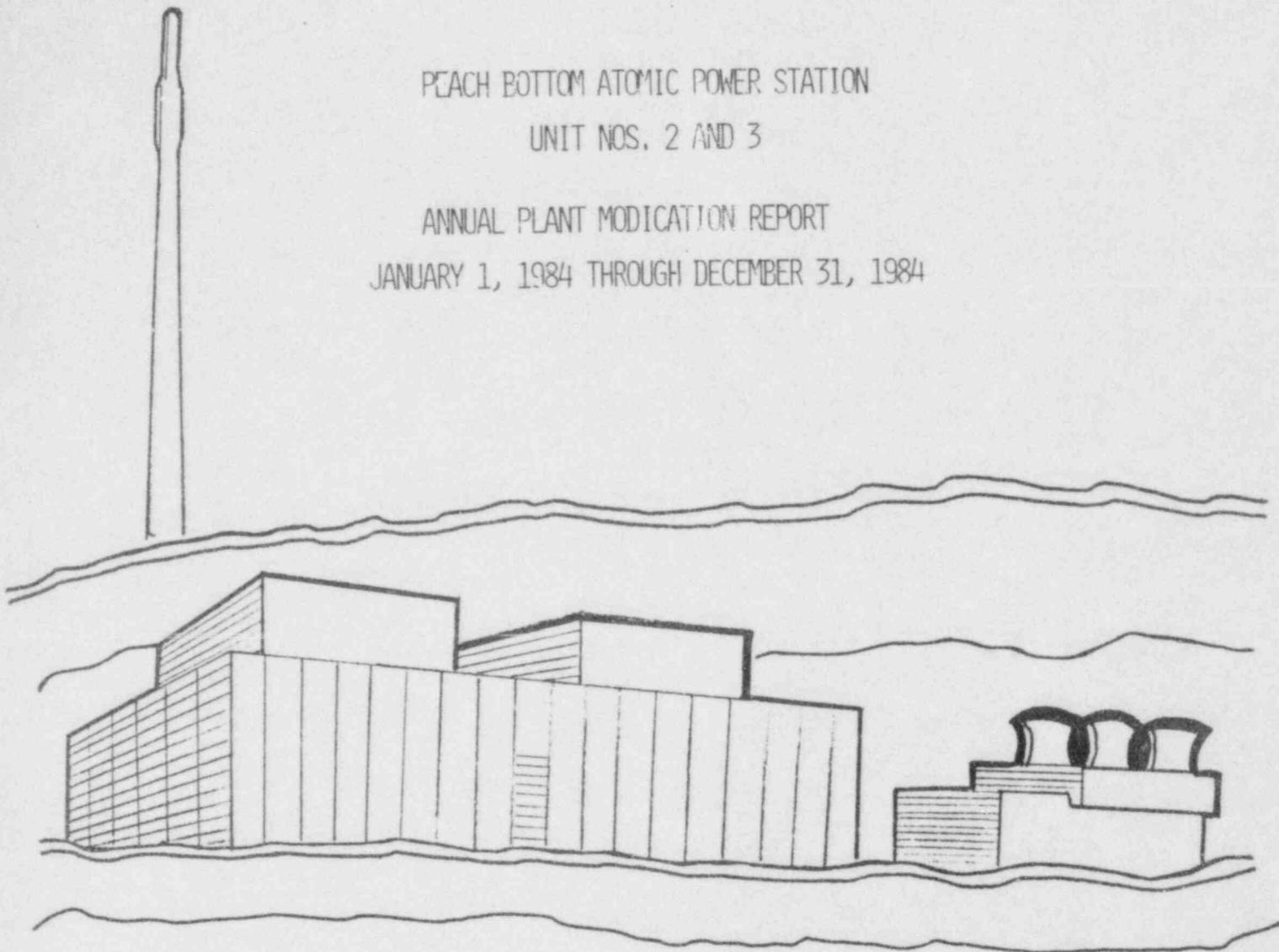


PEACH BOTTOM ATOMIC POWER STATION
UNIT NOS. 2 AND 3

ANNUAL PLANT MODIFICATION REPORT
JANUARY 1, 1984 THROUGH DECEMBER 31, 1984



SUBMITTED TO
THE UNITED STATES NUCLEAR REGULATORY COMMISSION
PURSUANT TO
FACILITY OPERATING LICENSES NOS. DPR-44 & DPR-56
DOCKET NOS. 50-277 & 50-278

