



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005**

November 7, 2005

Mr. David H. Oatley  
General Manager and Vice President  
Acting Chief Nuclear Officer  
Pacific Gas and Electric Company  
Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, CA 93424

SUBJECT: NRC INSPECTION REPORT 050-00133/05-003

Dear Mr. Oatley:

An NRC inspection was conducted between September 12-14, 2005 at your Humboldt Bay Power Plant Unit 3 facility. On September 14, 2005 at the conclusion of the site visit, an exit briefing was conducted with Mr. Roy Willis, Plant Manager and other members of your staff. The enclosed report presents the scope and results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection included reviews of your organization, management, safety reviews, audits, spent fuel pool safety, maintenance, decommissioning status, radiation exposure controls, environmental monitoring and radioactive waste management.

Based on the results of this inspection, the NRC has determined that a violation of NRC requirements occurred. The violation involved handling of spent fuel contained in the central storage container without properly approved procedures. This violation is being treated as a Non-Cited Violation (NCV) consistent with Section VI.A. of the Enforcement Policy. This violation is not being cited, in part, because your staff identified the violation and has entered the deficiency into the corrective action system. The NCV and the circumstances surrounding the violation are described in the subject inspection report. If you contest the violation or severity level of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U. S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas, 76011; and the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if you choose to provide one) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy,

proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 860-8191 or Emilio M. Garcia at (530) 756-3910.

Sincerely,

*/RA/*

D. Blair Spitzberg, Ph.D., Chief  
Fuel Cycle and Decommissioning Branch

Docket No.: 050-00133  
License No.: DPR-7

Enclosure:  
NRC Inspection Report  
050-00133/05-003

cc w/enclosure:  
Donna Jacobs, Vice President  
Nuclear Services  
Pacific Gas and Electric Company  
Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, CA 93424

Richard F. Locke, Esq.  
Pacific Gas and Electric Company  
P.O. Box 7442  
San Francisco, CA 94120

Roy B. Willis, Plant Manager  
Pacific Gas and Electric Company  
Humboldt Bay Power Plant  
1000 King Salmon Avenue  
Eureka, CA 95503

Chairman  
Humboldt County Board of Supervisors  
County Courthouse  
825 Fifth Street  
Eureka, CA 95501

Law Office of Linda J. Brown, Esq.  
300 Drake's Landing Road, Suite 172  
Greenbrae, CA 94904

Regional Radiation Representative  
U. S. Environmental Protection Agency  
Region IX Office  
75 Hawthorne Street  
San Francisco, CA 94105

Dr. Richard Ferguson, Energy Chair  
Sierra Club California  
1100 11th Street, Suite 311  
Sacramento, CA 95814

Dr. James F. Davis, State Geologist  
Department of Conservation  
Division of Mines & Geology  
801 K Street MS 12-30  
Sacramento, CA 95814-3531

Ed Bailey, Chief  
Radiologic Health Branch  
State Department of Health Services  
P.O. Box 997414 (MS 7610)  
Sacramento, CA 95899-7414

Director  
Energy Facilities Siting Division  
Energy Resources Conservation &  
Development Commission  
1516 9th Street  
Sacramento, CA 95814

Gretchen Dumas, Esq.  
Public Utilities Commission  
of the State of California  
5066 State Building  
San Francisco, CA 94102

Redwood Alliance  
P.O. Box 293  
Arcata, CA 95521

James D. Boyd, Commissioner  
California Energy Commission  
1516 Ninth Street (MS 34)  
Sacramento, CA 95814

bcc w/enclosure (via ADAMS distrib):  
 BSMallett  
 TPGwynn  
 J. Dixon-Herrity, OEDO RIV Coordinator (JLD)  
 LWCamper, NMSS/DWM  
 DMGillen, NMSS/DWM/DCD  
 CMCraig, NMSS/DWM/DCD  
 JBHickman, NMSS/DWM/DCD  
 LDWert  
 CLCain  
 DBSpitzberg  
 EMGarcia  
 RLKellar  
 KEGardin  
 FCDB File

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EMGarcia	RLKellar	DBSpitzberg
<b>/RA Per e-mail RK/</b>	<b>/RA/</b>	<b>/RA/</b>
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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 050-00133

License No.: DPR-7

Report No.: 050-00133/05-003

Licensee: Pacific Gas and Electric Company (PG&E)

Facility: Humboldt Bay Power Plant (HBPP), Unit 3

Location: 1000 King Salmon Avenue  
Eureka, California 95503

Dates: September 12-14, 2005

Inspectors: Emilio M. Garcia, Health Physicist,  
Ray L. Kellar, P.E., Health Physicist

Approved By: D. Blair Spitzberg, Ph.D., Chief  
Fuel Cycle and Decommissioning Branch

Attachments: 1) Supplemental Inspection Information  
2) Partial List of Documents Reviewed

ADAMS Entry: IR 05000133-05-03, on 09/12-14/05; Pacific Gas & Electric Co.;  
Humboldt Bay, Unit 3. One NCV.

## **EXECUTIVE SUMMARY**

### Humboldt Bay Power Plant, Unit 3 NRC Inspection Report 050-00133/05-003

The Humboldt Bay Power Plant (HBPP), Unit 3 was shutdown in 1976. The facility has been in a SAFSTOR status since shutdown with minimal decommissioning activity.

#### **Organization, Management and Cost Controls**

- The licensee's safety concerns program was being effectively implemented (Section 1.1).
- Personnel qualifications for key management and supervisory positions met requirements (Section 1.2).

#### **Safety Reviews, Design Changes, and Modification**

- The licensee's safety review program met the requirements of 10 CFR 50.59 (Section 2.0).
- The Plant Staff Review Committee (PSRC) meetings had been conducted in accordance with licensee requirements (Section 2.0).

#### **Self-Assessment, Auditing, and Corrective Action**

- The auditors were certified in accordance with licensee requirements and were independent of the areas audited (Section 3.1).
- The Quality organization had effectively performed audits and assessments and provided HBPP management with tools for identification of potential problem areas (Section 3.1).
- The corrective action program met requirements (Section 3.2).

#### **Spent Fuel Pool Safety**

- The licensee had maintained the spent fuel pool water level and quality in accordance with technical specifications (Sections 4.1-4.2).
- Potential draindown systems for the spent fuel pool had been properly controlled (Section 4.3).
- A non-cited violation of NRC requirements was identified involving the handling of spent fuel without properly approved procedures (Section 4.4).

#### Maintenance and Surveillance

- The licensee had developed and implemented a program to comply with the requirements of the Maintenance Rule (Section 5.0).

#### Decommissioning Performance and Status Review

- Radiological conditions of the facility were properly posted and facility housekeeping and safety conditions were effectively controlled (Sections 6.0).

#### Occupational Radiation Exposure

- The combined audit and review of the radiation protection program conducted in 2004 met applicable requirements. The licensee's radiological occurrence report system had properly documented and evaluated radiation protection deficiencies (Section 7.1).
- The licensee was maintaining an effective program to control and monitor occupational radiation exposures (Sections 7.2-7.3).

#### Radioactive Waste Treatment and Effluent and Environmental Monitoring

- No changes had been implemented that affected the licensee's liquid and airborne radwaste, water chemistry, the radiological environmental monitoring programs or the offsite dose calculation manual (Section 8.1).
- The radioactive waste process and liquid effluent monitors were operational, properly calibrated and were being maintained (Section 8.2).
- The Annual Radiological Environmental Monitoring Report and Annual Radioactive Effluent Release Report for calendar year 2004 were submitted on a timely basis and met applicable requirements. Reported values were consistent with previous years and were below the NRC required reportable levels (Sections 8.3-8.4).

