10 CFR 50.59 ANNUAL REPORT OF CHANGES, TESTS, AND EXPERIMENTS JANUARY 1 THROUGH DECEMBER 31, 1997

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

1997 FACILITY CHANGES

Listed below are the changes made to Humboldt Bay Power Plant, Unit 3 (HBPP) in 1997, along with brief descriptions of the changes and summaries 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. Design Change Package (DCP) C-00407
Design Change Notice (DCN) HB3-EC-407 Access to Suppression Chamber at - 66 ft

This design change package modified the suppression chamber to provide access for decontamination operations and for the subsequent investigation and repair of the water inleakage through the tremie concrete at the bottom of the caisson.

Safety Evaluation Summary:

The work method controls ensured there was no activity that would result in a large, uncontrolled in-flow of ground water into the caisson that could exceed radwaste collection or processing capacity.

To prevent caisson sump contamination and uncontrolled release of radioactive liquid to the environment, the following compensatory measures were implemented: (1) a temporary contamination barrier was erected in the area below the drywell around the opening being cut to contain any contamination and water; and (2) water discharged from the sump was routed through the radwaste system where it was analyzed and filtered to prevent a release of unacceptable radioactivity to the environment.

2. DCP M-00411
DCN HB3-EM-411 Temporary Suppression Chamber Air Filtration System

This modification provided for installation and operation of a temporary air filtration and recirculation system to support Caisson Inleakage Repair Project construction activities in the suppression chamber. The system was intended as a construction aid to assist in maintaining a safe and comfortable work environment in the work area, and preventing the spread of chemical or radiological contamination outside of the suppression chamber to surrounding areas.

Safety Evaluation Summary:

The only potential nuclear safety issues associated with this modification were the possible impacts of the temporary system and its connections on the integrity of the refueling building (RFB) ventilation boundary and containment of exhaust air with the potential for airborne contamination. Radiological releases from the temporary filtration system were exhausted via the monitored plant vent, which was already a release path discussed and analyzed in the SAFSTOR Decommissioning Plan (SDP). Procedures were established to ensure that the temporary filtration system would be shut down and inlet and exhaust isolation dampers closed prior to movement of spent fuel or performance of other work which might potentially damage spent fuel.

3. DCP M-00414
DCN HB3-EM-414 Temporary Decon Equipment and Compressed Air System

This modification provided for installation and operation of a temporary decontamination unit and compressed air system to support Caisson Inleakage Repair Project decontamination activities in the Unit 3 suppression chamber. A packaged decontamination unit, located in the RFB, was utilized for suppression chamber decon activities. The decontamination unit used compressed air for operation, which was provided by rental diesel compressors located in the north yard area of Units 1 and 2. The compressors, air cooler/dryer skids, and the decontamination unit were connected by hoses via permanent, hard piped, isolable RFB penetrations installed in the airlock at the northwest corner of the RFB.

Safety Evaluation Summary:

Through the combination of decon equipment design features, suppression chamber air filtration, and system monitoring, the potential for increased chemical or radiological release into the RFB and/or from the plant vent was minimized. There were no significant ignition sources near the equipment or within the decon unit, therefore, there was no significant increase in the probability of a fire. A program of radiological and air quality monitoring at the decon unit was established for this modification. Both engineered features and procedural controls were in place to minimize the possibility of and/or promptly identify any hazardous leakage from the decon unit.

4. DCP C-00418
DCN HB3-EC-418 Caisson Leak Sealant Injection
WT WP-001G Caisson Leak Sealant Injection

This purpose of this modification was to reduce the volume of water leakage into the caisson to an acceptable level. This was accomplished with the following changes:

- Injecting grout under the suppression chamber floor to seal off water inleakage into the reactor caisson. The sealant was injected into the inleakage path at the interface of the outer caisson wall and the tremie concrete.
- Drilling injection holes through the liner plate, floor slab, drain gravel, and tremie concrete.

- Installing an inleakage water diversion system and temporary floor supports.

Safety Evaluation Summary:

Adequate ventilation was provided during the grout injection activities for work done in the confined space. Before any part of the floor liner plate area was penetrated, it was radioactively decontaminated and tested for chemical contamination to preclude potential contamination of water underneath. The pressure and floor conditions were monitored to detect any significant pressure increases, deformations, or signs of distress. Water flow and leakage were monitored, collected and disposed of prior to penetrating the liner.

5. SERA HB3-005 Remove New Fuel Storage Vault Racks

This modification removed the fuel storage racks from the new fuel storage vault to provide access to the area.

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.

6. SERA HB3-006 Remove 2-inch Demineralized Water Line to Cleanup Demineralizer

This modification removed a 2-inch diameter section of the demineralized water line to the clean-up demineralizer for the reactor cleanup system to provide access to the area. The piping was located in the overhead above the −2 ft elevation below the 4 ft by 6 ft concrete floor plug for the +12 ft elevation floor.

