U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket/Report No.	50-277/95-19 50-278/95-19	License Nos. DPR-44 DPR-56
Licensee:	PECO Energy Company P. O. Box 195 Wayne, PA 19087-0195	
Facility Name:	Peach Bottom Atomic Power Station Units 2 and 3	
Dates:	August 13, 1995 - September 16, 1995	
Inspectors:	W. L. Schmidt, Senior Resident Inspector F. P. Bonnett, Resident Inspector R. K. Lorson, Resident Inspector J. Calvert, Reactor Engineer DRS G. Morris, Reactor Engineer DRS L. Scholl, Reactor Engineer DRS	
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EXECUTIVE SUMMARY
Peach Bottom Atomic Power Station
Inspection Report 95-19

Overall Assurance of Quality:

Overall the PECO staff performed excellently this period. Operator demonstrated control over plant equipment and conditions. The maintenance and engineering departments performed excellently during the on-line 3B, 3C, and 3D 125 volt battery replacement activities at Unit 3. Surveillance testing identified and allowed the correction of problems in reactor protection instrumentation and control rod scram timing. System engineering supported operations well in review of these surveillance testing issues.

PECO submitted a request for Enforcement Discretion after discovering that the Unit 3 Facility Operating License had not been amended to allow operation below 70% reactor power as permitted by the Core Operating Limits Report (Section 4.1).

Plant Operations:

PECO operated both units safely over the period. Operators responded excellently to several transients at both units including: a loss of the number 2 startup source (Section 2.4); a loss of condenser vacuum - Unit 2 (Section 2.2); and a reactor feed pump lockup - Unit 2 (Section 2.5).

Shift Management demonstrated excellent command and control following an operability determination that declared three control rods in a two by two array inoperable, and resulted in Unit 2 entering into a 24 hour shutdown technical specification limiting condition for operation action statement (Section 3.2).

Excellent operator attention to detail and plant awareness was demonstrated when a Unit 2 reactor operator, during shift turnover, correctly diagnosed a decreasing condenser vacuum trend (Section 2.2), and also when a Unit 3 reactor operator observed that the number 3 turbine control valve (TCV) did not fast close during a surveillance test (Section 2.3).

Maintenance and Surveillance:

Maintenance technicians performed excellently during on line replacement of safety-related batteries at Unit 3. The PBAPS process had sufficient controls in place, to ensure that the batteries always remained operable. This approach was acceptable and conformed to current industry and NRC guidelines (Section 3.1).

Poor control over offsite maintenance caused partial loss of one offsite power source, resulting in challenges to the operations staff and a minor plant transient. Site maintenance personnel failed to evaluate the effects of

cutting several wire in the Unit 1 parking area. When the wires were cut they caused a loss of control signals to relaying for one of the offsite power circuit breakers, and the breaker tripped open. (See Section 3.2)

Surveillance testing successfully identified equipment problems in the turbine control valve scram function instrumentation and in the ability of control rods to meet TS timing requirements. In both of these cases operators performed well in identifying the issues and maintenance personnel performed well in correcting the equipment problems. (see Sections 3.3 and 3.4)

Engineering and Technical Support:

The test planning, setup, and data gathering methods for the adjustable speed drive replacements for the recirculation motor-generator sets were well thought-out and should supply reliable data for future analysis (Section 4.3).

The system engineer performed excellently providing support to the on-line battery change out evolution. System engineering also provide good support to equipment problems identified during surveillance testing.

Plant Support:

PECO distributed a briefing sheet to site personnel that provided practical information on radiation work practices. This was considered to be a good initiative to improve personnel radiological protection (Section 5.1).

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DETAILS

1.0 PLANT ACTIVITIES REVIEW

1.1 PECO Energy Company Activities

The PECO Energy Company (PECO) safely operated Peach Bottom Atomic Power Station (PBAPS) Unit 2 (Unit 2) and Unit 3 (Unit 3) over the period.