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January 1, 1984 through December 31, 1984

Submitted to

The United States Nuclear Regulatory Commission

Pursuant to

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

Docket Nos. 50-277 & 50-278

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

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PEACH BOTTOM ATOMIC POWER STATION
ANNUAL PLANT MODIFICATION REPORT
1984

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. The report covers modifications and tests that were completed in 1984, including changes made to the facility as the facility is described in the safety analysis report.

For each of the modifications and tests 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 and tests included in this report. Those requiring Technical Specification changes are noted in the descriptions of the applicable modifications or tests.

UNIT 2 - 1984 MODIFICATIONS

Core Spray Test Line Orifice

A modification to install new and redesigned flow restricting orifices in the Core Spray System test return line to the torus was completed. The Core Spray System test return line flow control valve had experienced moderate to severe vibration over the years resulting in damage to the motor operator and to the valve internals. The cause of the vibration was attributed to cavitation at the restricting orifice and at the test valve. The purpose of the modification was to eliminate the cavitation in the restricting orifice and test valve. The new orifice was designed for one pump flow.

This modification resulted in a change to the Technical Specifications to permit surveillance testing one core spray pump at a time.

Auxiliary Control Power Monitoring on the 4kV Buses

A modification to provide monitoring of the auxiliary control power on the 4kV buses was completed. This modification provides an alarm in the Control Room indicating a loss of this DC power. The work involved mounting an auxiliary relay, an indicating light and a test pushbutton inside three compartments for each 4kV bus.

Upgrading the Hydrogen Seal Oil Vacuum Pump Discharge Piping

A modification to replace the main generator hydrogen seal oil vacuum pump piping in order to minimize vacuum pump failures was completed. The hydrogen seal oil vacuum pump discharge piping was improperly sloped, of insufficient diameter and did not contain a necessary loop seal. This modification involves installing new 3-inch piping which has a loop seal close to the vacuum pump and properly sloping the pipe. A sight glass was installed on the loop seal to allow the loop seal level to be monitored. A portion of the new piping will be common to both Units 2 and 3. Shutoff valves with sparkless trim were installed at the tie-in to the common piping so that either unit can be isolated for maintenance.

Replacement of Emergency Core Cooling System (ECCS) Power Supplies

A modification replacing the ECCS power supplies was completed. This change was performed due to the low reliability of the previously installed ELMA power supplies. These power supplies provide 24 volt DC power to the transmitters, trip units, and associated relays used to initiate the ECCS, diesel generators, and RCIC system, and also provide power to pressure and flow transmitters in the containment atmosphere control and containment atmosphere dilution systems. The new power supplies will enhance the proper initiation and operation of this equipment.

Replacement of Solenoid Valves on Drywell Sump Pump Isolation Valves

A modification to remove the air volume booster relays and replace the solenoid valves associated with the drywell equipment and floor drain sump pump isolation valves has been completed. A temporary modification had added the air volume booster relays to the drywell sump pump isolation valves to enable the isolation valves to be closed within 5 seconds as required by Technical Specifications. However, since the booster relays are not 'Q'-listed, this modification removes the booster relays and existing solenoid valves and replaces them with 'Q'-listed solenoid valves which are sized to close the isolation valves within the required 5 seconds.

Diesel Generator Air Start Block Valves

A modification has been completed to install a block valve on the discharge line of the starting air compressors for each of the four emergency diesel generators. The purpose of the modification is to enable removing an air compressor from service for maintenance without declaring the diesel generator inoperable. Previously, the air start header had to be depressurized to perform maintenance on the air compressor, thereby rendering the associated diesel generator inoperable.