#### Solid Radwaste Management & Transportation of Radioactive Materials

- No major changes in the licensee's organization, personnel, facilities, or equipment, affecting the solid radwaste management and transportation of radioactive materials program had occurred since the previous inspection (Section 9.1).
- Changes in procedures had not reduced the effectiveness of the program (Section 9.1).
- The licensee had implemented and maintained a transportation program for radioactive materials and radioactive waste in accordance with NRC and U.S. Department of Transportation regulations (Section 9.2).

## **Report Details**

### **Summary of Plant Status**

Humboldt Bay Power Plant Unit 3 is currently in decommissioning SAFSTOR status. Unit 3 received an operating license from the Atomic Energy Commission on August 28, 1962. This license was amended in 1965 for power increase. On July 2, 1976, Unit 3 was shutdown for annual refueling and seismic modifications. This work was suspended in December 1980, and in June 1983, PG&E announced its intention to decommission the unit based on economic analyses that showed that completing the necessary seismic upgrades would not be economical. Unit 3 has been essentially in SAFSTOR since July 1985. On July 19, 1988 NRC approved the licensee's SAFSTOR plan and amended the license to a possess-but-not-operate status. The license will expire on November 9, 2015. The facility has undergone minimal decommissioning activity since shutdown.

During inventory of irradiated components stored in the spent fuel pool during the fall of 2003, the licensee found several fuel fragments. In response to questions raised regarding the accuracy of the special nuclear material (SNM) inventory, the plant manager initiated a reevaluation of the SNM possessed. During the reevaluation the licensee determined that the whereabouts of three approximately 18-inch long spent fuel rod segments was unknown. The reevaluation evolved into the SNM Control and Accountability Project. This project identified additional missing SNM in the form of one complete incore detector and three partial incore detectors

The licensee completed the SNM Control and Accountability Project and issued its final report on May 27, 2005. The precise location of the missing SNM has remained undetermined. In response to the licensee notification of the missing SNM, the NRC conducted a Special Inspection. The final report of the special inspection was issued on August 19, 2005. The NRC concluded that regardless of whether the missing fuel segments were still located in the spent fuel pool, had been shipped off for reprocessing or had been transferred to a LLRW disposal facility, the overall risk was minimal to the health and safety of the public, workers or the environment. The NRC was evaluating the licensee's response to the special inspection report and considering enforcement options at the time of this report.

## **1.0 Organization, Management and Cost Controls (IP 36801)**

### **1.1 Safety Concerns Program**

#### **a. Inspection Scope**

The inspectors reviewed the employee safety concerns program consisting of the implementing procedures, training and self-assessment performed of the program.

#### **b. Observations and Findings**

The safety concerns program in place at the Humboldt Bay Power Plant (HBPP) was called the Employee Concerns Program (ECP). This program was controlled by



Procedure OM3.ID3, "Employee Concerns Program." Implementing instructions for the ECP program were included in Procedure OM3.NQ1, "Employee Concerns Investigation and Reporting."

The HBPP ECP was administered as part of the Diablo Canyon Nuclear Plant safety concerns program. Accordingly, the inspectors reviewed the most recent Diablo Canyon Power Plant Employee Concerns Program Self-Assessment, that had been performed for the calendar year 2005, for indications of the program's effectiveness. The self-assessment team was composed of two auditors from Diablo Canyon and two auditors from another nuclear utility. The self-assessment concluded that the ECP at the Diablo Canyon Power Plant was an effective program.

Each individual that obtained unescorted plant access at HBPP received training on the ECP during the initial General Employment Training (GET) course. Additionally, each employee received a copy of NRC Form 3, describing among other things the employees right to contact the NRC to report a concern. Annual re-qualification training also discussed the ECP and the employees right to contact the NRC with their concerns.

The licensee used a brochure entitled, "Employee Concerns Program," to communicate the methods and phone number that were available to employees for contacting the ECP Coordinator. The brochure as well as posters describing the ECP program were conspicuously placed at various locations around the power plant.

The inspectors discussed the program with cognizant personnel on site and by telephone with the ECP Lead Investigator at Diablo Canyon. According to the ECP Lead Investigator, as of September 13, 2005 the ECP had received three separate concerns from Humboldt Bay personnel during the past year. The three concerns were not related to nuclear safety, however the concerns were actively being investigated by the ECP.

The inspectors selected four individuals from those observed onsite to interview regarding their knowledge of the licensee ECP. All four of the employees were aware that they could contact the ECP Coordinator or bring their concerns directly to the NRC's attention. All four individuals stated that they were comfortable raising concerns to plant management or to the ECP Coordinator. The one individual who had prior involvement with the program commented that although he/she was satisfied with the resolution of his/her concern it had taken longer than he/she expected to receive a response after his/hers initial contact with the ECP Coordinator.

The inspectors concluded that the licensee's safety concerns program was being effectively implemented.

c. Conclusion

The licensee's safety concerns program was being effectively implemented.

## **1.2 Site Organization Qualifications**

### **a. Inspection Scope**

The qualifications of the key members of the licensee's plant staff were compared to requirements contained in licensing basis documents.

### **b. Observations and Findings**

The inspectors reviewed site organizational requirements that were contained in Procedure L-3, "Defueled Safety Analysis Report (DSAR)." The DSAR listed key positions in the plant organization along with minimum plant staff qualifications that were required to be maintained during the SAFSTOR period.

The qualifications for the key positions of Plant Manager, Supervisor of Operations, Radiation Protection Manager, Supervisor of Maintenance, Nuclear Quality Services (NQS) Supervisor and Engineering Manager were reviewed by the inspectors and found to meet or exceed the requirements contained in the DSAR.

### **c. Conclusion**

Personnel qualifications for key management and supervisory positions at HBPP met or exceeded the minimum standards specified in the HBPP Defueled Safety Analysis Report.

## **2.0 Safety Reviews, Design Changes, and Modifications (IP 37801)**

### **a. Inspection Scope**

The inspectors reviewed the licensee's safety review program, including selected requirements of the Plant Staff Review Committee (PSRC).

### **b. Observations and Findings**

Licensee Procedure HBAP C-19, "Licensing Bases Impact Evaluation (LBIE)," contained instructions for performing 10 CFR 50.59 safety reviews at HBPP. Procedure HBAP C-19 also contained screening tools to ensure that potential changes affecting decommissioning activities, the Emergency Plan, the Physical Security Plan, the Fire Protection Program, the SAFSTOR Offsite Dose Calculation Manual and the SAFSTOR QA Plan were properly evaluated. Attachment 8.1 of Procedure HBAP C-19 was used to perform the safety screen of the proposed activity. Attachment 8.2 of Procedure HBAP C-19 was used in the event that a 10 CFR 50.59 evaluation was required for the proposed activity.

The licensee provided a list of eight modifications and numerous procedure changes that had been approved since the most recent NRC inspection of the safety review program, that had been conducted during July, 2004. The inspectors reviewed the

safety screen reviews associated with the eight modifications and selected 12 safety screen reviews from the licensee procedure changes. The inspectors found that the safety screen reviews for all of the aforementioned documents were in compliance with regulatory requirements. Additionally, the PSRC meeting minutes were found to document review and approval of the safety screen reviews for the eight modification packages. The licensee reported that no 10 CFR 50.59 safety evaluations had been performed during the requested time period.

The SAFSTOR Quality Assurance Plan stated that the purpose of the PSRC was to meet on a regular basis to review overall operating and maintenance experience, proposed changes and tests, adequacy of procedures, and other matters that may have a bearing on nuclear or radiological safety on the plant. Procedure HBAP A-2, "Plant Staff Review Committee (PSRC)," described the organization of the PSRC along with its responsibilities and duties. The qualifications for the PSRC regular members were reviewed and found to meet or exceed the minimum requirements of the DSAR (see Section 1.2.b for additional details).