Unit 2 began the period in a scheduled maintenance load drop to about 35% power. During the load drop, the unit operators entered a 24 hour technical specification (TS) shutdown limiting condition of operation (LCO) action statement due to unsatisfactory average control rod scram times (Section 2.1). PECO corrected the problem and returned the unit to and operated at essentially 100% power for the remainder of the period.

Unit 3 began the inspection period at about 68% power, due to end-of-cycle coastdown. On August 25, the unit operators reduced reactor power to about 30% due to the failure of a main turbine control valve (TCV) to fast close and insert the required half-scram signal during a surveillance test. PECO also found a chattering relay in the control circuitry for another TCV that provides a half-scram signal in the opposite protection channel (Section 2.3). PECO corrected the TCV problems, restored reactor power, and operated the unit at about 58% power for the remainder of the inspection period.

1.2 NRC Activities

The resident and region based inspectors conducted routine and reactive inspection activities in several areas including: operations (Section 2.0); surveillance and maintenance (Section 3.0); engineering and technical support (Section 4.0); and plant support (Section 5.0).

The following specialist inspections also occurred during the report period:

Date	Subject	Report No.	Inspector
8/14-9/1/95	License Examinations	95-20	Florek
8/21-25/95	Engineering	95-21	Lohmeier
8/28-91/95	Radiation Exposure	95-23	Nimitz

2.0 PLANT OPERATIONS REVIEW (71707, 92901, 93702)[1]

The inspectors observed that operators conducted routine activities at both units well, including the operators response to the loss of the number 2 startup source on August 15 (Section 2.4). Unit 2 operators performed well on August 13, and appropriately entered a technical specification (TS) shutdown limiting condition for operation (LCO) after surveillance testing determining that the average scram time for three control rods exceeded a TS limit

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[1] Parenthetically listed for each report section are the inspection procedure numbers from NRC Manual Chapter 2515, which are used by the inspectors as guidance.

(Section 3.2). Good operator awareness was demonstrated during a loss of condenser vacuum transient on August 13 (Section 2.2), and on September 15 when the 2B reactor feedwater pump (RFP) locked-up unexpectedly during a scheduled maintenance activity (Section 2.5).

Operators performed well at Unit 3 in lowering reactor power to 30% when during surveillance testing the #3 TCV closure did not cause a half-scram signal and the #4 TCV closure relay chattered following closure (Section 3.3).

The operations crews made correct determinations of safety system operability and reportability of identified conditions. The crews adequately tracked and controlled entry into and exit from TS LCOs. The inspectors routinely verified the operability of safety systems required to support plant conditions at both units and did not identify any concerns. Housekeeping at both units was good.

2.1 Loss of Vacuum - Unit 2

PECO's operators at Unit 2 demonstrated excellent command and control and plant awareness during a decreasing condenser vacuum condition. The unit was operating at about 66% power on August 13 when the unit operators, during shift turnover, responded to an off-gas trouble alarm. Condenser vacuum began to decrease and the operators entered the operational transient procedure, OT-106, "Loss of Condenser Vacuum." One reactor operator (RO) observed off-gas inlet steam flow from the 2A steam jet air ejector (SJAE) indicating zero flow and found that the SJAE pressure controller (PIC-2239A) had failed in the automatic mode. The RO placed the controller in manual and returned the supply steam pressure to the normal setpoint which re-opened the system pressure control valve. Meanwhile, the off-gas hydrogen recombiner isolation valve (MO-2991) had isolated. The RO, using the proper Abnormal Operating procedure, restored the off-gas system. Condenser vacuum was recovered and the operators exited OT-106.

The inspector concluded that the unit operators maintained a good safety consciousness and plant awareness during a potentially vulnerable time (shift turnover). The event demonstrated that operators are maintaining PECO's expectation that control room operators have a healthy skepticism and questioning attitude.

