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PG&E Letter HBL-97-013

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

Docket No. 50-133, OL-DPR-7
Humboldt Bay Power Plant, Unit 3
10 CFR 50.59 Annual Report of Changes, Tests, and Experiments for January 1 through December 31, 1996

Dear Commissioners and Staff:

Pursuant to 10 CFR 50.59, enclosed is the Annual Report of Changes, Tests, and Experiments for Humboldt Bay Power Plant, Unit 3 (HBPP) for the reporting interval January 1 through December 31, 1996.

Changes in the Facility As Described in the SAFSTOR Decommissioning Plan (SSDP)

The enclosed annual report provides a brief description of the 10 CFR 50.59 facility design changes, including a summary of each safety evaluation. Each change was reviewed and accepted by the Plant Staff Review Committee (PSRC).

Changes in Procedures As Described in the SSDP

The enclosed annual report provides a brief description of the 10 CFR 50.59 procedure changes, including a summary of each safety evaluation. Each change was reviewed and accepted by the PSRC.

Tests and Experiments Not Described in the SSDP

No tests or experiments were performed during the reporting period that are not described in the SSDP.

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The PSRC determined that none of the design changes or procedure changes involved an unreviewed safety question or a change to the HBPP Technical Specifications.

Sincerely,

Gregory M. Rueger

cc: Richard F. Dudley
Ellis W. Merschoff
Kenneth E. Perkins
Humboldt Distribution

Enclosure

ENCLOSURE

10 CFR 50.59 ANNUAL REPORT OF CHANGES, TESTS, AND EXPERIMENTS
JANUARY 1 THROUGH DECEMBER 31, 1996

HUMBOLDT BAY POWER PLANT, UNIT 3
DOCKET NO. 50-133

1996 FACILITY CHANGES

Listed below are the changes made to Humboldt Bay Power Plant, Unit 3 (HBPP) in 1996, along with brief descriptions of the changes and a summary of the safety evaluations. More complete records of these design changes have been reviewed by the HBPP Plant Staff Review Committee (PSRC), and the changes were determined not to involve an unreviewed safety question or a change to the HBPP Technical Specifications.

1. DCP E-00383
   DCN HB3-SE-383 Provide Power to Power Panel No. 1 From Emergency Section of MCC-10

   This modification changed the Power Panel No. 1 power source to be the emergency section of MCC-10.

   Power Panel No. 1 provides 480-volt AC power for auxiliary equipment in the Unit 3 refueling building such as the caisson sump pump, reactor equipment drain tank (REDT) pumps, turbine building drain tank pumps, spent fuel pool recirculation pumps, reactor caisson manlift, and all refueling building lighting. The AC power source for Power Panel No. 1 was from Breaker 52-1012 in the normal section of MCC-10. The normal section of MCC-10 receives power from the Unit 3 2.4-kV bus through Load Center Transformer No. 5. The 2.4-kV bus is powered from the 60-kV auxiliary bus through House Transformer No. 2. There is no alternate power source because the Unit 3 house transformer (HT3) has been removed from service. If the normal source of power to Power Panel No. 1 were lost for an extended period of time, flooding at the -66-foot elevation in the reactor caisson could occur due to the loss of both the caisson sump pump and the REDT pumps. At current leakage rates into the reactor caisson sump, a power loss for 10 hours would result in approximately 2000 gallons of water at the -66-foot elevation. Loss of the spent fuel pool (SFP) recirculation pumps would result in increasing levels of Cs-137 in the SFP water. In addition, all lights in the refueling building will be inoperable.

MCC-10 also contains an emergency section that transfers to alternate AC power sources if the normal AC source as described above is lost. These alternate power sources are from Unit 1 through Breaker 52-510 on Load Center No. 5 and from a 60-kW propane engine-driven 480-volt generator. The emergency section provides power to the emergency section of the heating and ventilation control board and power for critical equipment such as radiation monitoring systems, the SFP level monitoring system, and the annunciator system through lighting panels 3L4 and 3L5. When Unit 3 was operating, this section also provided 480-volt AC power to Valve Control Center No. 1 (VCC-1), the emergency gland seal exhauster, the emergency makeup pump, Hydraulic Pump No. 2, and Core Spray Pump No. 1. These loads were disconnected during the transition to SAFSTOR. With the elimination of VCC-1, the emergency gland seal exhauster, the emergency makeup pump, Hydraulic Pump No. 2, and Core Spray Pump No. 1, the emergency section of MCC-10 is lightly loaded and has sufficient additional capacity to provide normal source AC power to Power Panel No. 1.