Attachment 7.1 of Procedure HBAP A-2 required that the PSRC meet at least once per quarter and that each meeting consist of a quorum of at least four regular members or three regular members and an alternate. Reviews indicated that the PSRC had met a total of 75 times since July 15, 2004. Attendance from eight selected PSRC meeting minutes were reviewed and found to contain a quorum of PSRC members present at each meeting.

The SAFSTOR Quality Assurance Plan, Section 2.1.3 and Procedure HBAP-2, Attachment 7.1, Function 3, required that the PSRC investigate any violation of the Technical Specifications and prepare and forward a report to the Senior Vice President, Generation / Chief Nuclear Officer and to the Nuclear Safety Oversight Committee covering their evaluation and recommendation to prevent recurrence. The inspectors asked the licensee to show how this requirement had been achieved for NCR HB3-04-QC-N004, that documented a Technical Specification violation. The licensee provided documentation that NCR HB3-04-QC-N004, including the corrective actions to prevent recurrence, had been approved by the PSRC and forwarded to both of the required recipients on July 7, 2005. The inspectors agreed that this met the intent of the requirement, however the wording could also be construed to require a separate report that included the evaluation and recommendation to prevent recurrence. The licensee decided to initiate a Systems Application and Processes Notification (SAPN) to evaluate if the wording in the requirement needed to be revised to more accurately reflect the method of documenting PSRC evaluation and recommendations.

c. Conclusions

The licensee's safety review program was determined to effectively meet the requirements of 10 CFR 50.59.

The Plant Staff Review Committee (PSRC) meetings had been conducted in accordance with licensee requirements.

### **3.0 Self-Assessment, Auditing, and Corrective Action (IP 40801)**

#### **3.1 Quality Assurance Audit Program**

##### **a. Inspection Scope**

The inspectors reviewed the licensee's quality assurance audit program for compliance with regulatory requirements.

##### **b. Observations and Findings**

Licensee Procedure QASP-8, "Audit Program," contained the requirements for a comprehensive system of planned and documented audits to verify compliance with the licensee Quality Assurance Program. Procedure TQ1.NQ1, "Auditor Qualification and Certification," provided the requirements for the qualification and certification of quality auditors. A review of auditor qualification records indicated that all the individuals conducting HBPP audits were qualified to perform quality related audits.

The licensee provided reports for the eight programs that had been audited since January 9, 2004. Audits had been conducted of the Corrective Action Program, Security Program, Fire Protection Program, Plant Staff Performance Training & Qualifications, Quality Assurance Program, Technical Specifications & License Conditions, Emergency Plan and Implementing Procedures, and the Radioactive Waste Processing & Process Control Program. The licensee had concluded that overall each of the programs had been effectively implemented. The audits appeared to be thorough and comprehensive. Areas of good performance and areas for improvement were normally present in each of the licensee audits. The frequency of the audits reviewed met the timeliness requirements that were contained in Procedure QASP-8, "Audit Program." Documentation was provided that problems identified during the audit had been entered into the HBPP corrective action system as a SAP Notification (SAPN), as required by Section 4.4.2 of Procedure QASP-2.

The licensee had conducted assessments of in-process quality related work efforts during the inspection period. One assessment had been conducted for additional security measure implementation along with five separate assessments of the Special Nuclear Material (SNM) Inventory, Inspection and Control Project. A review of the assessments indicated that the Nuclear Quality Service (NQS) organization had identified positive areas, problems and weakness areas. Problems identified during the assessment were entered into the licensee corrective action program as a SAPN.

The Quality Department provided a summary of their periodic evaluations of quality performance at HBPP in the Quality Performance Assessment Reports. Each assessment report summarized the quality performance achieved at HBPP for a specific time period. The assessment reports for the periods between January 1, 2004 through June 15, 2005 were reviewed by the inspectors. The assessment reports identified strengths, weaknesses, issues and provided identification of improving or declining trends. Metrics or graphs of the corrective action program were provided with each report depicting the number, age and department associated with the corrective actions.

The assessment reports were viewed as an appropriate tool to assist management in the identification of potential problem areas.

c. Conclusion

The auditors were certified in accordance with licensee requirements and were independent of the areas audited.

The Quality organization had effectively performed audits and assessments and provided HBPP management with tools for identification of potential problem areas.

**3.2 Corrective Action Program**

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program for compliance with regulatory requirements.

b. Observations and Findings

The licensee's corrective action program was described in Procedure HBAP C-12, "Problem Identification and Resolution." The program utilized a SAP Notification (SAPN) for the identification of equipment, material, procedural, and quality related problems and nonconformances at HBPP. The licensee had initiated a total of 1,581 individual SAPNs and 10 nonconformance reports (NCRs) since August 21, 2003. The inspectors selected a sample of 14 SAPNs to review. The SAPNs were found to identify the problem, document the evaluation, recommend corrective actions and document closure of the issue. The SAPNs reviewed met the licensee procedural requirements.

The 10 NCRs, written since August 21, 2003, were found to contain a description of the problem, the cause or root cause of the problem, an analysis of the problem, a reportability determination, investigative actions, immediate corrective actions, and corrective actions to prevent recurrence along with prudent actions to be taken. The PSRC was required to evaluate and concur with the NCR root cause and corrective actions to prevent recurrence. Records indicated that seven of the 10 NCRs had been completed and had received PSRC concurrence. The inspectors found that the PSRC meeting minutes associated with the seven approved NCRs, documented review and approval of the cause / root cause and the actions to prevent recurrence. The inspectors reviewed the seven PSRC approved NCRs and determined that the licensee assessments and actions to prevent recurrence appeared to be satisfactory. NCR numbers HB3-04-QC-N005, HB3-05-QC-N001 and HB3-05-QC-N002 were still in-process at the time of the inspection and therefore had not received concurrence from the PSRC.

c. Conclusion

The corrective action program met regulatory requirements.

#### **4.0 Spent Fuel Pool Safety (IP 60801)**

##### **4.1 SFP and SFP Liner Water Levels**

###### **a. Inspection Scope**

The surveillances for the spent fuel pool (SFP) water level and liner water level were reviewed for compliance with technical specifications requirements. A tour of the spent fuel pool area and the Unit 3 control room was conducted.

###### **b. Observations and Findings**

The SFP water level requirements had been last inspected in March, 2003. Technical Specification 3.1.1 required that the SFP water level be maintained at an elevation greater than 10.5 feet. Technical Specification 3.1.3, required the SFP liner water level be at an elevation of less than +9 inches. Surveillance Requirements 3.1.1.1 and 3.1.3.1 required that the SFP water levels be verified every 24 hours.

Control room personnel were responsible for recording the water levels of the SFP and the SFP liner approximately every 2 hours. This information was documented on Procedure A-2, Attachment 5.1, "Operational Log Sheets and Daily Water Inventory Report." During a tour of the refueling building the inspectors noted that the SFP level met the technical specification requirement.

Section 5.4.2 of the Defueled Safety Analysis Report (DSAR) required that the SFP level monitors be calibrated and have their alarm set points verified annually. The licensee had two independent level monitors that provided an indication of water level and initiated an alarm when the water level dropped below a specified elevation of 10 feet-8 inches. Surveillance Test Procedure, STP 3.6.3, "Calibration and Alarm Set Point Verification," was used to calibrate the SFP water level monitors and to verify the SFP low level alarms setpoints were correct. Documentation was available that indicated these instruments had been maintained in current calibration, since the last inspection performed during March, 2003.