2.2 Loss of 2 Startup Source

The inspector observed excellent control room operator response to a loss of the 2 Startup Source (2SU) in the control room on August 15. The inspector was in the control room when an electrical distribution breaker (SU-25) tripped open, causing four 4.16KV vital busses (two at each unit), normally fed from that breaker, to automatically fast transfer to the alternate 343 startup source. The bus transfer occurred as designed and the expected Group II/III primary containment isolation initiated, at both units, due to the momentary bus deenergization. In addition both units received a half scram signal and both units lost extraction steam to a train of feedwater heaters (FWH). The loss of FWH caused Unit 2 power to increase to approximately 102 %, which operators quickly reduced to 96 %. The control room operators

entered the appropriate OT and Off-Normal (ON) procedures and quickly stabilized both units. The control room supervisor (CRS) maintained excellent command and control throughout the transient and subsequent recovery.

2.3 Reactor Feedwater Pump Lockup - Unit 2

The control room operators responded well on September 15 when the 2B reactor feedwater pump (RFP) locked-up unexpectedly during a scheduled maintenance activity. During a locked-up condition, the RFP will remain at a constant speed and will not respond to automatic RFP control signals. The operators reacted promptly to establish manual control of the RFP by placing it on the hydraulic jack as directed by the alarm response card (ARC). The 2A and 2C RFPs remained available to automatically control reactor vessel water level (RVWL) throughout the event and the inspector did not observe any variations in RVWL.

The system manager investigated the problem and attributed the 2B RFP lock-up to an electrical transient that occurred during the restoration of the Y-digital control computer (DCC) power supply following replacement. The system manager indicated that the electrical transient should not have occurred since the power supply was energized from an uninterruptable power supply. PECO initiated a performance enhancement program (PEP) review to determine the root cause(s) and develop appropriate corrective actions for this event. The inspector concluded that PECO responded appropriately to this event.

2.4 Plant Operations Review Committee Overview Meeting

The inspector attended a routine overview Plant Operations Review Committee (PORC) meeting on September 11 and noted that the discussions were properly focused on safety. The overview PORC meetings are conducted to discuss site issues that could potentially affect nuclear safety. The meeting critically reviewed the site engineering activities and performance trends. The inspector observed that the overview PORC members demonstrated a good safety perspective and questioning attitude during the discussions.

2.5 Licensee Event Report Update

The inspectors reviewed the following Licensee Event Reports (LERs), finding them factual and that PECO had identified the root causes, implemented appropriate corrective actions, and made the required notifications.

LER No.	LER Date	LER Title
3-95-003	7/30/95	Unit 3 Scram when the "A" Reactor Feed Pump Speed Increased.
2-95-003	8/15/95	Unplanned Engineered Safeguards Feature Actuation Following Loss of 2 Start-up Source
2-95-004	8/14/95	Failure to meet Technical Specifications when a Reactor Water Clean-up Temperature Switch was Inoperable.

3.0 MAINTENANCE AND SURVEILLANCE TESTING (61726, 62703, 92902)

The inspectors routinely observed the conduct of maintenance and surveillance tests (STs) on safety-related equipment. This involves the review of on going activities to ensure: the proper use of approved procedures and skills of the craft, the calibration of testing instrumentation, the qualification of personnel, and the implemented administrative controls including blocking permits, fire watches, ignition sources, and radiological controls. The inspectors verified that test acceptance criteria were met.

In the maintenance area the inspectors reviewed maintenance procedures, action requests (AR), work orders (WO), and radiation work permits (RWP). During observation of maintenance work, the inspectors verified appropriate Quality Verification (QV) involvement, plant conditions, TS LCOs, equipment alignment and turnover, post-maintenance testing and reportability review.

In the surveillance area the inspector reviewed test procedures and completed tests to verify the adequate demonstration of safety functions. During surveillance observations, the inspectors verified that tests were properly scheduled and approved by shift supervision prior to performance; control room operators were knowledgeable about testing in progress, and that redundant systems or components were available for service, as required. The inspectors routinely verified adequate performance of daily STs including instrument channel checks and the jet pump and control rod operability tests.

3.1. On-line Safety Related Battery Replacement - Unit 3

Maintenance technicians, supervision, and engineering personnel performed excellently during on-line battery cell replacement at Unit 3. The inspectors determined that replacement activities conformed to current industry and NRC guidance. PECO replaced all the battery cells in the 3B, 3C, and 3D 125 volt batteries over a three week period, replacing the cells in one battery during each week. Each battery contains 58 cells (2 cells per jar) and has a nominal operating voltage of 125 volts. The 29 jars are split into four seismically designed racks each containing between 6-8 jars (12-16 cells).

