PEACH BOTTOM ATOMIC POWER STATION

UNIT NOS. 2 AND 3

ANNUAL PLANT MODIFICATION REPORT

January 1, 1982 through December 31, 1982

Submitted to

The United States Nuclear Regulatory Commission

Pursuant to

Facility Operating Licenses Nos. DPR-44 & DPR-56

Preparation Directed By:
R. S. Fleischmann, II, Superintendent
Peach Bottom Atomic Power Station

IE24
1/1

PEACH BOTTOM ATOMIC POWER STATION

UNIT NOS. 2 AND 3

ANNUAL PLANT MODIFICATION REPORT

January 1, 1982 through December 31, 1982

Submitted to

The United States Nuclear Regulatory Commission

Pursuant to

Facility Operating Licenses Nos. DPR-44 & DPR-56

PEACH BOTTOM ATOMIC POWER STATION

ANNUAL PLANT MODIFICATION REPORT

This report for Peach Bottom Atomic Power Station Units No. 2 and 3, License Nos. DPR-44 and DPR-56, is issued in fulfillment of the reporting requirements of 10 CFR 50.59. It describes changes made to the facility as the facility is described in the safety analysis report. The report covers modifications that were complete in 1982.

For each of the modifications, tests or experiments included in this report, the safety evaluation performed indicated that an unreviewed safety question as defined in 10 CFR 50.59(a)(2) was not created; in that (i) the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report was not increased, or (ii) a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report was not created, or (iii) the margin of safety as defined in the basis for any technical specification was not reduced.

Changes to the Technical Specifications were required for some of the modifications, tests or experiments included in this report. Those requiring Technical Specification changes are noted in the descriptions of the applicable modifications, tests or experiments.

UNIT 2

Direct Indication of Main Steam Relief Valve Position Instrumentation

A modification to replace the sensor electrical connections and cable used inside the drywell for the safety/relief valve position indication system was completed. This modification involved changing the connection between the mineral insulated cable at the sensor and the coaxial cable from a splice to an amphenol connector. Also, the cable in the drywell was changed from coaxial cable to twisted shielded pairs. The purpose of this modification was to provide environmentally qualified equipment in the drywell.

Main Steam Line Radiation Detector Cables

A modification to install new cables on the main steam line radiation monitors was completed. This modification involved replacing the old RG59 B/U coaxial cables with Brand Rex CS 75146 cable which has a flame-retardent cross-linked polyethylene dielectric instead of polyethylene and rating of 190 degrees F instead of 120 degrees F. The purpose of this modification was to eliminate the embrittlement problems which had been occurring as a result of heat and radiation degradation.

Containment Atmosphere Dilution System Isolation Valves

A modification to install Containment Atmosphere Dilution (CAD) system manual isolation valves (2"-130) in the exhaust lines to the standby gas treatment system was completed. This modification involved the installation of block valves in the O-listed 52HB-2" CAD exhaust line to standby gas treatment system downstream of the flow elements in these two lines. The purpose of this modification is to pressure test (100 psig) the CAD exhaust panel tie-ins.

Reroute HPCI/RCIC Steam Leak Detection System Cable

A modification to reroute HPCI and RCIC steam leak detection and isolation instrument cables was completed. This modification involved rerouting HPCI and RCIC steam leak detection cables in their own conduits. The purpose of this modification is to meet segregation criteria and prevent loss of HPCI, RCIC or ADS upon failure of a specific tray.

Installation of Feedwater Start-up Valve

A modification to install a feedwater startup control valve was completed. This modification involved installing a blocking valve, control valve, connected piping and control cabling for the operation of the control valve around the MO-2149C reactor feed pump discharge gate valve. The purpose of this modification is to allow a feed pump to continuously feed the reactor vessel

through the control valve rather than through a throttled 18" gate valve, improving reactor water level control during startup and minimizing thermal cycling in the feedwater nozzles.