The licensee performed Surveillance Test Procedure, STP 3.6.2, "SFP Level Monitor Verification," on a monthly basis to compare the reported values between the two level monitor instruments. Additionally, STP 3.6.2 verified that the instrument readings were within the required accuracy range by comparing the readings to the actual measurements taken at the pool. The records indicated that STP 3.6.2 had been performed at the required frequency, since the last time this area had been inspected. The inspectors noted that when test data identified instrument problems, the licensee had promptly conducted corrective maintenance.

###### **c. Conclusion**

The licensee had maintained the spent fuel pool water level requirements in accordance with applicable technical specifications.



## **4.2 SFP Water Quality**

### **a. Inspection Scope**

The SFP water quality sampling and analysis program was reviewed.

### **b. Observations and Findings**

Table 5-2 of the DSAR specified the limits for spent fuel storage pool water chemistry and activity during SAFSTOR. Procedure STP 3.6.5, "Monthly Spent Fuel Pool Water Quality Check," was used to sample and analyze the SFP water on a monthly basis. The inspectors reviewed Attachment 8.1, "Spent Fuel Pool Water Quality Data Sheet," of STP 3.6.5 that was maintained in the Unit 3 Control Room. Data sheets were available for ten water samples that had been collected and analyzed by the licensee during 2005. All the test results were within the DSAR specified limits. It was noted that the demineralizer resin used to maintain water quality needed to be replaced, however the licensee had experienced difficulties transferring the resin from the tank (see Section 5.0 for additional details). The licensee had developed several contingency plans to maintain water quality at acceptable levels, should the problems with the resin transfer persist. If the water quality exceeded the specified limits and the licensee was not able to restore the water quality to specified chemistry limits within 30 days, Section 5.2 of the DSAR required that a report be submitted to the NRC.

### **c. Conclusion**

The licensee had maintained the spent fuel pool water quality in accordance with applicable technical specifications.

## **4.3 Siphon and Drain Protection**

### **a. Inspection Scope**

The siphon and drain protection measures for the SFP were reviewed.

### **b. Observations and Findings**

The inspectors reviewed the emergency plans to contend with loss of spent fuel pool water inventory. These plans included provisions to provide demineralized water, fire water and salt water from a remote location without having to access the refueling building. These plans were controlled by Procedure EOP-10, "Loss of Pool Water Level," and Procedure ECA-01, "Adding Salt Water to and repair of the Spent Fuel Pool."

Two surveillance test procedures were used by the licensee to verify their ability to makeup lost water to the SFP. These were STP 3.6.7, "Annual Demin Water Tank Gravity Flow to Spent Fuel Pool Test" and STP 3.6.8, "Annual Spent Fuel Pool Emergency Makeup Flow Test." The inspectors reviewed the data sheets for STP 3.6.7 and 3.6.8 that had been conducted since 2003. The surveillances had been performed

at the required frequency and met the acceptance criteria.

The licensee had evaluated the potential for SFP siphon and/or drainage in 1994 as part of their response to NRC Bulletin 94-01, "Potential Fuel Pool Draindown Caused by Inadequate Maintenance Practices, at Dresden Unit 1." As noted in Section 4.c of inspection report 050-133/03-01, SFP drain valve 06-034, was identified by the licensee as the only credible path for draining the SFP. The licensee found that if SFP drain valve 06-034 had been utilized to drain the SFP, only enough water to cover the bottom 6-inches of the fuel would have remained in the SFP. Due to the age of the fuel, the only significant issue that could be attributed to the fuel having been uncovered in this potential draindown scenario, would be the substantial increase in radiation levels. To provide additional barriers that would prevent an inadvertent SFP draindown, the licensee had sealed the floor drains in the minus 14 feet elevation of the pipe gallery, placed a blind flange immediately downstream of the closed drain valve and locked the drain valve in the closed position. The licensee has also verified the integrity of the exposed piping from where it exited the concrete to the closed drain valve by performing an ultrasonic examination.

On September 13, 2005, the inspectors toured the pipe gallery and verified that SFP drain valve 06-034 was locked, there was a blind flange downstream of the drain valve, and that the minus 14 feet elevation floor drains were all plugged. The inspectors also verified that procedure HBAP C-9 #1 listed SFP drain valve 06-034 and the two minus 14 feet elevation valve gallery floor drains as sealed or locked components. The inspectors reviewed the sealed component Change Log for the period January 25, 2003 through September 1, 2005 and verified that SFP drain valve 06-034 had not been opened. The inspector concluded that potential drain systems for the SFP were being properly controlled and maintained to prevent drain downs.

c. Conclusion

Potential draindown systems for the SFP had been properly controlled.

#### **4.4 Procedural Compliance**

a. Inspection Scope

The inspectors reviewed a procedural compliance problem that had been self-identified by the licensee.

b. Observations and Findings

From July 7-13, 2004, HBPP personnel had performed search activities for the three missing 18-inch fuel segments associated with assembly A-49. During this time frame, personnel removed items that were suspected to be nuclear fuel from the central storage container (CSC). In an effort to determine if the missing segments were located in the CSC, personnel raised the CSC and emptied the contents into another container to improve viewing conditions. Fuel movements and storage requirements were required to be controlled and authorized to ensure that they would not present a nuclear



criticality concern. Movement of the fuel fragments during this time frame had been made without using properly authorized procedures.

HBPP Technical Specification 5.5.1.d. required in part, that written procedures shall be established, implemented and maintained for fuel handling operations. Contrary to this, the licensee did not have a properly approved procedure that provided directions for the handling of the fuel contained in the CSC. This violation was self-identified by the licensee, entered into the licensee's corrective action program as NCR HB3-04-QC-N004, and subsequently found to be bounded by the licensee fuel criticality evaluation. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-133/0503-01).

c. Conclusion

A non-cited violation of NRC requirements was identified involving the handling of spent fuel without properly approved procedures.

## **5.0 Maintenance and Surveillance (IP 62801)**

a. Inspection Scope

The licensee's maintenance and surveillance program was reviewed for compliance with the Maintenance Rule requirements contained in 10 CFR 50.65.

b. Observations and Findings

Administrative procedures HBAP C-40, "Maintenance Program" and HBAP C-40 #1, "NRC 10 CFR 50.65 Maintenance Rule Compliance," described the licensee's program for complying with the Maintenance Rule. The licensee had identified 17 Structure, System or Components (SSCs) that were subjected to the Maintenance Rule. The licensee had developed surveillance test procedures to monitor the SSCs subject to the maintenance rule as required by 10 CFR 50.65(a)(1).

HBAP C-40, "Maintenance Program," classified preventative maintenance activities into three levels

- Level 1 activities were encompassed by the Surveillance Test Procedures (STP) and involved all equipment with limiting condition of operations (LCO) as specified in the plant's technical specifications (TS), offsite dose calculation manual (ODCM), or Section 5 of the Defueled Safety Analysis Report (DSAR).
- Level 2 maintenance activities were for equipment that support an LCO.
- Level 3 maintenance activities were for all other equipment that the licensee had determined was required to be available during SAFSTOR.

The inspectors reviewed the implementation of selected STPs and associated Level 2

maintenance activities to evaluate if the licensee was periodically evaluating and assessing the performance of their SSCs, as required by 10 CFR 50.65(a)(3).