Replacement of Refueling Platform

A modification to replace the Unit 2 refueling platform was completed. The modification was performed due to the unreliability of the old refueling platform which had often affected critical path fuel movement activities. The new platform was obtained from equipment originally supplied to the cancelled Baily Nuclear 1 Unit. The net result of the modification is a platform structure with improved stiffness and

seismic response, improved equipment and improved instrumentation and controls.

Replacement of 24 Volt Batteries

A modification replacing the 24 volt batteries which feed the neutron monitoring system and the area and process radiation monitoring systems was completed. The modification was performed due to deterioration of the old 24 volt batteries. Since the existing type battery is no longer manufactured, an equivalent was installed. The new batteries are a different size and therefore required a new rack.

Replacement of Foxboro Recorders

A modification has been completed to replace eight Foxboro Model 226S electronic recorders with Foxboro Model 227S recorders. The old recorders had a mounting defect that made the chassis difficult to remove from the mounting shelf. The devices, which are used for post-accident monitoring, record reactor water level, drywell pressure, torus water level/temperature, and containment radiation parameters.

Replacement of 2A Reactor Feed Pump Turbine (RFPT) Exhaust Expansion Bellows

A modification replacing the 2A reactor feed pump turbine exhaust expansion bellows was completed. The original bellows, which had failed in service, was Type 321 stainless steel. The replacement bellows material is Inconel 625. The new material was chosen since it is not susceptible to stress corrosion cracking and can resist fatigue better than 321 stainless.

Replacement of Automatic Depressurization System (ADS) Backup Nitrogen Solenoid Valves

A modification to replace the two ADS backup nitrogen system isolation solenoid valves has been completed. The originally installed valves did not provide leak tight isolation in both directions. The new valves, manufactured by Valcor Engineering Corporation, were successfully local leak rate tested in both directions.

Relocation of Battery Charger

A modification to relocate Unit 2 battery charger 2DD03 was completed. This action, among others, was undertaken to bring Peach Bottom into compliance with criteria outlined in Appendix R to 10 CFR 50. Appendix R establishes separation requirements for equipment, and associated cables, required for safe shutdown of the plant in the event of a design basis fire.

High Pressure Coolant Injection (HPCI) Overspeed Trip Improvement

A modification to replace the HPCI turbine mechanical overspeed device with an improved assembly was completed. The modification involved removing the existing device and installing a new tappet assembly, piston, cotter pin, and gasket. The purpose of the change is to improve the operability and reliability of the HPCI system by eliminating overspeed trip reset problems caused by chipped tappet balls and bent tappet assemblies.

HPCI Instrument Valve Reroute

A modification has been completed to replace the existing vent valves on a HPCI steam line high flow differential pressure device. The purpose of the modification is to replace valves which frequently stick and to relocate them to a more accessible location to facilitate instrument calibration.

Reactor Building Closed Cooling Water (RBCCW) Pump Seal Cyclone Separators

A modification to install cyclone separators on the seal injection lines of the RBCCW pumps has been completed. The modification involved removing the existing seal injection lines, installing the separators, and routing the drainage of the separators to an existing connection point on the pump's casing suction side. Additionally, local pressure indicators were installed on the seal injection lines. The modification was performed to prevent pump seal damage from dirt being introduced into the RBCCW system when normally idle piping systems are connected to RBCCW.

Main Turbine Manway Retrofit

A modification has been completed to enhance the reliability of the main turbine low pressure inner casing manhole cover assemblies. The modification involved welding shut the two middle upper manways on the turbine inner casing per stage and installing flanges on the two middle lower manways.

Additionally, the gaskets on the lower manways were replaced with special metallic-asbestos gaskets since industry experience indicated that the previous gasket material sometimes degraded and leaked under the steam conditions found in the first several stages of low pressure turbines.

Upgrading of Traversing Incore Probe (TIP) Lines

A modification has been completed to seismically upgrade the Traversing Incore Probe system drive and purge lines. To seismically upgrade the drive lines, the tables supporting the drive line valve guide assemblies were welded to the grating on which they rest. Upgrading the purge line involved adding one support to the purge line outside the TIP room.