High Pressure Service Water (HSW) Discharge Valve Control

A modification to the control circuit for the HPSW discharge valves was completed. This modification involved the deletion of the automatic pressure controller from the control circuit for the HPSW discharge valves (MO-10-89A-B,C,D). The purpose of the controller circuit was to maintain a positive differential pressure between the HPSW system and the RHR system. The controller was replaced with a conventional motor operated valve control with a hand switch in the control room. The purpose of this modification was to replace the automatic control circuit which was a maintenance problem and unnecessary since valves were usually operated in the full open or closed position. Orifices installed in the piping downstream of these valves normally ensure proper pressure differential. Annunciators are installed to alert the operator if proper differential pressure is not maintained such that rapid appropriate corrective action can be taken.

Containment Pressure Transmitters

A modification to provide containment pressure instrumentation capable of monitoring containment conditions during the course of an accident was completed. This modification involved the installation of four quality assured, environmentally and seismically qualified instrument channels to monitor drywell pressure with a range of 5 to 20 psia. The instrument channels are powered from two different power supplies for reliability. The purpose of this modification was to comply with NUREG-0737, Part II.F.1, attachments 4,5 and 6 providing drywell pressure instruments capable of monitoring containment conditions during the course of an accident.

Suppression Pool Water Level Transmitters

A modification to replace torus water level transmitters LT 2914 and LT 4805 was completed. This modification involved the installation of two quality assured, environmentally and seismically qualified instrument channels to monitor torus water level with a range of 1 to 20 ft. The instrument channels are powered from different power supplies to assure that control room indication will be available in the event of a single failure. The purpose of this modification was to comply with NUREG-0737, Part II.F.1, attachments 4,5 adn 6 increasing reliability of torus water level transmitters to ensure proper monitoring during post-accident containment conditions.

Reactor Recirculation Pump (2A and B) Seal Leak Flow Switch

A modification to install isolation and equalizer valves on each seal leak flow switch on the 2A and 2B Reactor Recirculation Pumps was completed. This modification involved installing two 3/4", Mark 130 valves in the isolation lines and a 1/2" Mark 130 valve in the equalization line of each seal leak flow switch. The purpose of this modification is to provide for testing the flow switches.

Main Steam - Seal Steam Header

A modification to replace a portion of the steam seal header supply line was completed. This modification involved replacing the portion of the steam seal header supply line that runs from the 4" tap on the main steam line just upstream of No. 4 MSV to the first isolation valve (5.3). The piping and valve were replaced with Q-Listed material. The purpose of this modification was to bring this portion of the supply line into conformance with original design requiremnts.

Containment Protection Screens For Purge and Vent Valves

A modification to install debris protection screens on the containment purge and vent valve penetrations was completed.

This modification involved the installation of debris screens on penetrations N-25, N-26, N-205A*, and N-219. The purpose of this modification is to ensure that purge and vent valve closure will not be prevented by debris which would potentially become entrained in the escaping air and gas following a LOCA.

*A debris protection screen was erroneously installed on penetration N-205A (torus vacuum breaker pipe) and will be removed and installed on penetration N-205B (torus exhaust pipe). This correction will be reflected in the next Annual Modification Report.

Long Term Nitrogen Supply to ADS Safety/Relief Valve Accummlators

A modification to install an alternate, long term nitrogen supply to Automatic Depressurization System (ADS) accumulators 256A,B,C,G, and K was completed. This modification involved intalling nitrogen supply lines through penetrations N-47 and N-107 and connecting them to a new, split-ring header which was installed in containment. Three ADS valves were connected to one section of the split header while the remaining two were connected to the other section of the split header. The purpose of this modifcation is to provide a seismic, long-term, safety-grade N2 supply to assure operability of the ADS valves for a period of 100 days following an accident (as per NUREG-0737, Item II.K.3.28). As a result of this modification, a Technical Specification change was required. This change involved the addition of isolation valves to Tables 3.7.1 and 3.7.4 of the Specifications.