The inspectors were briefed by the licensee on a problem encountered while performing a routine maintenance activity. The licensee had encountered problems while attempting to transfer partially used demineralizer resin from the SFP demineralizer. The resin was losing its effectiveness in cleaning the SFP water, as observed by the increased levels in water conductivity and  $^{137}\text{Cs}$  activity. The spent resin was also radiologically contaminated. The procedure in use by the licensee required sluicing the used resin from the demineralizer to the disposal tank. On July 28, 2005, as in previous transfers, the resin bed was agitated with air and pressurized with water. Flow was observed in the sight glass when the discharge line was opened, but the flow stopped almost immediately. Problem report SAPN 1234343 noted that when repeated attempts to move the resin failed, the licensee decided to change their procedure to permit an increase of the water pressure from a maximum of 25 pounds per square inch gauge (psig) to 100 psig,. In order to provide the higher water pressure, the licensee introduced a modification to the SFP Demineralizer system by placing a manifold in the system that provided connections to service air, demineralized water and fire water sources. This modification was in place on August 3, 2005, when during the attempt to break up and sluice the resin, a gasket failed that provided a pathway for water and contaminated resin to spray into the SFP Demineralizer room. The liquid spill and area of contamination were limited to the SFP Demineralizer room. No individuals were contaminated during the gasket failure. The licensee initiated an additional problem report SAPN 1234472. At the end of the site visit the licensee's event evaluation had not been completed and the spent resin had not been replaced. Because of the potential radiological consequences associated with this event and the need to ensure comprehensive and effective corrective actions, the licensee's evaluation and corrective actions related to this event will be reviewed during a future inspection (IFI 50-133/0503-02).

c. Conclusions

The licensee had developed and implemented a program to comply with the requirements of the Maintenance Rule.

**6.0 Decommissioning Performance and Status Review (IP 71801)**

a. Inspection Scope

Inspectors conducted tours of the site to evaluate whether the facility conditions were being effectively controlled during SAFSTOR.

b. Observations and Findings

The inspectors toured the fuel handling building, the Unit 3 control room, and other areas of the facility. Radiological postings were easily visible and met the requirements of 10 CFR Part 20. Housekeeping and facility conditions were effectively controlled. The inspectors observed that selected portable fire extinguishers, in place throughout

the facility, were fully charged and inspection stickers were present that noted the extinguishers were within their calibration interval. Most of the areas in the facility were free of radiological contamination and were accessible without the need of protective clothing. No safety concerns were observed during the tours. The control room indicators associated with monitoring spent fuel pool level and spent fuel pool liner level were confirmed to be functional.

c. Conclusions

Radiological conditions of the facility were properly posted. Housekeeping and facility conditions were effectively controlled.

## **7.0 Occupational Radiation Exposure (IP 83750)**

### **7.1 Audits and Appraisals**

a. Inspection Scope

The inspectors reviewed the licensee's recent radiation protection program assessment and audits, and their radiological occurrence reporting system.

b. Observations and Findings

10 CFR 20.1101 required each license to conduct, at least annually, a review of their radiation protection program content and implementation. The controlling procedure for conducting this review is Humboldt Bay Administrative Procedure HB-C200, "Requirements for the HBPP Radiation Protection Program." Section 4.1.1 of this procedure stated, "the HBPP Radiation Protection Program will be reviewed for content and implementation annually. This review should be performed by a combination of Radiation Protection Supervision, Quality Assurance, and Corporate or Contract audits. It is recognized, that in some years, Quality Assurance and Corporate or Contract audits may not be performed. The typical elements of this annual review is to assess: procedural compliance, technical performance, and the Radiation Protection program effectiveness and implementation."

The inspectors reviewed the licensee radiation protection program assessment for calendar year 2004. This assessment had been prepared by the HBPP radiation protection department and was approved by the Radiation Protection Manager on June 17, 2005. The assessment identified milestones achieved, a summary of radiation exposures received by occupationally exposed individuals and members of the public, non-routine radiological work, a summary of the self-assessment performed on the free release of tools, and an assessment of radiation doses received by emergency responders and other visitors. The assessment concluded that the radiation protection program was appropriate for the status of the plant and that it was implemented in a manner that maintained radiation exposures to members of the public and to occupationally exposed individuals as low as reasonably achievable (ALARA).

Audit Report 042240007, "HBPP Radiation Protection, Radioactive Material Packaging & Transportation, Radioactive Waste Processing & Process Control Programs Audit," was reviewed by the inspectors. This audit was conducted September 15 through November 19, 2004 and the report was approved and issued on November 23, 2004. The inspectors concluded that the combined audit and review conducted in 2004 met the applicable requirements of 10 CFR 20.1101(c).

To document and evaluate identified radiation protection deficiencies, the licensee had established the Radiological Occurrence Report (ROR) system. This program was guided by Radiation Control Procedure RCP-2F, "Radiological Occurrence Reports." Records maintained by the licensee indicated that 9 RORs were issued in 2004 and 13 initiated to date in calendar year 2005. The licensee had effectively followed its process for reporting, documenting, and evaluating radiological occurrences.

c. Conclusions

The combined audit and review of the radiation protection program conducted in 2004 met applicable requirements. The licensee's radiological occurrence report system had properly documented and evaluated radiation protection deficiencies.

## **7.2 Changes**

a. Inspection Scope

The inspectors interviewed the radiation protection manager and the radiation protection engineer to determine if any of the changes that had been made to the organization, personnel, facilities, equipment, programs, or procedures since the last inspection had a negative affect on occupational radiation protection.

b. Observations and Findings

The Senior Radiation Protection Engineer had indicated his intention to retire during the first quarter of calendar year 2006. A new radiation protection engineer had been added to the staff on July 15, 2005, to provide a transition period. This individual was in the process of completing his qualification requirements at the time of the inspection. With the exception of this new individual, there had been no other changes in personnel nor organization, since this area was last reviewed during the January 5-9, 2004 inspection.

The licensee had acquired two new radiation detection instruments for site use. New operating and testing procedures had been developed and implemented for these instruments. During the site visit, the licensee was also testing new alpha continuous air monitors. Subsequent to the site inspection, the licensee completed their evaluation of the air monitors and issued a procedure for its calibration and use.

Ten radiation protection procedures had been revised, received limited review or had been initially issued since this area was last inspected in January 5-9, 2004. The inspectors selected two of these procedures for review. The reviews indicated that procedure changes implemented by the licensee provided improvements or

clarifications for the existing procedures. The inspectors concluded that these procedure changes had a positive effect on the program.

c. Conclusions

The inspectors concluded that changes made to the site organization, personnel, facilities, equipment, programs, and procedures since the last inspection had a positive effect on occupational radiation protection.

**7.3 External and Internal Exposure Control and Other Radiation Protection Inspection Areas**

a. Inspection Scope

The licensee's personnel radiation monitoring program and associated reports submitted were inspected for compliance with applicable regulatory requirements and commitments.

b. Observations and Findings

The inspectors interviewed the Dosimetry Coordinator about the occupational radiation exposure control program, and examined occupational dosimetry records from January 1, 2004 through September 14, 2005. The records indicated that only one individual had been classified as a declared pregnant worker, and that no planned special exposures had been conducted. Records maintained by the licensee indicated that the declared pregnant worker had received training per the guidance contained in Regulatory Guide 8.13 and radiological exposure to the embryo/fetus had been maintained below the limits specified in 10 CFR 20.1208(a).

As noted in inspection report 50-133/2003-04, the licensee used thermo luminescent dosimeters (TLDs) provided by the Diablo Canyon Nuclear Power Plant. Diablo Canyon was accredited under the National Voluntary Laboratory Accreditation Program for the type of dosimeters used. This accreditation is valid through September 30, 2006.

