engineer-Maintenance controlled the mechanical and electrical maintenance activities and the Engineer-Technical controlled the instrument maintenance. The responsibilities for safety-related maintenance activities were stipulated within the administrative procedures. (I)
- (2) The management and supervision of the safety-related maintenance activities included the Station Superintendent, the Assistant Superintendent, the Engineer-Maintenance and the Engineer-Technical, Assistant Engineer-Maintenance, I/C Engineer, supervisors, foremen, assistant foremen and subforemen, and lead technicians. (I)
- (3) Maintenance supervisors and craftsmen who were stationed at the site reported to the Electrical Production Department, Maintenance Division, and the Engineering and Research, Test Section, provided a full-time work force. Additional craftsmen (mechanical and electrical) and technicians (I/C), including supervision, were available in the support groups as necessary to handle scheduled and unscheduled plant outages. (I)
- (4) Job responsibilities and authorities were stipulated in the FSAR, Quality Assurance Program, and the administrative procedures. (I)
- (5) Maintenance staffing was adequate and appeared to meet the requirements of the TS. The maintenance groups supported both units 2 and 3. The groups worked a routine 40 hour week with nonroutine overtime scheduled as necessary. The mechanical maintenance group supported the backshifts routinely; and full time support was provided during sig-

nificant outages by the mechanical, electrical, and instrumentation groups. (I)

- (6) A-26, Procedure for Corrective Maintenance, included the maintenance request form (MRF) which was utilized to control safety-related maintenance activities performed for the plant. Personnel interviews revealed that the administrative procedures and the MRFs were used to control safety related maintenance activities and that the controls were understood. (I)
- (7) Maintenance procedures were prepared, reviewed, and approved in accordance with the TS 6.8.1 as specified in A-19, Administrative Procedure for Preparation and Distribution of Maintenance Procedures. A-19 stipulated the review and approval of the maintenance procedures by PORC and additionally noted the requirements for making changes to the procedures which did not change the intent. Interviews indicated that maintenance personnel understood the administrative requirements for control of procedures. (I)
- (8) In the area of electrical and mechanical maintenance the notification of required maintenance of defective or deficient items was made through the MRF to the appropriate shop area of the Maintenance Division. The review of procedure MA-3, Documentation and Control of Maintenance at Oregon Shops, and personnel interviews revealed that safety-related maintenance activities were controlled and documented within the Maintenance Division. (I)
- (9) In the area of instrumentation and control the notification of required maintenance of defective or deficient items was made through the MRF to the instrumentation or protective and control branch technical assistants, Engineering and Research Department. The review procedure R-2-0006, Research Division Procedure for Maintenance of Plant Equipment, and personnel interviews revealed that the safety-related maintenance activities were controlled and documented within the Engineering and Research Department. (I)
- (10) Communications between the plant maintenance department personnel and the maintenance forces appeared to be adequate. Engineers at the site in each area of maintenance provided direct interface for performance and scheduling purposes. Interviews of selected personnel indicated that the communications between the site personnel and offsite personnel was functioning and effective. (I)
- (11) Procedure A-26, Procedure for Corrective Maintenance, addressed the area of emergency maintenance, and required

the use of the MRF and the review and approval of the procedures during the performance of the activities. Procedure A-19, also addressed emergency maintenance and specified requirements for concurrent management approvals of the activities and procedures with subsequent review and approval by PORC. The administrative procedure specified that the agreed upon procedure shall be written no later than concurrent with the performance of the work. (I)

(12) Procedure A-26 included the following requirements or referenced for requirements maintenance activities.

(a) Classification as safety-related. (I)

(b) Need for specific procedures. (I)

Note: Interviews revealed that certain procedures were used by maintenance personnel in addition to the procedures issued by the plant staff to conduct the safety-related activity. It was noted that these sub-tier procedures were not controlled. Maintenance personnel indicated that the procedures were developed over the past years as "maintenance aids" and did not receive the plant review and approval. (W)

(c) Approval of the maintenance activity by operations prior to starting. (I)

(d) Identification of personnel skills and qualifications. (I)

(e) Designation of QC inspection and hold points.