Safety Evaluation Summary:

The basic source of power to Power Panel No. 1 did not change since it will normally be supplied from the 60-kV bus through House Transformer No. 2 and Load Center Transformer No. 5, which powers both the normal and emergency sections of MCC-10. The electrical load requirements were evaluated and found to be within the capability of the emergency section of MCC-10. This modification provided a backup power supply to ensure that critical equipment will remain operational during a loss of offsite power.

2. DCP M-00401
DCN HB3-SM-401 <u>Add Discharge Capacity to Caisson Sump - Phase I</u>

This modification increased the capacity of the caisson sump pump system. It also enhanced the reliability of the system to prevent flooding of the caisson. The modifications included:

- Adding a new submersible pump to the caisson sump pump system.
- Adding a power supply for the motor of the new submersible pump.
- Modifying the caisson sump pump piping and adding a recirculation flow path.
- Redesigning the control logic to minimize the start/stop frequency of the caisson sump pumps.

This modification increased the capacity of the caisson sump pump system from approximately 10 gallons/minute to approximately 30 gallons/minute. It increased the reliability and flexibility of the system since each pump can be removed from service for maintenance without affecting the other pump. This modification also provided for future expansion of the pumping system, if required.

Safety Evaluation Summary:

There were no potential safety evaluation issues associated with this modification. Adding a pump and recirculation flow path only increased the capacity, reliability and flexibility of the pumping system, and its ability to handle the increases in groundwater inleakage to the caisson.

None of the flow paths or specifications for the caisson sump pump system as described in the Technical Specifications, SAFSTOR Decommissioning Plan, or any other license basis document was changed. The only license basis document change that will be necessary will be an editorial change to the SAFSTOR Decommissioning Plan; "pump" will be changed to "pumps" in Table 3-1 (page 3-41) and Section 3.2.3.3 (page 3-17).

3. SERA HB3-001 Remove No. 1 and No. 2 Core Spray Pumps and Associated Piping

This modification removed the No. 1 and No. 2 core spray pumps and associated suction and discharge piping at the -66-foot elevation.

Safety Evaluation Summary:

Because this equipment was in layup, no longer in service, and did not interface with any of the active systems required to maintain Unit 3 in SAFSTOR, there were no potential safety evaluation issues associated with this modification.

4. SERA HB3-002 Remove Scram Dump Tank and Associated Piping

This modification removed the scram dump tank and associated piping in the REDT room of the access shaft at the -66-foot elevation.

Safety Evaluation Summary:

Because this equipment was in layup, no longer in service, and did not interface with any of the active systems required to maintain Unit 3 in SAFSTOR, there were no potential safety evaluation issues associated with this modification.

5. SERA HB3-003 Remove Reactor Head O-ring Leak Detection Instrumentation and Drywell Lower Head Water Detector/Drain Instrumentation

This modification removed the reactor head inner O-ring detection instrumentation and the drywell lower head water detection and drain instrumentation.

Safety Evaluation Summary:

Because this equipment was in layup, no longer in service, and did not interface with any of the active systems required to maintain Unit 3 in SAFSTOR, there were no potential safety evaluation issues associated with this modification.

PROCEDURE CHANGES

Listed below are the changes made to procedures or new procedures in 1996 as described in the SAFSTOR Decommissioning Plan, along with a brief description of the changes and a summary of the safety evaluations. More complete records of these procedure changes have been reviewed by the HBPP PSRC, and the changes were determined not to involve an unreviewed safety question or require a change to the HBPP Technical Specifications.

1. TP 2/22/96 Gravity Feed Test - Demineralized Water Tank to Spent Fuel Pool

During the 1994 NRC team inspection, it was noted that, in the event of a failure of the demineralized water pump, gravity feed of the demineralized water tank to the SFP was possible, but this design feature had not been tested. Testing to establish the gravity feed flow rate would provide confidence that gravity makeup to the SFP is functional.

This temporary procedure evaluated the capability of the demineralized water system to supply water to the SFP via gravity feed in the event that the demineralized water pump becomes inoperable and makeup water is required for the SFP. To perform the test, the demineralized water pump was secured, and the priming water valve to the suction of the SFP pumps was opened to determine the gravity flow rate.