Containment High Range Radiation Monitors

A modification to install high range containment radiation monitors was completed. This modification involved the installation of two, quality assured, environmentally and seismically qualified instrument channels with a range up to 1P8 R/Hr. This upper range limit is equivalent to 1P7 R/Hr for 60 KeV to 3 MeV photons. The instrument channels are assigned to two independent electrical divisions to assure that the control room indication will be available in the event of a single failure. The purpose of this modificaiton is to acquire an

indication of the magnitude of radiation release to containment following an accident in order to implement emergency actions. As a result of this modification, a change to the Techniical Specification Tables 3.2.F and 4.2.F was requested to provide for surveillance testing of these instruments.

Containment Torus Shell Modifications

A modification to weld T beam stiffeners on the exterior of the torus shell was completed. This modification involved the installation of 4 circumferential T-shape stiffeners on the exterior of the torus shell in each torus segment. Condensate return and steam supply lines to area unit heaters were relocated to eliminate interference with the stiffner installation. The purpose of this modification is to upgrade the structural integrity of the torus shell and torus support system.

Exterior Torus Penetration Stiffeners

A modification to install penetration stiffner plates around each piping penetration having a diameter of 6 inches or larger was completed. This modification involved the installation of 314" stiffener plates radially around the pipe, welded to the pipe and the torus shell. The purpose of this modification is to reduce stresses caused by torus shell motion due to LOCA and S/RV discharge loads.

Modification of Torus Internal Structures

A modification to the structures inside the torus was completed. This modification included installing stiffener plates at vent header - downcomer intersections, installing stiffener plates at wetwell - drywell vacuum breakers, installing new supports on internal discharge piping at penetrations N233 and N234, modifying HPCI and RCIC pipe supports, and modifying vacuum breaker drain lines. The purpose of this modification is to correct deficiencies identified by the Mark I containment program by modifying structures inside the torus to resist suppression

pool hydrodynamic loads which result from steam blowdown due to a loss of coolant accident or main steam relief valve discharge.

Torus Support Column Tie Down Modification

A modification to install tie down assemblies at each of the torus support column bases was completed. The typical tie down assembly consisted of gusset and stiffener plates attached to the support columns. The purpose of this modification is to prevent the upward movement of the torus when a pressure increase in the suppression chamber occurs during a postulated LOCA or S/RV discharge.

Temporary Penetrations Through Reactor Building Wall

A modification to install five-10" and one-8" temporary penetrations in the west wall of the Reactor Building was comleted. The modification involved core boring six temporary penetrations which were used for welding leads and electrical feeds. These penetrations were sealed during the torus modification work with non-hardening, fire resistant caulking compound. At the end of the modification work, the core bores were filed with concreted and sealed with cover plates on each side. The purpose of this modification was to facilitate containment suppression chamber modifications.

Reactor Water Clean Up (RWCU) Suction Line

A modification to replace the RWCU suction line from the connection at the RHR suction line to the drywell penetration was completed. This modification involved replacing the RWCU piping (6", Sch. 80-, Type 304 stainless steel) from the weldolet at the RHR Suction Line (EL.150") up to and including the 90 degree elbow at Drywell Penetration N-14 (EL.178') with 6", Sch. 80, Type 316L stainless steel pipe. Also, the 46 and MO-15 valves were replaced with the refurbished Unit #3 46 and Mo-15 valves. The purpose of this modification is to reduce the susceptability to intergranular stress corrosion cracking.

CRD Scram Discharge Volume Modifications

A modification to the Control Rod Drive (CRD) Scram Discharge Volume was completed. This modification involved: replacing the two inch piping between the scram discharge volumes and the instrument volume with six inch piping, installing redundant isolation valves on the discharge volume vent and drain lines, removing relief valve RV-34 on the instrument volume drain line, rerouting the piping for the level detection instrumentation directly to the instrument volume, providing cross connection piping between the discharge volume vent lines, providing a vent path between the top of the instrument volume and the discharge volume vent system, and providing independent and diverse water level sensing instrumentation by using float switches which were made by different manufacturers. The purpose of this modification is to meet the requirements of: the NRC's safety evaluation for IE Bulletin 80-17, the NRC Generic Safety Evaluation Report "BWR Scram discharge System" dated December 1980, and NUREG-0460, "Anticipated Transient Without Scram," paragraph 2.3.1.1, part 2 of volume 4. As a result of this modification, a change to the Technical Specification was required. This change involved the addition of the scram discharge volume vent and drain line valves to Tables 3.7.1 and 3.7.4.