Note: Interviews and procedure review revealed that the use of inspection hold points was minimal and in certain cases not utilized. Maintenance considered to be within the workman's skills, performed within the MRF controls, and accomplished without a detailed written procedure did not include QC inspection and hold points. (W)

(f) Documentation of the corrective maintenance actions. (I)

(g) Calibration and functional testing. (I)

(h) Documentation package assembly, review, and storage. (I)

Note: See section 8.c.(3)(a).

- (i) Use of measuring and test equipment. (I)
- (j) Control and documentation of replacement parts. (I)
- (k) Radiation safety.

Note: Personnel interviews revealed that radiation exposure controls were established by the maintenance engineer in coordination with the radiation group through the use of the radiation work permit (RWP). (I)

- (l) Fire protection.

Note: Interviews revealed that the requirements for control of ignition sources were known by the individuals. Administrative Procedure A-12, Ignition Source Control Procedure, provided requirements for fire protection during maintenance activities and included the development of a checklist to determine the hazards and to assure worker understanding of the fire hazards. (I)

- (m) Control of special processes.

Note: Procedure review and interviews revealed that the requirement for special process control was addressed in the MRF the appropriate engineering staff supervisor. The personnel interviewed were aware of the requirements for control of special processes. (I)

- (13) Routine periodic review of the administrative procedures at the Oregon shops was not required or performed. Certain procedures were in excess of two years old. Interviews revealed that the procedures were routinely reviewed through use. (W)
- (14) The maintenance and operation group interface was addressed within A-26 and controlled through the use of the MRF form. The controls included the following.
 - (a) Equipment tagging for workmen protection and to prevent unauthorized operation. (I)
 - (b) Release of equipment for maintenance.

Note: Interviews revealed that the MRF form required operation's staff concurrence for the

performance maintenance activity and this requirement was understood. (I)

(c) Returning equipment to service.

Note: Procedure review and interviews revealed that the return-to-service activity was coordinated between the operations and maintenance groups and included the performance of the equipment tests. The independent inspection effort did not appear to be addressed. (W)

(d) Jumper, bypass, and lifted lead control. (I)

(15) Plant housekeeping controls were specified in the MRF under the general title of "QA requirements," Administrative Procedure A-30, Plant Housekeeping Controls, provided requirements for plant housekeeping activities. The use and applicability of the requirements of the procedure were determined by the appropriate department engineers, supervisors, and lead craftsmen. A-30 required the following.

(a) Cleanup of areas following maintenance activities.

Note: Interviews revealed that some personnel were not aware of the housekeeping requirements in A-26 and A-30. (W)

(b) Designation of vital housekeeping areas. (I)

(c) Maintenance of fire fighting requirements. (I)

(d) Housekeeping zones.

Note: The zone control established requirements for activities such as clothing change, material precleaning, material accountability, personnel accountability, use of tobacco, and eating. (I)

(16) Cleanliness controls were provided in the MRF under the general title of "QA requirements". Procedure A-23, Cleaning of Fluid Systems Components, defined onsite cleaning activities and cleanliness requirements. The use requirements of the procedure were determined by the appropriate department engineers. Interviews indicated that the site supervision understood the cleanliness control requirements. (I)

(17) Corrective action requirements were not provided in A-26. Interviews revealed that the discovery of a

nonconforming item during the performance of the maintenance activity would be brought to the attention of supervision by the craftsman. (W)

(18) The Preventive Maintenance (PM) Program was addressed in A-25, Preventive Maintenance Program. The Assistant Superintendent was assigned the responsibility for routine testing. The other areas of the PM program were assigned to individual groups by A-25. Procedure review and interviews revealed that certain PM program aspects, which were not required by the TS could be cancelled by the cognizant supervising engineer. The PM program on mechanical, electrical, and instrument equipment was controlled through use of the MRF system, but contained the following apparent weaknesses.