The inspectors found that PECO adequately maintained each battery operable during the replacement of the cells. The licensee worked on only one battery at a time. Maintenance technicians used approved procedures to install spare cells and remove the old cells while maintaining the battery fully operable. The spare and replacement cells were the same model (Exide 2GN-23) and capacity of the existing cells. Eight fully charged spare cells, on portable seismically qualified carts, were brought into each battery room and connected in parallel with the 6-8 cells to be removed. Cells to be replaced were then electrically disconnected and removed. Maintenance technicians then moved the new cells, that had been on a float charge into place and made up the inter-connections between the new cells. Before connecting the new cells to the battery, appropriate checks of voltage and specific gravity were conducted. Once the new cells were permanently installed the spare cells were removed and the sequence repeated as necessary to replace the other three banks of cells.

The NRC staff reviewed the on-site work, discussed the activity with licensee maintenance and engineering personnel, and reviewed procedures and data associated with the following aspects of the maintenance activity:

- The acceptability of the practice with respect to plant TS and industry guidance on battery maintenance and testing. This included the testing performed by the factory on the new battery cells prior to shipping;
- The shipping method and receipt inspections performed to ensure the cells were not damaged in transit;
- The maintenance procedure utilized to perform the work.

The inspectors reviewed the recommendations of NRC Regulatory Guide 1.129, "Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants, and IEEE Standard 450-1975, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations" and the requirements of TS 3.9.A.4 and 4.9.A.2. The inspectors noted the following during this review with respect to pre-installation testing:

- IEEE 450 required a battery acceptance test prior to installation, this testing may be performed at either the factory or the site;
- The factory acceptance test was equivalent to a site discharge performance test;
- The two discharge (acceptance) tests performed by the vendor prior to shipment verified satisfactory battery cell performance.

With respect to post-installation testing:

- Technical specifications and IEEE 450 do not specifically require a post-installation discharge or service test.
- TS 4.9.A.2 requires the performance of a battery performance or service test each refueling outage, on an alternating bases until signs of battery degradation are detected or the battery has reached 85% of its service life;

In summary with respect to testing, PECO could have replaced the cell at any time during the operating cycle as long as acceptance testing was conducted at either the factory or on site. PECO installed the new cells at the end of the Unit 3 operating cycle and planned to perform the TS required service tests during the Unit 3 refueling outage.

The inspectors reviewed procedure M-057-009, "Battery Replacement Cell Inspection," that provides instructions for the receipt inspection of new battery cells. The procedure was found to contain detailed directions on how to perform visual inspections, cleaning and pressure tests on the cells. The

inspectors also verified that the licensee required that the cells be shipped from the factory to the plant using an air-cushioned truck to minimize the potential for damage during transport.

The battery work was performed in accordance with procedure M-057-013, "125 Volt Station Battery Removal, Replacement And Cell Post Cleaning During Shutdown Or At Power." The inspectors reviewed the procedure and found that it was very detailed and contained appropriate precautions to avoid short circuits during the work and also monitored for the buildup of hydrogen gas that could ignite if sparks occurred during the work. Steps were also included in the procedure to ensure that the seismic qualification of the battery racks and the portable battery cart were maintained during the work. All temporary and permanent electrical connections were tested to ensure that they were low resistance connections. The procedure also provided for double verification of important steps such as torquing of connections, hydrogen gas measurements, and connection resistance checks. The inspectors found the overall quality of the maintenance procedure to be excellent.

Through direct observation, the engineering system manager and maintenance foreman were heavily involved in the development, planning, and implementation of the activity. Through discussion with the system manager, it was evident that the engineering aspects of the cell change out had been thoroughly reviewed. The maintenance foreman also demonstrated a detailed knowledge of the critical aspect of the job.