Improved Time Delay Relays for Reactor Feed Pump Circuit

A modification to replace Agastat pneumatic time delay relays with Agastat electronic time delay relays in the control circuits for the reactor feed pumps was completed. This modification involved replacing relays designated as "EA" and "EC" which are associated with the reactor feed pump trip on low suction pressure of 300 psig. The purpose of the modification is to improve the reliability of these components by ensuring that the time delay relays operate or time out correctly after being called upon following long periods of inoperation.

Improved Time Delay Relays for the Recirc Motor - Generator Sets

A modification to replace the pneumatic relays with more reliable electronic relays in the control circuits of the recirculation

motor-generator (MG) sets was completed. This modification involved removing the Agastat pneumatic time delay relays and installing surface mounted sockets and new Agastate TR electronic time delay relays with locking straps. The recirc MG set relays which were modified included: fluid drive low oil pressure alarm circuitry relays (3 instantaneous time delay relays and 3 time delay relays of 15 seconds each), loss of generator stator cooling trip relay contact (1 sec. for one pump; 10 sec. for second pump), recirc pump breaker lockout auxiliary circuit (10 sec. time delay relay for over current blocking during starting function; instantaneous time delay relay for field breaker control and excitation transfer), emergency lube oil pump auxiliary relays (1 sec. timer which prevents auto-start of AC lube oil pumps on lowering pressure; instantaneous relay which locks the scoop tube when emergency lube oil pumps low pressure), time delay relay to start emergency lube oil pump (3 time delay relays of 15 sec. each). The purpose of this modification is to improve the reliability of the recirc MG sets by ensuring time delay relays operate on time out correctly after being called upon following long periods of inoperation.

Improved Time Delay Relays for 4KV Switchgear

A modifiction to replace the pneumatic time delay relays with more reliable electronic relays in the control circuits of the 4KV emergency buses was completed. This modification involved replacing the Agastat pneumatic time delay relays with new Agastat TR electronic time delay relays for: the Diesel Generator Breaker close circuit 0.5 sec. time delay relay, the breaker backup/transfer 0.25 sec. time delay relay, the ECW pump auto start 22 sec. time delay relay, the ECW pump discharge valve auto open 35 sec. time delay relay, and the emergency auxiliary switchgear load center transfer 3 sec. time delay relay. The purpose of this modification is to improve the reliability of these components by ensuring that the time delay relays operate after long periods of inoperation.

Improved Time Delay Relays for Diesel Generators

A modification to replace four pneumatic relays with more reliable electronic relays in the control circuits for the diesel

generators was completed. This modification involved replacing the Agastat pneumatic time delay relays with new Agastat TR electronic time delay relays with locking straps. The following diesel generator relays were replaced:: (1) TD-1, 3 min. pre-lube timer relay, (2) TD-2, start failure (lockout) relay, (3) TD-3, generator loss of field and field ground alarm relay, and (4) TD-4, shutdown and holding circuit relay. The purpose of this modification is to improve the reliability of these components by ensuring that the time delay relays operate or time-out correctly when called upon to operate after long periods of inoperation.

Addition of Reactor Water Level Recorders

A modification to add redundant, safety-related, reactor vessel water level recorders to the main control room was completed. These recorders monitor the reactor water level over the range from normal level to fuel bottom. This modification involved the addition of two safety-related, Q-listed, qualified reactor water level recorders. These recorders were designated LR 2-2-3-73A and LR 2-2-3-72B. Each recorder has two channels, one for wide range reactor level (-165 to +50 inches) and one for fuel zone level (-325 to 0 inches). These two channels cover the required range as recommended in NUREG--0737, "Clarification of TMI Action Plan Requirements.". Each recorder and its associated input instrumentation is assigned to a separate electrical division to ensure a single failure will not disable both recorders. The purpose of this modification is to meet guidelines of NUREG-0737, Item II.F.2 for reactor vessel water level to be recorded over the range from normal water level to bottom of fuel.