(a) A-25 did not contain a master list of items, a schedule, and a status/tracking system for all PM items performed. Interviews revealed that the PM items on instrumentation, electrical, and mechanical equipment were controlled separately. Detailed listings, schedule, and status were not available.

The verification that the required PM items had been performed was nearly impossible.

(b) Program revision on a routine, continuing basis was not documented.

(c) Trending of PM data to predict and prevent failures was not documented. (W)

11. Quality Assurance Audits

The objective of this portion of the inspection was to determine the extent and the adequacy of the licensee's Quality Assurance (QA) Audit Program.

a. Documents Reviewed

- (1) PBAPS - Operational Quality Assurance Program, Section 17.2, Safety Analysis Report
- (2) Peach Bottom Quality Assurance Plan, Volumes I and III
- (3) Job description for the General Supervisor, Quality Assurance Division, Electric Production, August 30, 1978
- (4) 1978 QA Annual Report to Management
- (5) 1978 and 1979 biweekly QA Division Activities Reports
- (6) Plant Operations and Review Committee (PORC) meeting minutes for 1978 and 1979
- (7) Obligations and Concerns (O&C) list for November 1978
- (8) QA Division Procedures and Instruction Manual, rev. 6
- (9) Various QA audit reports, including those on fire protection, general employee and requalification training, plant records, TS surveillance requirements, and shift operations
- (10) Operation and Safety Review Committee Nuclear Audit Plan, March 22, 1979
- (11) "Qualifications for Auditing" certification records for two qualified auditors and one supervisor

b. Findings

- (1) Items of Noncompliance
None.
- (2) Deviations
None.
- (3) Unresolved Items
None.

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which have no specific regulatory requirements, but will provide the basis for subsequent performance evaluation.

- (1) The licensee had developed and implemented a QA Audit Program which was consistent with the guidance of ANSI N45.2.12-1977. In one area, however, the licensee's ability to remain consistent with this guidance appeared to be questionable. Paragraph 3.3.2 states that the audit system shall include the following essential elements "Manpower to implement the audit system." At the beginning of 1978, the licensee had six (6) qualified auditors. Thirty-six (36) scheduled audits were completed in 1978. In March 1979 there were two (2) qualified auditors with a third person soon to be qualified. Forty-nine (49) audits were scheduled for 1979. This did not include the "mini" or unscheduled audits which were normally performed on surveillance activities. By the licensee's estimates it would take more than six (6) months to qualify a nuclear or power plant experienced individual and over one (1) year to qualify a person newly hired without extensive nuclear or power plant experience. (W)
- (2) Related to item (1), the Superintendent, QA Division, stated that the licensee's staffing requirements for auditors were not met. Those requirements were four (4) qualified auditors at the site and four (4) qualified auditors at the corporate headquarters. He stated that this situation did not constitute lack of management support; on the contrary, every reasonable effort was being made to rectify the situation. Interviews with top level management confirmed that funding was available and efforts were being made in earnest to fill the positions. (I)
- (3) Although not committed to the provisions of ANSI N45.2.23, the licensee had developed and implemented a program for auditor qualifications which was consistent with the guidance of the standard. The program included a review and recertification of QA auditors annually. (S)
- (4) All QA auditors and supervisors had received formal training in a lead auditor course. (I)
- (5) All scheduled QA Division audits were announced. The supervisors of the organizations being audited were notified by telephone or in person by the auditor. (I)
- (6) The QA supervisors and auditors interviewed stated that pre-audit conferences were routinely conducted on an

informal basis as described in the various audit instructions. Exit interviews were more formally conducted in accordance with QADP-5. Attendance at exit meetings which involved audits of plant site activities typically included the Station Superintendent, the supervisor of the audited organization, the auditor, and the General Supervisor, QA Division. (I)