During calendar year 2004, the licensee had monitored 118 individuals with TLDs for external radiation exposure, and 43 individuals with breathing zone air samples for internal exposures. **During calendar year 2004 one personnel skin contamination occurred.** The licensee used Varskin Model 2 computer code to evaluate **the dose associated with the skin contamination** and assigned a dose of 0.004 rem **to the individual.** The cumulative total effective dose equivalent (TEDE) during 2004 for all individuals monitored was 0.454 rem; 0.419 rem from external exposure, deep dose equivalent (DDE) and 0.035 rem to internal exposure or committed effective dose equivalent (CEDE). CEDE was derived based on the results from breathing zone air samples, lapel air samples. The individual with the highest exposure during calendar year 2004 received 0.063 rem TEDE, 0.048 rem DDE and 0.015 rem CEDE.

Other dose measurements for shallow dose, lens of the eye dose, and extremity dose were all below applicable limits.

c. Conclusions

The licensee was maintaining an effective program to control and monitor occupational radiation exposures.

**8.0 Radioactive Waste Treatment and Effluent and Environmental Monitoring (84750)**

**8.1 Changes**

a. Inspection Scope

The inspectors interviewed cognizant personnel and reviewed selected documents to determine if any significant changes had been made by the licensee that affected: (1) the licensee's liquid and airborne radwaste, water chemistry, and radiological environmental monitoring organization, or (2) the offsite dose calculation manual (ODCM).

b. Observations and Findings

This area was last inspected July 12 through October 29, 2004. There had been no significant changes made to the site radiological monitoring organization, the ODCM, the process control program, or to radwaste system design and operations. The licensee last updated the ODCM to Revision 11, on April 21, 2004. This change was reported to the NRC in Annual Radioactive Effluent Release Report for 2004 as required by Technical Specification 5.6.1c.3.

c. Conclusions

No changes had been implemented that affected the licensee's liquid and airborne radwaste, water chemistry, the radiological environmental monitoring programs or the offsite dose calculation manual.

**8.2 Process and Effluent Monitors**

a. Inspection Scope

The inspectors reviewed the status of radioactive waste process and effluent monitors.

b. Observations and Findings

Section 2.1 of the ODCM specified that the radioactive liquid effluent monitoring instrumentation shall have at least one channel of gross radioactivity monitoring providing automatic termination operable at all times. The surveillances for this instrument include daily channel check, quarterly source check and functional test, and annual channel calibration. The inspectors reviewed selected records of surveillances performed on this instrument and concluded that the instrument was being maintained as required by the ODCM. The instrument was last calibrated on April 20, 2005, and was operational at the time of the site visit.

Section 2.2 of the ODCM specified that the radioactive gaseous effluent monitoring instrumentation shall have at least one channel each for noble gas activity monitoring, particulate sampling, effluent system flow rate monitoring and sampler flow rate monitoring. The surveillances for the noble gas monitor included daily channel check, monthly source check, quarterly functional test, and annual channel calibration. Weekly surveillance channel checks were required to be performed for the particulate sampler and effluent flow rate meters while quarterly surveillance channel checks were required for the particulate sampler flow rate monitor. The inspectors reviewed selected records of surveillances performed on this instrument and concluded that the instrument was being maintained as required by the ODCM. The noble gas monitor was last calibrated on April 28, 2005, and was operational at the time of the site visit.

c. Conclusions

The radioactive waste process and liquid effluent monitors were operational, properly calibrated and they were being maintained as specified in the ODCM.

**8.3 Annual Radiological Environmental Monitoring Report**

a. Inspection Scope

The 2004 Annual Radiological Environmental Monitoring Report was reviewed.

b. Observations and Findings

Technical Specification 5.7.2 required that an Annual Radiological Environmental Monitoring Report be submitted to the NRC prior to May 1, covering the previous calendar year. On April 28, 2005, the licensee submitted the 2004 report. This report indicated that groundwater and direct radiation were being monitored as required. Airborne, ingestion and terrestrial pathway monitoring was not required by the ODCM. The environmental report submitted as part of the SAFSTOR license request established baseline conditions for those pathways. Radioactivity levels in the sampled media were consistent with previous years and were below the NRC required reportable levels.

c. Conclusions

The Annual Radiological Environmental Monitoring Report for calendar year 2004 was submitted on a timely basis and met applicable requirements. Radioactivity levels in the sampled media were consistent with previous years and were below the NRC required reportable levels.

**8.4 Annual Radioactive Effluent Release Report for 2004**

a. Inspection Scope

The 2004 Annual Radioactive Effluent Release Report was reviewed.



b. Observations and Findings

Technical Specification 5.7.3 required that an Annual Radioactive Effluent Release Report be submitted prior to April 1, covering the activities of the previous year calendar year in accordance with 10 CFR 50.36(a). On March 30, 2005, the licensee submitted the 2004 Annual Radioactive Effluent Release Report on a timely basis. The report included summaries of radioactive gaseous and liquid releases from the site. The report concluded that the releases of radioactivity in gaseous and liquid effluents were well below the 10 CFR 50 Appendix I numerical ALARA guidelines and that the maximum potential direct radiation dose was well below the limits of 10 CFR 20.1302(b)(2)(ii).

There were no abnormal gaseous or liquid releases during 2004. There were six liquid batch releases during 2004 and no continuous liquid releases. There were no batch gaseous releases during 2004.

In 2004, there had been 4 shipments of solid waste made. All solid waste shipments were transported by truck. All four shipments went to a licensed low-level radioactive waste disposal facility. Based on the information provided, the inspectors calculated that the total volume of waste shipped was 102.2 m<sup>3</sup> with a total activity of 0.11 curies.

The report included the latest revision to the ODCM, as required by Technical Specification 5.6.1c.3.

c. Conclusions

The 2004 Annual Radioactive Effluent Release Report was submitted on a timely basis and met applicable regulatory requirements. The report documented that the releases of radioactivity in gaseous and liquid effluents in 2004 did not exceed applicable regulatory limits.

**9.0 Solid Radioactive Waste Management and Transportation (86750)**

**9.1 Changes**

a. Inspection Scope

The inspectors interviewed cognizant personnel and reviewed selected documents to determine if any major changes had taken place since the last inspection in the organization, personnel, facilities, equipment, programs or procedures that may have effected the solid radwaste management and transportation of radioactive materials program.

b. Observations and Findings

This area was last inspected July 12 through October 29, 2004. There had been no significant changes in the licensee's organization, personnel, facilities or equipment affecting the solid radwaste management and transportation of radioactive materials program.



The inspectors reviewed the following procedures that had been revised since the last inspection of this area:

- Radiation Control Procedure RCP-6L, "Receiving, Loading and Releasing of Transportation Vehicle for Radioactive Material/Waste Shipment" revised on August 11, 2005.
- Radiation Control Procedure RCP-6P, "Radioactive Material Shipments," revised on August 11, 2005.

Both of these procedures had received minor revisions along with a limited review by the PSRC. The revisions to these procedures were properly reviewed and approved by the PSRC and had been concluded to not reduce the effectiveness of the program.

c. Conclusions

No significant changes in the licensee's organization, personnel, facilities, equipment, affecting the solid radwaste management and transportation of radioactive materials program had occurred since the previous inspection.

The changes in the procedures that had occurred since the previous inspection, had not reduced the effectiveness of the program.