Automatic Switchover of RCIC System Suction

A modification to add controls to automatically transfer the RCIC pump suction from the condensate storage tank to the suppression pool on low condensate storage tank level was completed. This modification involved adding two condesnate storage tank level instrument loops, each consisting of a transmitter and a trip unit, and modifying the controls for torus suction valves MO-13-39 and MO-13-41. These suction valves will open whenever the level in the condensate storage tank decreases to five feet above the bottom of the tank (or 10,000 gallons left in the tank).

This valve was chosen to duplicate HPCI automatic transfer from condensate storage tank to the torus. Because this change converted a manually-opened containment isolation valve (i.e., MO-13-14) to an automatically-opened valve, the circuit includes a signal to close the valve whenever a RCIC isolation signal or low RCIC steam line pressure signal is present. These signals will also close valve MO-13-39. This modification was designed in accordance with all criteria applicable to the RCIC system. The purpose of this modification is to meet the requirements of item II.K.3.22 of NUREG-0737, "Clarification of TMI Action Plan Requirements". This modifiction resulted in a change to the Technical Specifications. This change consisted of adding the condesnate storage tank low level trip function/test to Table 3.2.B and Table 4.2.B of the Technical Specification.

Recirculation Pump Seal Pressure Sensing Lines

A modification to install restricting orifices in the seal pressure sensing lines for the recirculation pumps was completed. This modification involved installing 1/4" restricting orifices in the 1" seal pressure sensing lines for the recirculation pumps. The purpose of this modification is to comply with FSAR, Supplement 1, Question 4.10 which requires all 1" instrument lines which penetrate the primary containment and originate within the reactor coolant pressure boundary to have 1/4" flow restricting orifices inside primary containment.

Additional Fuses for Containment Atmospheric Control System (CACS)Solenoid Valve

A modification to install individual fuses in the control circuits for the solenoid coils of CACS isolation valves was completed. This modification involved installing individual 3A fuses in the control circuits for the solenoid coils of the inboard and outboard drywell oxygen analyzer isolation valves: SV-2671 (A-G), SV-2978 (A-G), and SV-2980. This modification also involved adding fuse blocks for SV-2671 (A-G) in the oxygen analyzer control cabinet 20549 and fuse blocks for SV-2978 (A-G) and SV-2980 in Box J75. The purpose of this modification is to allow a failed solenoid coil to blow its own fuse while keeping the other solenoid valves in service.

EHC System

A modification to install two isolation valves between the hydraulic power unit and the turbine front standard main stop valves, control valves and combined intermediate valves was completed. The purpose of this modification is to allow maintenance of these components without shutting down the EHC power unit.

Reactor Building Chilled Water, Turbine Building Chilled Water, and Drywell Chilled Water Block Valves

A modification to improve the local leak rate testing of the reactor building chilled water and drywell chilled water systems isolation valves was completed. This modification involved the addition of the following equipment: 1) test connections and block valves to facilitate leak rate testing containment isolation valves MO-2373 and MO-2374 on the RBCW System; 2) test connections and block valves for the local leak rate testing of containment isolation valves MO-2200 A&B and MO-2210 A & B on the DWCW system; 3) air operated valves on the RBCW side of three-way valves MO-20245 and MO-20246(These four new butterfly valves provide a leak tight barrier between RBCW and DWCW. The air-operated valves will be normally closed and will open when the three-way valves are signaled to provide RBCW. Sample connections were provided so samples can be obtained and analyzed to indicate if any leakage is occuring through the butterfly valves); and 4) air-operated valves on the RBCW side of three-way valves AO-2352 and AO-2354 (the pilot solenoid valves which operate the existing three-way valves also operate the new valves. Sample connections were also provided on this interface). The purpose of this modification is to improve the local leak rate testing RBCW and DWCW system isolation valves and to preclude leakage of contaminated RBCW into the DWCW and TBCW through the system interfaces. This modification resulted in a change to the Technical Specifications. This change involved the addition of valves MO-2200A&B, MO-2201A&B, MO-2373, MO-2374 on penetrations N-55, 54, 56, 53, 23, and 24 respectively as Primary Containment Testable Isolation Valves to Table 3.7.4 of the Technical Specifications.