- (7) There were no written instructions to routinely pursue the generic implications of problem areas identified in the audit process. QA personnel interviewed felt that this was done only on an as needed basis. Additionally, there was no assurance on the part of QA personnel that other organizations pursued the generic implications of problems. (W)
- (8) Interviews indicated that the 1978 QA General Report to management represented a portion of the licensee's fulfillment of requirements and commitments to periodically define and measure the status, adequacy, and effectiveness of the QA Program. This report, however, appeared to be ineffective in doing that. It contained statistics on the audits conducted in 1978 and a brief narrative giving little insight into problems with the program, outstanding deficiencies, and manpower shortage. In contrast to this, the biweekly QA Division Activities Reports appeared to be very effective, although necessarily from a much shorter perspective in time. These reports, submitted to the biweekly Vice Presidential staff meetings, contained the current status of audits, surveillance checks, nonconformance reports, problem areas, schedules, and activities of division personnel. (I)
- (9) There did not appear to be a written corrective action system for licensee employees to report such things as programmatic deficiencies, paperwork deficiencies, invalid test results, high radiation, releases of radioactivity, lax security, or housekeeping. The documentation and correction of conditions adverse to quality discovered independently of the audit process were programmatically handled in a few limited ways. One of these was through surveillance checks or "mini" audits conducted periodically by QA Division auditors. These were unannounced audits, usually of surveillance activities. The results (reports, deficiencies, exit interviews, etc.) were handled exactly as those of regular audits. Outside the QA Division, licensee personnel could report SROs, or could write MRFs. The former were evaluated for their regulatory basis (i.e., potential LERs) and the latter were generally for equipment failures and modifications. (W)
- (10) In addition to routine audits against the criteria of 10 CFR 50, Appendix B, the QA Division also had the respons-

ibility for performing one audit for the OSRC. This was entitled "Actions Taken to Correct Deficiencies" and was required to be performed on a semiannual basis beginning in 1979. The first audit was in progress at the time of the inspection and covered the status of deficiencies and corrective actions resulting from OSRC audits, QA Division audits, NRC inspections, and other activities as specified by the OSRC. (I)

- (11) The licensee had no written program for re-evaluating the qualifications of an approved vendor based on repetitive problems identified through receipt inspections or equipment failures. (W)
- (12) QA audit findings were reviewed by the Station Superintendent who generally assigned responsibility for preparation of the response to the applicable site supervisor. The report findings and responses were coordinated by a member of the Station Superintendent's staff, the QA Engineer. This person tracked the longer term items on a O&C List (Obligations and Concerns), which was updated every three to six months. Shorter term items were tracked on O/I List attached to the PORC meeting minutes. Neither of these lists were controlled by administrative procedures. (I)
- (13) Responsibility for conducting QA Program audits of all activities required to meet the criteria of 10 CFR 50, Appendix B, was divided between the QA Division, Electric Production Department, and the QA Section, Engineering and Research Department. The subjects of those audits performed by the QA Section included vendor's service and major modifications. (I)

12. Procurement

The objective of this portion of the inspection was to determine the adequacy of the licensee's management control of procurement.