The inspectors also reviewed the available battery capacity and found that there was significant margin between the available battery capacity and the capacity required to power the connected loads.

The inspectors concluded that PECO implemented sufficient controls during the work to ensure that all batteries remain operable during and after the work. Maintenance technicians performed the activities excellently, in a very professional manner, and supervisory involvement was excellent. The system manager provided excellent support and demonstrated an excellent knowledge of all phases of the activity. The testing performed prior to, during, and following the battery cell replacements was appropriate and in accordance with the TS requirements and industry technical guidance.

3.2 Partial Loss of Offsite Power Caused By Poor Offsite Maintenance

The inspectors determined that PECO Site-Maintenance (S-M) personnel (i.e., personnel who perform non-safety- related maintenance activities outside the protected area) caused the August 15 partial loss of offsite power. The S-M department was paving a parking area near Unit 1 and needed to remove a junction box, but failed to fully identify the possible effects of cutting wires (See Section 2.2 above). The box contained wiring associated with protective relaying for the SU-25 breaker, which feeds the 2SU source from the 220-08 off-site electrical power line. The job supervisor believed the junction box was abandoned and made the decision to cut out the box based on: 1) the junction box and the internal wiring not being adequately labelled; 2) the low voltage readings obtained from inside the box were believed to be induced from the overhead 500KV electrical power lines; and 3) the S-M crew

could not clearly identify the junction box on the Unit 1 yard electrical print. The inspector noted that the electrical system manager had been notified of the junction box and was in the process of determining its function when the S-M supervisor decided to cut the wires.

The inspector determined that PECO took satisfactory corrective actions. PECO repaired the cut wires, buried the junction box, and revised the yard area electrical print. A review to identify other inadequately labelled junction boxes and protective relaying at Unit 1 was also performed. PECO management re-emphasized their expectation that all employees are to stop and fully resolve any questions before proceeding with work activities. As a long term corrective action, PECO is considering moving all off-site power protective relaying located at Unit 1 to inside the protected area. The inspector determined that the safety significance of the event was low based on the configuration of the electrical busses and due to the excellent operator response.

3.3 Excessive Average Control Rod Scram Time - Unit 2

On August 13 Surveillance testing identified that the average scram time for three control rods in a two by two array exceeded the allowed value from the fully withdrawn to the 5% inserted position (95% withdrawn). Operators performed well and promptly entered the applicable TSLCO, which required that a shutdown be commenced. PECO maintenance personnel replaced the control rod scram solenoid valves, which improved the average scram time to below the TS limit and the orderly shutdown was stopped at about 35% power. The unit was subsequently returned to full power.

PECO determined that a possible cause for the slow scram time was deterioration of the scram solenoid valve diaphragms and is in the process of developing a replacement plan. The affected valves were in service just over 4 years. At both units approximately one-third of the control rod scram solenoid valves have been in-service for this amount of time. The inspectors agreed with the PECO engineering conclusion that the average scram time test method is an effective method to identify the slow control rods and will use this method to plan for future scram solenoid valve replacements.

3.4 Power Reduction due to Potentially Inoperable Turbine Control Valve Fast Closure Scram Functions - Unit 3

Surveillance testing identified several problems related to the turbine control valve fast closure scram function on August 15. Operators performed well at Unit 3 in lowering reactor power to 30% as required by TS when, during testing, the #3 TCV closure did not cause a half-scram signal and the #4 TCV closure relay chattered following closure. Because both the #3 and #4 TCVs were affected, the operators declared both channels of the TCV closure reactor scram inoperable and reduced power to less than 30% in accordance with TS. The power reduction was necessary to establish reactor power within the capacity of the bypass valves where a reactor scram is not necessary following a turbine load reject.

The TCV reactor scram is designed to limit the reactor power increase following a generator load reject. When generator circuitry senses that a load imbalance in the generator output has occurred, the fast acting solenoid valves on each of the four control valves then energizes, causing control oil to be dumped and the TCVs to fast close from their open position. The reactor scram is then generated by a pressure switch located in the control oil system sensing a low control oil pressure, following the dumping of control oil by the fast acting solenoid valve. During testing, TCVs are given a slow close signal for the first 90% of valve movement. When valve stroke reaches 10% from full closed a limit switch closes and energizes the fast acting solenoid oil dump valve. The fast acting solenoid valve dumps the valve control oil, resulting in a fast closure and a half reactor scram signal being generated by the control oil low pressure switch.