Safety Evaluation Summary:

While the procedure was being performed, the demineralized water pump was out of service. When the demineralized water system is not available, emergency makeup to maintain adequate shielding of the spent fuel is provided from the fire system, which was not affected by the performance of this procedure.

2. Radwaste Shipment, March 25, 1996

Although there were no changes to plant procedures associated with this radwaste shipment of March 25, 1996, a revision to a procedure described in the SAFSTOR Decommissioning Plan was required. This shipment included 14 drums of radwaste system spent cartridge-type filters and one drum of SFP spent cartridge-type filters. The SAFSTOR Decommissioning Plan, Section 4.4.5.2, "Waste Processing and Disposal," states:

> *Spent cartridge-type filters (and filter crud) will be packaged in 55-gallon (or similar) drums and stored in a shielded area. The contents of the drums will be sampled and analyzed to classify the wastes. When a sufficient quantity of wastes has accumulated, the wastes will be processed by solidification/encapsulation (by an outside contractor with portable equipment) in accordance with current regulations, followed by shipment in appropriate shipping containers to the burial site.*

When this particular section of the SAFSTOR Decommissioning Plan was written, it was assumed, based on operating experience, that these spent filters would contain radioactivity such that they would be classified as Class B or Class C waste and require solidification or encapsulation for transportation or burial. It has been found, however, that the cartridge-type filters that have been generated during the SAFSTOR period have much lower levels of radioactivity than anticipated. The filters are classified as Class A waste and, therefore, do not require solidification or encapsulation to be in accordance with the current regulations for shipment or burial. Dose rates for these filters were anticipated to be on the order of 1 to 10 R/hr when the SAFSTOR Decommissioning Plan was written, but these filters have been found to have a dose rate of 3 to 4 mR/hr for the radwaste filters and approximately 50 mR/hr for the SFP filters.

Safety Evaluation Summary:

There were no potential safety evaluation issues associated with this change. The lack of solidification/encapsulation of the spent cartridge-type filters did not affect any accident analyses or create any credible new accidents during SAFSTOR. Although Section 4.4.5.2 of the SAFSTOR Decommissioning Plan states that spent cartridge-type filters are to be processed by solidification or encapsulation, current regulations do not require solidification or encapsulation of the filters for transportation or burial, provided they are Class A per 10 CFR 61. The level of radioactivity contained in these filters was far below the levels that were assumed for the filters when the SAFSTOR Decommissioning Plan was written. Solidification or encapsulation of these filters would have had the potential to increase the occupational dose received by those radiation workers who would have been required to perform the unnecessary processing and handling of the filters.

3. TP 9/13/96 Caisson Ground Water Inleakage Inspection

This procedure provided instructions to investigate which sector of the caisson supplied the greatest amount of ground water in-leakage and to inspect a portion of the interface of the caisson wall and tremie concrete plug at the bottom of the caisson. This activity was performed to try to minimize the work necessary to repair the in-leakage.

The procedure for investigation of in-leakage in the four distinct drainage areas provided plans for the removal of portions of the concrete finish floor and drainage rock at the -66-foot elevation, inspection and cleaning of the six 3-inch drains between caisson sections, testing for water flow, and repair of the floor. This work was conducted in a controlled manner to avoid the possibility of increasing flows that may have resulted in exceeding the capacity of the caisson sump pump, to prevent contamination of the groundwater entering the caisson sump, and to assure adequate depressurization of the drainage rock layer prior to removing sections of the floor.

Safety Evaluation Summary:

Potential safety evaluation issues included an increased flow of groundwater that would exceed the capacity of the radwaste processing system, and radioactive contamination of the caisson sump water and subsequent uncontrolled release of radioactive liquid to the environment. The procedure was written to be performed in a controlled manner to preclude the possibility of increased groundwater flows and sump contamination. In the unlikely event that groundwater inleakage flow were to increase beyond the capacity of the radwaste processing system, a contingency plan was developed to ensure that groundwater inleakage beyond the radwaste processing system capacity could be effectively handled. Even if all contingencies were to fail, the concentrations and release of radioactivity in the caisson were analyzed, and they are bounded by a previously analyzed accident, the rupture of the spent fuel pool.

1996 TESTS AND EXPERIMENTS

No tests or experiments were performed during the reporting period that are not described in the SAFSTOR Decommissioning Plan.