a. Documents Reviewed

- (1) Quality Assurance Program, FSAR Section 17.2, May, 1977
- (2) Quality Assurance Plan, operations, rev. 3
- (3) Quality Assurance Plan, Design and Construction, rev. 3
- (4) Administrative procedure A-27, Procedure For Material Control System, rev. 10
- (5) Administrative procedure A-14, Plant Modification, rev. 6
- (6) Administrative procedure A-26, Procedure For Corrective Maintenance, rev. 18
- (7) Administrative procedure A-13, Procedure For Reporting Defects And Noncompliances, rev. 2
- (8) Procedure for Review of Procurement Documents, QADP-17, rev. 2
- (9) Stores Division Procedure SD-1, Procurement of Nuclear Safety Related Parts, Material and Services, rev. 3
- (10) Stores Division Procedure SD-3, no title, no rev., 7/24/74
- (11) Stores Division Procedure SD-2, no title, rev. 3, 8/29/78
- (12) Stores Department Procedure SD-5, Storage and Handling of Material for Nuclear Power Plants, rev. 0
- (13) Engineering and Research Department Quality Assurance Instructions Procedure 2-2, Training and Qualification of QA Project Personnel, rev. 1
- (14) QAI 18-4, Formulation of Audit Plans, rev. 0
- (15) QAI 18-6, Performing QA Audits, rev. 0
- (16) QAI 18-8, Procedure for Formulation of Peach Bottom Annual Audit Plan, (Draft form)
- (17) QAI 18-10, Preparation of Audit Reports
- (18) Procurement Document PO 387932
- (19) QA Audit OP49, Franklin Institute Research Lab

(20) QA Audit OP-52, Program and Remote Systems Corporation

(21) QA Audit OP-56, ITT Grinnell

(22) QA Audit OP-58, Walworth Company

(23) QA Audit OP-61, McKJunkin Corporation

b. Findings

(1) Items of Noncompliance

During a review of the quality assurance audit (OP-49) of the Franklin Institute Research Lab, the inspector noted that a contract had been released to this organization prior to the quality assurance audit. Discussions with licensee representatives revealed that the Quality Assurance Department (E&R) had identified this nonconformance on August 23, 1978. A nonconformance report was issued to the department on September 6, 1978, with a request for response and corrective action by September 26, 1978. The department responsible for releasing the contract prematurely did not respond to this nonconformance until January 4, 1979. Further review established that QAI 18-6, item 6.9.5, required that when a response to a nonconformance becomes 30 days overdue the auditing chairman shall prepare a letter for signature by the manager, requesting the organization to immediately take and report corrective action. This was not accomplished by the QA Department. The failure to follow procedure QAI 18-6 was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion V, and is an item of noncompliance in the category of a deficiency (277/79-09-03; 278/79-10-03).

(2) Deviations

None.

(3) Unresolved Items

- (a) ANSI N45.5.2.2-1972, requires nonconforming items to be segregated from conforming items by a tagging system. While touring the warehouse area where nonconforming items are stored, the inspector found three Q-listed items without nonconforming tags stored in the same bin with properly tagged nonconforming items. The tagging method used by the licensee for nonconforming items is identified in Section 17.2.15.2 of the licensee's Quality Assurance Program.

This matter is an unresolved item (277/79-09-10; 278/79-10-10).

- (b) A-27, Part E.3, appeared to allow the use of non-safety-related items as a substitute for safety-related items, if management felt conditions exist which could affect plant operations. Interviews revealed that the Quality Assurance Division had identified an incident where a non safety-related item was substituted for a safety-related item. This noncompliance was followed and resolved through the Quality Assurance Division.

FSAR, Section 17.2.15.3, addressed the use of nonconforming safety-related materials. A representative stated that if the need arose to use a non safety-related item as a substitute for a safety-related item, this would be accomplished with an appropriate review. The acceptability and method of substituting non safety-related items for safety-related items is an unresolved item (277/79-09-11; 278/79-10-11).

- (c) ANSI N45.2.2-1972, Section 6.4.2, specifies the proper care for safety related items in storage. The inspector determined that a program for care of items in storage had not been implemented as required. QA personnel stated that this noncompliance had been identified by QA and was recognized as a deficiency in March, 1978. A nonconformance report was issued in February 1979. The response to this nonconformance was being reviewed by the QA department.

This matter is an unresolved item (277/79-09-12; 278/79-10-12).

c. Observations

The following observations include general information and the perceived strengths and weaknesses in the licensee's management controls. No specific regulatory requirements relate to many of these observations which will provide the basis for subsequent performance evaluations.