Reactor Protection System

A modification to the shutdown scram reset interlock circuit of the reactor protection system was completed. This modification involved removing contact 1-2 of relays 5A-K18A and 5A-K1813 from shutdown scram reset interlock circuits. The purpose of this modification is to ensure correct relay alignment upon restoration of power. This modification is in response to SIL-344.

'B' Core Spray Sparger

A modification to install a General Electric designed and supplied clamp for the "B" core spray sparger. This modification involved installing a clamp on the "B" core spray sparger T-box. The clamp is two pieces held together and secured to the sparger by four bolts which were crimped after installation. The purpose of this modification is to strengthen the cracked welded seam of the "B" core spray sparger T-box.

Scram Discharge Volume Continuous Water Level Monitoring & Control Rod Insertion on Low Control Air Header Pressure

A modification to remove the Scram Discharge Volume water level monitoring system and the automatic system to initiate control rod insertion on low pressure in the control air header was completed. These systems were required as interim measure prior to the implementation of the long term program to correct design deficiencies in the scram discharge system. The long term program involved replacing the existing two inch piping between the scram discharge volumes and the instrument volume with larger piping, as was discussed in a previously mentioned modification. Completion of this long term correction eliminated the need for the systems which were removed. The purpose of this modification was to remove two system previously installed in compliance with NRC Bulletin 80-17, Supplement 1.

Containment Atmosphere Control and Dilution Systems

A modification to replace internal circuit assemblies on containment atmosphere control system (CACS) and the containment atmosphere dilution (CAD) system. This modification involved replacing the internal circuit assemblies 444043 on containment pressure transmitters PT 2508A, PT 250813, and PT4805 in the CACS and CAD systems. The purpose of this modification is to eleminate the grounds on the positive output leg of the emergency core cooling system power supplies.

HPCI Turbine Exhaust Drain Pot Valve

A modification to temporarily replace the HPCI turbine exhaust drain pot valve SV-54 with a manual valve and modify the piping to suit the new valve was completed. The purpose of this modification is the provide a temporary replacement for SV-54 since the old valve was not repairable and a replacement had a 20 week lead time.

Main Steam Isolation Valve Drain Valve

A modification to the MSIV drain valve was completed. This modification involved installing a strip of stainless steel approximately 1/8 inch think by 4 innches long on the valve gate wedge. The purpose of this modification is to properly position the valve gate in relation to the inbody guides.

Modification of Annunciator Alarms in the Main Control Room

A modification to eliminate, relocate and group together, on a "first alarm in" basis, selected annunciator alarms in the main control room was completed. This modification involved the elimination of the "Main Steam Line Leakage" alarm which was was insensitive for quantifying a small steam line break. All wiring which provided annuciation was removed. In addition, this modification involved relocating certain alarm windows so that the alarm windows designated as a "first alarm in" group are annunciated on the same panel. The wiring changes that had to be

made to complete this part of the modification were done at the annunciator termination cabinets in the Cable Spreading room. Lastly, this modification involved grouping together on a "first alarm in" basis selected alarm windows. To complete this part of the modification, a wiring change was made on each alarm window at the annunciator cabinet in the Control Room. The purpose of this modification is to notify the Control Room operator as to the "first alarm in" condition.

Process Computer Wiring Input Changes

A modification to the process computer analog input points was completed. This modification involved moving the computer input wires for 15 analog input points directly to the voltage dropping resistors. Previouisly, the internal cabinet wiring included extra lead length which increased the effective resistance about 1%. This modification moved the input wires directly to the resistor terminator strips. The following analog inputs were affected:

(1) Recirc Drive Flow (A1, A2, B1, B2)
(2) Reactor Feedwater Inlet Flow (A,B,C)
(3) RWCU System Flow (A,B)
(4) Reactor Outlet Steam Flow
(5) Reactor Water Level
(6) Reactor Pressure
(7) Reactor Core Differential Pressure
(8) CRD Flow
(9) Total JRT Pump Flow

The purpose of this modification is to improve the accuracy of the process computer.