The inspector reviewed PECO's response to the #3 TCV problem. During the initial testing of the #3 TCV, an operator observed that the valve did not fast close from 10%, but slow closed for the entire valve stroke. Based on this information the engineering staff speculated that the difficulty may have been with the 10% valve closure limit switch. The engineers developed a correct subsequent test plan proving that the 10% limit switch had not actuated as the valve closed. Witn the valve in a full closed position technicians jumpered the contacts on the 10% limit switch and the fast acting solenoid valve energized causing the control oil dump and the half reactor scram. Following this the engineering staff and operators correctly determined that the 10% closure switch did not provide a safety function (i.e., only in use during testing) and therefore, based on the subsequent testing the #3 TCV fast closure scram remained functional. For the #4 TCV, maintenance technicians replaced and retested the low control oil pressure reactor scram pressure switch. The maintenance operators cleared the TS LCO action statements and increased reactor power to its end-of-cycle coastdown limit.

4.0 ENGINEERING AND TECHNICAL SUPPORT ACTIVITIES (92903, 37551)

The inspectors routinely monitor and assess licensee support staff activities. During this inspection period, the inspectors focused on the activities discussed below.

4.1 Facility Operating License Amendment - Unit 3

PECO submitted a request for Enforcement Discretion (ED) to the NRC on August 30, after discovering that the Unit 3 Facility Operating License (FOL) limited reactor thermal power to a minimum of 70% power during end of cycle coastdown operations. The FOL limit, the result of a 1979 TS change, was in conflict with a subsequent 1993 Core Operating Limits Report (COLR) analysis which stated this limit as 40% power. The NRC approved the ED which will remain in effect until a submitted FOL amendment is approved.

A PECO engineer discovered on August 29, that the Unit 3 FOL had not been amended following the NRC approval of the COLR for the ninth refueling in October 1993. Unit 3 had been operating below 70% power since the beginning of August and was then operating at about 63% power. Upon discovery, PECO

Licensing personnel immediately notified the NRC resident staff and initiated actions to submit a request for ED and a FOL amendment to correct the administrative deficiency.

The NRC had amended the FOL in October 1979, to include the minimum power limit as a part of their TS approval of the new core design (Reload 4) that had been submitted by PECO. The limit of 70% power during coastdown operations was based upon the fuel vendor's analysis. In May 1990, PECO amended the TS to remove all fuel cycle-specific parameters from the TS into the COLR as per Generic Letter (GL) 88-16, "Removal of Cycle-Specific Parameter Limits From Technical Specifications." In October 1993, the NRC reviewed PECO's COLR (Reload 9) which included the change in the minimum coastdown power limit to 40% power; however, amending the FOL was overlooked.

The inspector determined that Unit 3 had not operated below 70% power during previous coastdowns. The Unit 2 FOL does not include this license restriction. Due to the TS change to move cycle-specific parameters into the COLR, PECO assumed that all administrative corrections had been made. The inspector concluded that there was no safety significance to this issue because PECO had previously performed a sufficient safety evaluation and was operating the reactor within their approved analysis.

4.2 Safety-Related Water System Review

The inspector identified no performance problems during a review of the safety-related and non-safety related river pump submergence and net positive suction head (NPSH) requirements. The review was performed due to the lower than normal river levels that had resulted from the extended heat-wave and drought conditions. Normal river level is between 104 and 108 feet above sea level. At the time of the inspection review level was observed to be about 103 feet. The inspector reviewed the design basis documents, the bases for the TS, and Special Event procedures for the emergency service water (ESW), high pressure service water (HPSW), service water, and circulating water pumps (ESW and HPSW are safety-related).