- (1) The inspector noted that the QA staff in the Engineering and Research Department had been undermanned since September 1978. (W)
- (2) While touring the stores warehouse the inspector noted that safety-related items were not separated from non-safety related items. Examples of this were the use of a common pipe rack and the back-to-back storage bins. (W)
- (3) The Quality Assurance Program relating to vendor audits did not appear to be fully implemented. Quality assurance instructions relating to the vendor audits and audit schedules were in the

process of being written. It was also noted that the vendor audit plan for the year from June 1, 1978 to June 1, 1979, is only one-third complete with only 3 months left to complete it. (W)

- (4) The Quality Assurance Plan, Volume 1, Section 18.2.6, did not require all auditing members to be qualified auditors. (I)
- (5) Control of access to the warehouse where nonconforming items were stored appeared inadequate. Access points were not monitored. (W)
- (6) The Quality Assurance Division issued nonconformance reports only on those audit finding deficiencies considered significant. The determination of significance appeared to be a judgement by that division supervision. (W)

13. Management of Safety and Security Controls

The objective of this portion of the inspection was to determine the extent and adequacy of management's overview of safety and security areas including (1) Physical Security; (2) Fire Protection; and (3) Radiation Protection.

a. Documents Reviewed

- (1) Administrative Procedures:
 - (a) A-5, Security Control System, rev. 2
 - (b) A-12, Ignition Source Control Procedure, rev. 1
 - (c) A-15, Generation of Health Physics Operating and Chemical Operating Procedures, rev. 3
- (2) Emergency Procedure E-8, Fire on Site, rev. 4
- (3) Emergency Plan Procedures:
 - (a) EP-35, App. D-3, Fire and Damage Team, rev. 3
 - (b) EP-35, App. D-5, Security Team, rev. 2
- (4) Health Physics Operating/Chemistry Operating Procedures:
 - (a) HPO/CO-4, Radiation Work Permits, rev. 12
 - (b) HPO/CO-24, Access to Primary Containment (Drywell and Torus), rev. 10
 - (c) HPO/CO-32, Quality Control of Personnel Dosimetry, rev. 2 and rev. 3
 - (d) HPO/CO-80, Contract Health Physics Technician Entry Procedure, rev. 0
- (5) Protection Plan Procedure PP-15, Security Organization, rev. 6
- (6) Surveillance Test/Emergency Plan Procedures:
 - (a) ST/EP-5, Fire Drill, rev. 4
 - (b) ST/EP-10, Local Fire Department (Delta-Cardiff) Training, rev. 0

- (7) Emergency Plan
- (8) Security Plan
- (9) QA Division Procedure and Instruction Manual, Instruction PL, Audit Instruction-Plan Activity, rev. 1
- (10) Fire Protection Program Plan, March 1977
- (11) Peach Bottom Fire Protection Plan, February, 1978
- (12) Philadelphia Electric Company, Station Operating Handbook on Permits and Blocking, 1967

b. Findings

(1) Items of Noncompliance

None

(2) Deviations

None

(3) Unresolved Items

None

c. Observations

The following observations include general information items and the perceived strengths and weaknesses in the licensee's management controls which may not have specific regulatory requirements, but will provide the basis for subsequent performance evaluations.

(1) Physical Security

(a) Corporate responsibility for the company's overall security program was vested in the Security Division, a part of the Legal Department. The division was responsible for the development of security programs, contingency plans, and training. Division Personnel reportedly visited the site frequently to observe Physical Security Program implementation and to participate in security training. (I)

(b) Site responsibility for implementation of the Physical Security Program rested with the Assistant Station Superintendent, who reported via a chain of command within Electric Production Department. The day to day supervision of the contract guard force shift was

assigned to the Security Supervisor. Each contract guard force shift had its own supervisor, which reported to the plant Shift Superintendent when the Security Supervisor was absent. Security training responsibility was assigned to a single guard force employee. (I)