Torus Smoke Detector Alarm System

A modification to the torus smoke detector alarm system was completed. This modification involved installing a temporary switch in the torus smoke detector alarm system. The purpose of this modification was to eliminate the frequent disconnecting and

reconnecting the alarm when there was welding being done near the smoke detector.

HPCI Gland Seal Condenser

A modification to the HPCI gland seal condenser was completed. This modification involved installing metal bands on the upper and lower joints of the HPCI gland seal condenser shell to bonnet connection. The purpose of this modification is to eliminate the gasket from being extruded by transient pressures causing gasket failure and was done in accordance with GE SIL No. 129.

Process Computer Data Bank Update

A modification to the process computer data bank software was completed. This modification involved updating the data arrays to reflect the new core configuration due to the replacement and shuffle of fuel bundles, control rods, and LPRM's. The purpose of this modification is to modify the TCREX array to allow accurate tracking of % B-10 depletion and leeching of control blades.

Temporary Neutron Flux Monitoring System

A modification to install a neutron flux monitoring system was completed. This modification involved mounting a neutron flux detector and amplifier inside the drywell. The detector was suspended from a cable, resting against the primary shield wall, near the core midplane level. The detector was anchored from below by another cable. An indicator was installed in an accessible location in the reactor building. The purpose of this modification is to determine if an EX-CORE neutron flux monitor would meet the requirements of Reg. Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident."

RHR Pump Motor

A modification to repair the damaged 2A RHR pump motor was completed. This modification involved repairing the damaged air seal/vent passage area in the upper end shield of the 2A RHR pump motor. This required removing damaged portions of the lands by machining then inserting and pinning a bronze bushing of proper size into each land. The face and I.D. of each bushing were machined to re-establish the original dimensions and configuration of the air seal/vent passage area. This restored the function the air seal. In addition, the oil cover plate was damaged beyond repair. The casting was replace by a steel plate of the proper dimensions to fit the opening above the oil reservoir. This cover is a splash plate and does not provide any structural integrity or leak tight containment pressure boundary. The purpose of this modification was to repair and put back in service the damaged 2A RHR pump motor.

Reactor Feed Pump Turbine Trip Logic

A modification to temporarily modify the 2C RFPT trip logic was completed. This modification involved adding a 125 VDC time delay relay in the control circuit around pressure switch (PS)-11. PS-11 should have normally closed contacts but was replaced (due to a leaky diaphragm) with a pressure switch with normally open contacts. The purpose of this modification is to convert PS-11 from normally open to normally closed status. PS-11 will be replaced with the proper type pressure switch as soon as it becomes available.

UNIT 3

Reactor Water Cleanup System

A modification to modify the limitorque motor operator switch for the reactor water cleanup valve MO-3-12-15 was completed. This modification involved converting the Limitorque dual contact switch (SB-2) to a single contact switch (SWB-2). The purpose of this modification is to eliminate the overtorquing of MO-3-12-15 and scoring the valve seat.

Process Computer Target Exposure Data Bank Revison

A modification to the process computer target exposure data bank was completed. The OD 16 program is a fuel management program which is used to predict the future exposure and power distribution in the core during the course of a fuel cycle. The data results, from the program, are used as an aid to determine the rod patterns during the cycle. However, the present process computer software model (OD16) has the capability of handling fuel column length of 144 inches, whereas the three-dimensional simulator code, PANACEA, had the capability of handling fuel lengths in excess of 144 inches. Since Peach Bottom Unit 3 contains predominately 150 inch fuel, the difference in the model designs resulted in a small error introduced into the Target Exposure Distribution Array (TXRZP) data. To eliminate this error, this modification involved terminating the PANACEA code target exposures at 144 inches and re-apportioning them into the 12 axial nodal values used by the process computer. This revised TXRZP and ECEX data resulted in more realistic axial average exposures. The purpose of this modification was to correct the error into the TXREP in the process computer.