Replacement of Emergency Service Water (ESW) Pipe Support

A modification has been completed to replace a 3-inch Emergency Service Water pipe support in the 2C core spray room. This pipe supplies cooling water to the 2C core spray pump motor and room coolers. The modification involved welding an I-beam to a wall column and providing pipe saddles for the 3-inch ESW line.

Degraded 4kV Emergency Bus Protection

A modification to install additional undervoltage relay protection on the 4kV emergency buses was completed. Prior to this modification, only one undervoltage relay per feeder breaker existed on the 4kV emergency buses. This relay was an inverse time relay set to begin actuating when the nominal voltage dropped below 60%. The purpose of this modification was to protect equipment that may be operated within the range of 60 to 90% of nominal voltage for sustained periods of time.

The modification involved installing new undervoltage devices covering the range from 60 to 90% nominal voltage on both feeder breakers of the 4kV emergency buses. These new undervoltage devices alarm in the Control Room on the existing bus undervoltage alarm windows. In addition, the new and existing undervoltage devices can now be tested while the bus is on line. The calibration check of the undervoltage devices will be performed monthly in accordance with pending Technical Specification changes through the use of a new test plug connection and test box.

UNIT 3 - 1984 MODIFICATIONS

Hydrogen Water Chemistry Test

Hydrogen Water Chemistry (HWC) testing was performed on Unit 3 in December, 1984. The purpose of the test was to obtain information to determine the feasibility of using HWC to reduce Intergranular Stress Corrosion Cracking (IGSCC) and to provide plant-specific data needed to design a permanent HWC system.

The test involved injecting hydrogen into the suction line of each reactor feedpump, monitoring dissolved hydrogen and oxygen levels in the feedwater, recirculation, and main steam systems, and injecting oxygen into the recombiner jet compressors to prevent developing a hydrogen rich mixture downstream of the recombiner vessel.

Results from the three day test showed a four-fold increase in main steam line radiation levels and the suppression of dissolved oxygen in the recirculation system to less than 20 ppb. It was also determined that HWC can be used at Peach Bottom to reduce IGSCC.

A change to the Technical Specifications was required to enable reactor operation to continue at the increased main steam line radiation levels associated with HWC testing.

COMMON - 1984 MODIFICATIONSImproved Control Room Chiller System Instrumentation

A modification has been completed to replace two control room chiller expansion tank pressure instruments with instruments of a higher range. The purpose of the modification is to provide instrumentation with the proper ranges to maintain chilled water pump suction pressure between 30 to 35 psig. The previous pressure indicator and pressure switch had ranges of 0 to 30 psig and 0 to 35 psig, respectively. The replacement devices have 0 to 50 psig ranges.

Replacement of 'A' Auxiliary Boiler Flow Device

A modification has been completed to replace a pneumatic square root converter in the 'A' auxiliary boiler feedwater flow control system. The purpose of the modification is to replace the defective converter with a different model since the original equipment is no longer available.

Addition of Couplings to Condensate Storage Tank (CST) and Refueling Storage Tank (RST) Heater Coils

A modification has been completed to install threaded unions on the inlet and outlet piping to the auxiliary steam heater coils in the condensate and refueling water storage tanks. The purpose of the modification is to facilitate leak testing of each tank's heater coil since the coils represent a possible leakage path between the contaminated tanks and the auxiliary steam supply system.

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June 3, 1985

Docket No. 50-277
50-278

Dr. Thomas E. Murley, Administrator
U.S. Nuclear Regulatory Commission
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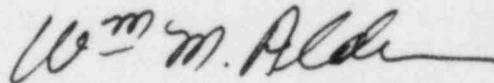
SUBJECT: Annual Plant Modification Report - 1984
Peach Bottom Atomic Power Station, Unit Nos. 2 and 3
Facility Operating Licenses DPR-44 and DPR-56

Dear Dr. Murley:

Enclosed are two copies of the 1984 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

Attachments

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

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