- (c) Audits of Physical Security Program implementation were performed annually by the Security Division, by the Quality Assurance Division and by or for the OSRC. Each organization independently audited security, reportedly without regard to the activities of the other organizations performing these activities. (I)
- (d) Guard interviews indicated that the shift security log was reviewed during shift relief; but reportedly, no other written shift relief procedures existed. (W)
- (e) Guard turnover rate reportedly was less than fifteen percent per year. (S)

(2) Fire Protection

- (a) Corporate responsibility for the implementation of the Fire Protection Program rested with the Manager Electric Production Department. A division within the department provided the fire protection technical training, qualified the key fire brigade members, and critiqued the station drills. The Quality Assurance Division provided annual audits of program implementation, sampling each functional area on a two year cycle. The Generation Division - Nuclear had responsibility for program reporting and development. (I)

In carrying out the line responsibility for fire protection, other departments had been assigned specific tasks. The Safety Department was responsible for development and implementation of fire protection equipment surveillance, testing plans, and procedures. The E&R Department was responsible for fire protection design and review, including maintaining fire zone combustible loading limits and determining acceptability. (I)

- (b) Site responsibility for the implementation of the fire protection program rested with the Station Superintendent. Routine testing of equipment and drills was coordinated by a Surveillance Test Engineer, who issued a surveillance test procedure to

those responsible for the activity and then kept a current record of completion status. (I)

- (c) The Shift Fire Brigade was composed of a minimum of five individuals, the most senior of which was the Shift Supervisor. The Shift Superintendent conducted unannounced fire drills as directed by procedures on a monthly basis. Control Operators and Assistant Control Operators did not participate as active members in these drills; and therefore, did not receive all the routine training of fire brigade members. Overtime rules allowed both Control and Assistant Control Operators to work at lower classifications making them assigned fire brigade members without requiring them to be equivalently trained. (W)
- (d) Fire brigade leaders received comprehensive fire prevention and fire fighting training at company schools. Fire brigade members were subject to a two year re-training cycle, which included quarterly formal classroom instruction and discussion. (I)
- (e) The company Fire Marshall conducted site inspections of fire protection equipment every six months. The Fire Marshall was responsible for coordinating the twelve month independent inspection and the thirty-six month consultant inspection of fire protection. The Fire Marshall had no established mechanism to remind him of the thirty-six month requirement. (W)
- (f) At the time of this inspection, plans existed to replace all fire hoses instead of requalifying them through inspection and hydrostatic testing. Some hose records demonstrated that hoses had not been hydrostatically tested in seven years. TS issued in February 1978, required hoses be hydrostatically tested or replaced every three years. The licensee was in the process of bringing his hoses into compliance. (W)
- (g) Audits of Fire Protection Program implementation were performed by or for the OSRC, by the E&R Department and by the Quality Assurance Division. (I)
- (h) Reports of drill critiques, inspections, and fires were sent to the Station Superintendent. Inspection results were also sent to the Manager - Electric Production Department and the Superintendent, Generation Division - Nuclear. (I)