Process Computer Cycle 5 MCPR Limits Revision

A modification to the Process Computer data bank was completed. This modfication involved revising the MCPR Limits in accordance with License Amendment No. 85 in which the plant is permitted to operate whith less restrictive MCPR limits from BOC up to 1000 MWD/T before End-of-Cycle (EOC) and from 1000 MWD/T before EOC to EOC. The purpose of this modification is to revise the MCPR limits to comply with the revised Tech. Spec. MCPR limits.

Process Computer NSSS OD6 Program Software Modification

A modification to the process computer data bank was completed. This modification involved revising the Critical Bundle Power Calculation option of the NSSS OD6 program. The program would edit the critical power data based on the smallest CPR values rather than the highest values of MFLCPR (Maximum Fraction of Limiting CPR). The purpose of this modification was to correct a sorting problem with option 3 of the OD6 program.

COMMON

Process Computer P1 Format Revision

A modification to the process computer was completed. This modfication involved revising the P1 edit format to replace WWTP with Fraction of Rated Power (FRP). The changes were made to the OD17 program which generates the periodic program formats. The purpose of this modification is to provide the reactor engineers with the fraction of rated power, in particular during start-up for APRM calibration.

Process Computer Software Change to Initialization Program

A modification to the initialization (INZ) program of the process computer. This modification involved modifying the INZ program to turn on the LTA program during on-line/off-line re-initialization of the process computer. Following off-line initialization, the LTA program was brought into the large memory area and attemped to perform its on-line functions (data checks, message outputs, etc.). Unable to complete the on-line functions, the LTA program remained in the large memory area, thus preventing the OD 15 program (drum check program) from entering the large memory. The purpose of this modification is to bypass the LTA turn-on software whenever the computer is re-initialized off-line and to permit the OD 15 program to perform a drum data check.

Plant Radio Communications

A modification to install an improved plant radio communications was completed. This modification involved installing a distributed antenna system throughout the main plant and diesel building consisting of approximately 55 dish-type antennae, installing a radio base station located in U12 turbine building fan room (EL 195'), and connecting the security system base station to the distributed antenna system. The purpose of this modification is to provide improvement to the plant radio communications system in order to meet the requirements of the Reg. Guide to 10 CFR73.55 and to improve the safety and efficiency of plant operations.

Unit 1 - Alternate Chemistry and Counting Lab

A modification to furnish an alternative chemistry and counting laboratory in Unit 1 was completed. This modification involved refurbishing the Unit 1 chemistry and counting rooms and outfitting the rooms with laboratory equipment. The electrical work consisted of providing feeds for the Elgar Line Conditioner, Nuclear Data 6650 Computer, Baird Proportional Counter, Gow Mac Gas Chromatograph, and the Reporting Integrator. Also, existing lights and outlets were inspected and repaired. Additionally, manual reset devices were installed on the line conditioner, computer HVAC, and the proportional counter. These devices are to protect the equipment from being re-energized at high levels if power is temporarily lost in the counting room. The purpose of this modification is to provide PBAPS Units 2 and 3 with continuing counting and radio-chemistry capabilities in the event of an accident.

Security System Computer

A modification to the security system computer was completed. This modification involved installing Sola constant voltage transformers in the power supply to the security system computer. The purpose of this modification is to increase security system reliability by eliminating unpredicted voltage spikes.

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

June 9, 1983

Docket Nos.: 50-277
50-278

Mr. J.M. Allan, Acting Administrator
Region I
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

SUBJECT: Annual Plant Modification Report - 1982
Peach Bottom Atomic Power Station
Uni s Nos. 2 and 3

Dear Mr. Allan:

Enclosed are two copies of the 1982 Annual Plant Modification Report for Peach Bottom Atomic Power Station Unit Nos. 2 and 3.

This report is being submitted in fulfillment of the reporting requirements of 10 CFR 50.59 describing changes made to the facility as the facility is described in the final safety analysis report.

Very truly yours,

W. M. Alden
Engineer-in-Charge
Licensing Section
Nuclear Generation Division

WMA:lm

Attachments

cc: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

IE24
1/1