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.

7. SERA HB3-008 Remove Instrument Board for Shutdown System Temperature and Pressure Indicators at -14 ft Elevation

This modification removed the instrument board and attached instrumentation for the reactor shutdown cooling system from the −14 ft elevation to provide access to the area.

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 1997 as described in the SDP, 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 PSRC, and the changes were determined not to involve an unreviewed safety question or require a change to the HBPP Technical Specifications.

1. TP 4/18/97 Suppression Chamber Floor Liner Diagnostics

   This procedure provided instructions to investigate the presence of water under the suppression chamber floor liner plate. This procedure controlled the process of making penetrations in the liner plate.

   Safety Evaluation Summary:

   The procedure provided precautions that controlled the flow of water from the holes that were made in the suppression chamber liner. The penetration of the liner was reversible using the same methods currently employed as precautions under DCN HB3-EC-407, "Access to Suppression Chamber at -66 ft."

2. TP 5/19/97 Suppression Chamber Decontamination

   The scope of this procedure was to establish requirements and provide instructions pertaining to the decontamination of the suppression chamber liner plate.

   Safety Evaluation Summary:

   Water between the liner plate floor and walls is under a positive pressure such that any penetration of the liner plate would cause water to flow into the suppression chamber. Water that entered the suppression chamber was collected and tested prior to disposal. This prevented contamination of the drain rock layer with radioactive material or with chromium. Removal of several square feet of liner plate floor during decontamination did not significantly reduce the overall strength of the liner plate in the event it provided some strength necessary to prevent concrete floor failure. Based on lack of fire source, use of fire retardant material, and the requirements of the hot work permit program, there was no concern for an increased potential of fire in the suppression chamber from this modification.

3. TP 6/11/97 Suppression Chamber Finished Floor Diagnostics

   This procedure provided instructions to investigate which sector of the caisson suppression chamber sub floor rock layer provided the greatest amount of ground water inleakage by measuring the water pressure under the concrete floor.

Safety Evaluation Summary:

This procedure had an initial test to depressurize the concrete floor to determine whether depressurization to this level would increase the inleakage and to quantify the increase to determine whether drilling operations could be performed or terminated. This prevented a large uncontrolled flow of water into the bottom of the caisson exceeding the capacity of the liquid radwaste treatment system or causing flooding of the caisson, due to the introduction of a potential new flow path.

Prior to drilling operations through either the floor liner plate or the concrete floor, the areas were confirmed to be less than 1000 DPM per 100 cm^2 smearable. The capability for the caisson sump pump discharge to be direct discharged or routed to the radwaste collection tanks were maintained, and unanalyzed water was suspected of being contaminated while work under this procedure was actively performed. This precaution prevented contamination of the caisson sump water and subsequent uncontrolled release of radioactive liquid to the environment.

4. HBAP A1 #1 HBPP Staff Organization

HBPP Administrative Procedure HBAP A-1 #1 indicates that the Senior Radiation Protection Engineer (SRPE) reports to the Supervisor Radiation Protection. The Supervisor Radiation Protection reports to the Plant Manager. There have been several changes in the management structure at HBPP as the organization responded to a significant increase in Unit 3 activities. These changes included having the SRPE report directly to the Plant Manager.

Safety Evaluation Summary:

There are no potential safety evaluation issues resulting from the change in reporting relationships of the SRPE.

5. RCP 4F Control of Access to Locked Radiologically Controlled Areas

The change to this procedure involved removing the requirement to lock specific surface contamination areas as listed in the SDP. This SDP requirement was not a regulatory-based requirement. Some of the areas listed had been decontaminated and were no longer surface contaminated areas.

Safety Evaluation Summary:

The HBPP Technical Specifications are not affected by this change. There were no potential safety evaluation issues resulting from the elimination of the specific list of surface contamination areas that needed to be controlled as described in the reference sections of the SDP.

6. HBAP B -100 Certified Fuel Handler Training Program

This change modifies the method of insuring Certified Fuel Handlers (CFHs) remain familiar with Unit 3 systems during requalification. The previous method tested CFHs by using an oral examination on two of the 19 operating systems. The new method has

each CFH training/qualifying a non-licensed individual on all the operating systems in Unit 3 within a 2 year period. This new method is more comprehensive than the

previous method as it requires all 19 systems to be reviewed once every two years, whereas the previous method required 10 years to cover all 19 operational systems. In addition, 3 of the training/qualifications conducted by each CFH are observed by a Manager who is a licensed CFH to insure completeness and accuracy. The change did not affect the Initial CFH qualification program.

Safety Evaluation Summary:

There are no potential safety evaluation issues. The method used to insure that CFHs are knowledgeable of the plant systems in Unit 3 will not affect any of the present accident analyses nor create any new accidents that could be credible during SAFSTOR.

1997 TESTS AND EXPERIMENTS

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