(3) Radiation Protection

- (a) Corporate functional responsibility for radiochemistry and health physics work at the nuclear plants was assigned in the FSAR to the Chief Chemist. Radiation Protection Program overview and consultation responsibility was assigned to the Supervising Engineer - Radiation Protection. Interviews indicated the Chief Chemist was not involved in the Radiation Protection Program and the Supervising Engineer - Radiation Protection was the station's corporate contact. (W)
- (b) Site operational responsibility for implementation of the Radiation Protection Program rested with the Engineer - Health Physics. Health Physics department training and QC responsibilities were delegated to an assistant. Supervision of real-time radiation protection activities was delegated to a Health Physics Supervisor, who then provided supervision of two Area Supervisors, who in turn supervised three crew leaders, who acted as first line supervisors. Support functions such as dosimetry, whole body counting, and respiratory protection equipment training and maintenance were handled by a separate Health Physics Supervisor. Interviews indicated the depth of the chain of command had resulted in some loss of communications. (W)
- (c) Station janitor service personnel were assigned to maintain access point equipment storing and perform decontamination activities. (I)
- (d) Radiation Work Permits (RWPs) were required for all entries into high radiation areas, into areas requiring respiratory protection, into areas of significant work with surface contamination greater than 5,000 dpm/cm², and into other areas which might involve high levels of radiation or contamination. (I)
- (e) All RWP requests were subject to documented ALARA review. Further, major maintenance work was preplanned and subject to ALARA review prior to and during implementation. (I)
- (f) Each shift was manned with an Assistant Plant Operator trained in the performance of Radiation Protection (RP) procedures. Further, as a result of a recommendation by a consultant, the licensee provided round the clock coverage by a Health Physics Technician. This and other demands for these technicians had led to the semi-permanent employment of 14 to 15 contract technicians, who worked along side licensee employees

and were supervised by the licensee staff. The licensee was engaged in an effort to hire and train additional technicians to ultimately return to a company work force. The RP trained Assistant Plant Operator performed routine radiochemistry, radiation monitoring, and logging; reporting abnormalities to the Shift Superintendent. The Assistant Plant Operator did not work for, but occasionally assisted Health Physics personnel. (I)

- (g) Station Health Physics procedures were subject to review and comment by the corporate Supervising Engineer - Health Physics. Interviews indicated this individual received monthly radiochemistry reports and weekly Health Physics management reports. (I)
- (h) Radiation controls, records, and personnel performance reportedly were subject to daily review and inspection by first and second line supervision. Interviews indicated the Engineer - Technical and the PORC regularly reviewed Health Physics activities. Both the OSRC and the QA Division performed annual audits of the Radiation Protection Program implementation. (I)
- (i) At the time of the inspection, errors in the plant procedure for quality control of personnel dosimetry were known to the licensee, but not corrected until questioned by the inspector. (W)

14. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of non-compliance, or deviations. The unresolved items identified in this inspection are listed below.

<u>Number</u>	<u>Subject</u>	<u>Paragraph</u>
277/79-09-01 278/79-10-01	Written safety evaluations for jumpers and bypasses.	3.b.(3)
277/79-09-02 278/79-10-02	Written safety evaluations for Q-list changes.	5.b.(3)(a)
277/79-09-03 278/79-10-03	Written safety evaluations for field changes to plant design changes/modifications.	5.b.(3)(b)
277/79-09-04 278/79-10-04	PORC investigation of all violations of TS.	6.b.(3)(a)
277/79-09-05 278/79-10-05	Review of nonconformance reports by the PORC and OSRC.	6.b.(3)(b)
277/79-09-06 278/79-09-06	Programs for detecting trends.	6.b.(3)(c)
277/79-09-07 278/79-10-07	Records storage.	8.b.(3)
277/79-09-08 278/79-10-08	Written safety evaluations for procedure changes.	9.b.(3)
277/79-09-09 278/79-10-09	Evaluation of failures.	10.b.(3)
277/79-09-10 278/79-10-10	Separation of stored safety-related and nonsafety-related items.	12.b.(3)(a)
277/79-09-11 278/79-10-11	Substitution of nonsafety-related items for safety-related items.	12.b.(3)(b)
277/79-09-12 278/79-10-12	Storage of safety-related items.	12.b.(3)(c)

15. Management Meeting

A meeting was held at the site on March 23, 1979, and at the corporate offices on March 30, 1979, with licensee management in which the lead inspector summarized the purpose and scope of the inspection.

The inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the on-site portion of the inspection on March 23, 1979, and at the conclusion of the corporate office portion of the inspection on March 30, 1979. The lead inspector summarized how the findings would be handled. The inspectors then discussed the enforcement findings of the inspection. The inspectors also discussed the most significant inspection "observation" items.