**9.2 Shipping of Low-Level Radioactive Waste for Disposal, and Transportation of other Radioactive Material**

a. Inspection Scope

The inspectors interviewed cognizant personnel and reviewed shipping records to determine if radioactive waste shipments were in compliance with applicable NRC and U.S. Department of Transportation (DOT) regulations.

b. Observations and Findings

Records indicated that 11 shipments of radioactive material had been completed between January 1, 2004 and September 14, 2005. Three records were selected and reviewed by the inspectors. These were for shipments RMS 04-001, RMS 04-009, and RMS 04-011. RMS 04-011 was a limited quantity shipment while RMS 04-009 and RMS 4-011 were shipped as radioactive materials, low specific activity (LSA-II), fissile-excepted, dry active waste. The records documented compliance with the applicable requirements of Title 49 of the Code of Federal Regulation. The emergency response telephone number listed on the waste manifests was confirmed as a telephone number staffed 24 hours a day. The shipping records included copies of the radiological surveys conducted, and the emergency response information. Shipments RMS 04-009 and RMS 4-011 also included Form 540, "Uniform Low-Level Radioactive Waste Manifest," instructions to the carrier for maintenance of exclusive use shipment controls along with

the vehicle inspection report. Documents that required shipper certification were signed by a licensee representative. Training records of the individuals who signed or otherwise performed functions related to the transport of hazardous material were reviewed. The individuals involved with these shipments had received appropriate training as required by 49 CFR 172, Subpart H.

The Radiation Protection Manager stated that the licensee had not received any notices of non-compliance from DOT or other competent state authorities.

c. Conclusions

The licensee had implemented and maintained a transportation program for radioactive materials and radioactive waste in accordance with NRC and U.S. Department of Transportation regulations.

**10.0 Exit Meeting**

On September 14, 2005 at the conclusion of the site visit, the inspectors presented to the plant manager and other licensee staff members, the preliminary results on areas inspected. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

## **ATTACHMENT 1**

### **SUPPLEMENTAL INSPECTION INFORMATION**

#### **PARTIAL LIST OF PERSONS CONTACTED**

J. Albers, Radiation Protection Manager  
R. Burnside, ECP Supervisor - Diablo Canyon  
J. Chadwick, Radiation Protection Engineer  
J. Crow, Training Coordinator  
V. Jensen, Nuclear Quality Services Supervisor  
R. Parker, Senior Radiation Protection Engineer  
M. Smith, Engineering Manager  
D. Sokolsky, Supervisor of Licensing  
R. Sorensen, Programs Coordinator  
R. Willis, Plant Manager

#### **INSPECTION PROCEDURES USED**

IP 36801	Organization, Management and Cost Controls
IP 37801	Safety Reviews, Design Changes, and Modifications
IP 40801	Self-Assessment, Auditing, and Corrective Action
IP 60801	Spent Fuel Pool Safety
IP 62801	Maintenance and Surveillance
IP 71801	Decommissioning Performance and Status Review
IP 83750	Occupational Radiation Exposure
IP 84750	Radwaste Treatment, and Effluent and Environmental Monitoring
IP 86750	Solid Radwaste Management & Transportation of Radioactive Materials

#### **ITEMS OPENED, CLOSED, AND DISCUSSED**

##### **Opened**

50-133/0503-01	NCV	Failure to establish and implement written procedures covering fuel handling operations, contrary to HBPP Technical Specification 5.5.1.d.
50-133/0503-02	IFI	Review licensee's evaluation of August 3, 2005, SFP Demineralizer system gasket failure that resulted in spill of radiologically contaminated resin.

##### **Closed**

50-133/0503-01	NCV	Failure to establish and implement written procedures covering fuel handling operations, contrary to HBPP Technical Specification 5.5.1.d.
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Discussed

None

### **LIST OF ACRONYMS**

ECP	Employee Concerns Program
CEDE	Committed Effective Dose Equivalent
CSC	Central Storage Container
DDE	Deep Dose Equivalent
DSAR	Defueled Safety Analysis Report
HBPP	Humboldt Bay Power Plant
IP	Inspection Procedure
LBIE	Licensing Bases Impact Evaluation
LCO	Limiting Condition of Operations
NCR	Nonconformance Report
NQS	Nuclear Quality Services
NRC	Nuclear Regulatory Commission
PG&E	Pacific Gas and Electric Company
ODCM	Offsite Dose Calculation Manual
PSRC	Plant Staff Review Committee
QA	Quality Assurance
ROR	Radiological Occurrence Report
SAP	Systems Application and Processes
SAPN	Systems Application and Processes Notification (Problem report)
SNM	Special Nuclear Material
SSC	Structure, System or Component
STP	Surveillance Test Procedures
TEDE	Total Effective Dose Equivalent
TLD	Thermo Luminescent Dosimeter
TRG	Technical Review Group

## **ATTACHMENT 2**

### **PARTIAL LIST OF DOCUMENTS REVIEWED**

#### **Audits and Self-Assessments**

- Humboldt Bay Power Plant 2004 Biennial Corrective Action Program Audit, Audit #041880014, August 18, 2004.
- Humboldt Bay Power Plant Radiation Protection, Radioactive Material Packaging & Transportation, Radioactive Waste Processing & Process Control Programs Audit, Audit #042240007, November 23, 2004.
- Humboldt Bay Power Plant Security Program Audit, EDMS ID 04286002, December 22, 2004.
- Humboldt Bay Power Plant HBPP Technical Specifications and License Conditions Audit, EDMS Number 040060011, March 26, 2004.
- Humboldt Bay Power Plant Fire Protection and Loss Prevention Program Quality Assurance Audit, EDMS Number 050670033, May 31, 2005.
- Humboldt Bay Power Plant HBPP Plant Staff Training and Qualifications Audit, EDMS Number 041250010, June 9, 2004.
- Humboldt Bay Power Plant Unit-3 SAFSTOR Quality Assurance Program Audit, Audit 051250010, July 10, 2005.
- Humboldt Bay Power Plant Emergency Plan and Implementing Procedures Audit, EDMS Number 051290004, August 29, 2005.
- Nuclear Quality Services Assessment, Additional Security Measure Implementation, Assessment Number 050490038, March 9, 2005.
- HBPP Special Nuclear Material Program Assessment Report, Assessment Number 04260062, September 16, 2004
- Nuclear Quality Services Assessment, Interim Report August 4, to September 30, 2004 SNM Inventory, Inspection, and Control Project, Assessment Number 042590010, October 11, 2004.
- Nuclear Quality Services Assessment, Second Interim Report October 1, to November 30, 2004 SNM Inventory, Inspection, and Control Project, Assessment Number 043210018, November 11, 2004.
- Nuclear Quality Services Assessment, Third Interim Report SNM Inventory, Inspection, and Control Project, Assessment Number 050400038, March 8, 2005.

- Nuclear Quality Services Assessment, HBPP SNM Project Shipping Scenarios, Assessment Number 051800038, July 5, 2005.
- Humboldt Bay Power Plant Quality Performance Assessment Report (QPAR), 1<sup>st</sup> Period 2004 (1 January through 31 March), April 29, 2004.
- Humboldt Bay Power Plant Quality Performance Assessment Report (QPAR), 2<sup>nd</sup> Period 2004 (1 April through 31 August), September 3, 2004.
- Humboldt Bay Power Plant Quality Performance Assessment Report (QPAR), 3<sup>rd</sup> Period 2004 (1 September through 31 December), February 4, 2005.
- Humboldt Bay Power Plant Quality Performance Assessment Report (QPAR), 1<sup>st</sup> Period 2005 (1 January through 31 May), June 15, 2005.
- Self-Assessment of the Diablo Canyon Power Plant Employee Concerns Program 2005 April 2, 2005.