The safety-related pumps (emergency service water and high pressure service water) are deep draft suction pumps that are capable of providing required flowrates with a minimum NPSH of about 3 feet above the suction bell. The suction bell is submerged at about 17 feet (87 feet above sea level) below the river surface with a river level of 104 feet. TS require a manual reactor scram if river level decreases to 98.5 feet, which is well above the minimum levels required to achieve the designed pump performance. The inspector concluded that the river pumps would have adequate NPSH provided the TS river level limit was maintained.

In the event that river level unexpectedly dropped to less than 98.5 feet, the Special Event procedure (SE)-3, "Loss of Conowingo Pond," provides sufficient guidance to isolate the Conowingo Inlet Pond and place the Emergency Cooling Water (ECW) System in service. The ECW is designed to be an emergency heat sink capable of providing sufficient decay heat removal for one week following a dual unit shutdown before additional make-up water is necessary. The inspector was satisfied with the results of this review.

4.3 Adjustable Speed Drive System Testing

On September 13, 1995, the inspectors witnessed the first of a series of tests on the solid-state adjustable speed drives (ASD) at the Tinicum Industrial Park in Chester, Pennsylvania. The test was conducted to obtain ASD operating characteristics and total harmonic distortion (THD) data when connected to a load. PECO is evaluating replacement of the reactor recirculation pump motor generator sets with the ASD units as discussed in NRC Inspection Reports 94-08 and 94-19.

The inspectors determined that the test set-up was very well planned and installed. The test was performed on two horizontal 7000 HP test motors, coupled together. One ASD supplied the control power to one test motor and the other ASD was used in the regenerative mode to provide a variable shaft load through its associated motor. A 13 KV line had been specially installed to simulate the power supplied in the actual plant. An instrumentation trailer contained a mockup of the plant operator control station and equipment for the measuring the harmonics, electrical parameters, motor vibration and temperature.

The test measured the amplitudes and waveforms of the drive harmonics with the filter connected and disconnected. The inspectors witnessed the test for the 80% load case. The average voltage THD was approximately 2.2% with the filter connected, and 9.9% with the filter disconnected. PECO plans to use the THD data to confirm the vendor harmonic current calculation/THD software model. Over the next few months, PECO plans to perform additional tests covering the motor surge, ASD output waveforms, motor vibration, and electromagnetic interference (EMI).

The inspectors concluded, based on the examples stated above, that the test planning, set-up, and data gathering methods were well thought out and should supply reliable data for future analysis.

5.0 PLANT SUPPORT (71750, 92904)

5.1 Radiological Controls

The inspectors examined work in progress in both units to verify proper implementation of health physics (HP) procedures and controls. The inspectors monitored the ALARA (As Low As Reasonably Achievable) program implementation, dosimetry and badging, protective clothing use, radiation surveys, radiation protection instrument use, handling of potentially contaminated equipment and materials, and compliance with RWP requirements. The inspectors observed that personnel working in the radiologically controlled areas met applicable requirements and were frisking in accordance with HP procedures. During routine tours of the units, the inspectors verified that a sampling of high radiation area doors were locked, as required.

During the period, PECO distributed a briefing sheet to site personnel that provided practical information on radiation work practices. The inspectors reviewed the briefing sheet and concluded that it was a good initiative to improve personnel radiological protection.

5.2 Physical Security

The inspectors monitored security activities for compliance with the accepted Security Plan and associated implementing procedures. The inspectors observed security staffing, operation of the Central and Secondary Access Systems, and licensee checks of vehicles, detection and assessment aids, and vital area access to verify proper control. On each shift, the inspectors observed protected area access control and badging procedures. In addition, the inspectors routinely inspected protected and vital area barriers, compensatory measures, and escort procedures. The inspectors found PECO's activities to be acceptable.

6.0 MANAGEMENT MEETINGS (71707)

The resident inspectors provided a verbal summary of preliminary findings to the station management at the conclusion of the inspection. During the inspection, the inspectors verbally notified PECO management concerning preliminary findings. The inspectors did not provide any written inspection material to the licensee during the inspection. The licensee did not express any disagreement with the inspection findings. This report does not contain proprietary information.