Corrective Action Program Documents (SAPN & Nonconformance Reports)

- HBPP Nonconformance Report, HB3-03-QC-N003, Revision 0, September 18, 2003.
- HBPP Nonconformance Report, HB3-03-QC-N004, Revision 1, October 3, 2003.
- HBPP Nonconformance Report, HB3-03-QC-N005, Revision 0, November 14, 2003.
- HBPP Nonconformance Report, HB3-03-QC-N006, Revision 0, November 14, 2003.
- HBPP Nonconformance Report, HB3-04-QC-N001, Revision 0, February 3, 2004.
- HBPP Nonconformance Report, HB3-04-QC-N004, Revision 1, July 27, 2004.
- HBPP Nonconformance Report, HB3-04-QC-N005, Revision 0, June 30, 2004.
- HBPP Nonconformance Report, HB3-04-QC-N006, Revision 1, July 15, 2004.
- HBPP Nonconformance Report, HB3-05-QC-N001, Revision 0, June 17, 2005.
- HBPP Nonconformance Report, HB3-05-QC-N002, Revision 0, August 10, 2005.
- SAPN Notification 1223771, Emergency Dosimetry, September 22, 2003.
- SAPN Notification 1224172, Operability Status for STP not logged, October 24, 2003.
- SAPN Notification 1225722, C-3#2 Omits Tech Spec Surveillances, February 2, 2004.
- SAPN Notification 1225723, Living Tech Spec Bases Not Implemented, February 2, 2004.

- SAPN Notification 1226192, Fuel Moved with Area Monitors Inoperable, March 4, 2004.
- SAPN Notification 1227295, Training SAPN, June 2, 2004.
- SAPN Notification 1227918, Stop Work Order (A-49) NCR 04-04 (SNM) July 2, 2004.
- SAPN Notification 1228453, Corrective Action Audit Recommendation, August 18, 2004.
- SAPN Notification 1229376, Quality Record Handling, October 13, 2004.
- SAPN Notification 1230661, Desperate Need for Fire Brigade Training, January 3, 2005.
- SAPN Notification 1230817, Overdue Periodic Review HBAP C-251, January 13, 2005.
- SAPN Notification 1231659, Periodic Review of HBAP C-12#2, March 3, 2005.
- SAPN Notification 1233608, NSOC Member Qualifications, June 10, 2005.
- SAPN Notification 1233609, PSRC Member Qualifications, June 10, 2005.
- SAPN Notification 1234343, Unable to sluice SFP Demin resin to RDT, July 28, 2005.
- SAPN Notification 1234383, SFP Recirc Pumps won't prime, July 29, 2005.
- SAPN Notification 1234472, Resin Sluice Line Blown Gasket, August 4, 2005.

#### Procedures

- Procedure L-3, "Defueled Safety Analysis Report (DSAR)," Revision 5, effective March 3, 2004.
- Emergency Operating Procedure EOP-10, Loss of Pool Water Level, Revision 6A, effective August 11, 2005.
- Emergency Contingent Actions ECA-01, Adding Salt Water to and repair of the Spent Fuel Pool, Revision 2, effective December 1, 2003.
- EDOI A-2, Operational Log Sheets and Daily Water Inventory Report, Revision 19A, effective January 17, 2003.
- Humboldt Bay Administrative Procedure HBAP A-2, "Plant Staff Review Committee (PSRC)," Revision 24, effective July 7, 2005.
- Humboldt Bay Administrative Procedure HBAP C-9#1, Sealed Components Checklist and Log, Revision 31, effective September 25, 2003.
- Humboldt Bay Administrative Procedure HBAP C-12, "Problem Identification and

Resolution,” Revision 24, effective February 14, 2005.

- Humboldt Bay Administrative Procedure HBAP C-12#2, “Technical Review Groups and Nonconformances,” Revision 7, effective February 14, 2005.
- Humboldt Bay Administrative Procedure HBAP C-19, “Licensing Bases Impact Evaluation (LBIE),” Revision 20, effective February 14, 2005.
- Humboldt Bay Administrative Procedure, HBAP C-40, “Maintenance Program,” Revision 16, effective June 16, 2005.
- Humboldt Bay Administrative Procedure, HBAP C-40 #1, “RC 10 CFR 50.65 Maintenance Rule Compliance,” Revision 2A, effective February 28, 2005.
- Humboldt Bay Administrative Procedure, HBAP C-200, “Requirements for the HBPP Radiation Protection Program,” Revision 7, effective January 7, 2003.
- Inter-Departmental Administrative Procedure OM3.ID3, “Employee Concerns Program,” Revision 9, effective August 12, 2003.
- Nuclear Quality Services Administrative Procedure OM3.NQ1, “Employee Concerns Investigation and Reporting,” Revision 4, effective August 12, 2003.
- Nuclear Quality Services Administrative Procedure TQ1.NQ1, “Auditor Qualification and Certification,” Revision 8, effective May 16, 2003.
- SAFSTOR Offsite Dose Calculation Manual, Revision 11, effective April 21, 2004.
- Quality Assurance SAFSTOR Procedure QASP-8, “Audit Program,” Revision 8, effective March 1, 2005.
- Quality Assurance SAFSTOR Procedure QASP-9, “Audit Process,” Revision 10, effective March 1, 2005.
- Radiation Control Procedure RCP-2F, “Radiological Occurrence Reports,” Revision 2, effective September, 16, 2002.
- Radiation Control Procedure RCP-6L, “Receiving, Loading and Releasing of Transportation Vehicle for Radioactive Material/Waste Shipment” Revision 8, effective August 11, 2005.
- Radiation Control Procedure RCP-6P, “Radioactive Material Shipments,” Revision 10, effective August 11, 2005.
- Radiation Control Procedure RCP-7E, “Operation and Testing of the SAM-11,” Small Article Monitor, Revision 1, effective April 27, 2004.
- Radiation Control Procedure RCP-7K, “Operation of the Ludlum Model 9 Ion Chamber,”



Revision 0, effective August 12, 2005.

- Surveillance Test Procedure, STP 3.6.2, SFP Level Monitor Verification, Revision 34B, effective March 4, 2004.
- Surveillance Test Procedure, STP 3.6.5, Monthly Spent Fuel Pool Water Quality Check, Revision 43B, effective March 4, 2004.
- Surveillance Test Procedure STP 3.6.7, Annual Demin Water Tank Gravity Flow to Spent Fuel Pool Test, Revision 3, effective August 5, 2005.
- Surveillance Test Procedure STP 3.6.8, Annual Spent Fuel Pool Emergency Makeup Flow Test, Revision 5, effective August 8, 2005.

#### Data Sheets

- HBAC C-9#1 Attachment 4.1 January 25, 2003 to September 1, 2005.
- STP 3.6.2 Attachment 10.1, January 17, 2003 through December 31, 2004.
- STP 3.6.3 Attachment 12.1, June 13, 2003 calibration.
- STP 3.6.3 Attachment 12.1, December 18, 2003 calibration.
- STP 3.6.3 Attachment 12.1, September 12, 2004 calibration.
- STP 3.6.3 Attachment 12.1, November 19, 2004 calibration.
- STP 3.6.5 Attachment 8.1, January 5, 2005 through September 14, 2005.
- STP 3.6.7 Attachment 9.1, November 30, 2003 test.
- STP 3.6.7 Attachment 9.1, November 17, 2004 test.
- STP 3.6.8 Attachment 8.1, June 11, 2003 test.
- STP 3.6.8 Attachment 8.1, May 27, 2004 test.
- STP 3.6.8 Attachment 8.1, June 3, 2005 test.
- STP 3.16.3, Attachment 8.1, April 28, 2005 annual calibration.
- STP 3.16.4, Attachment 10.5, August 9 through September 27, 2005 weekly tests.
- STP 3.16.7, Attachment 8.5, January 23 through September 2, 2005, quarterly tests.
- STP 3.16.9, Attachment 10.1 December 8, 2004, annual calibration.

- STP 3.21.2, Attachment 9.1, April 20, 2005 annual calibration.
- STP 3.21.3, Attachment 8.1, July 5 through October 25, 2005 weekly tests.
- STP 3.21.5, Attachments 9.1 and 9.2, February 18 through September 20, 2005, quarterly tests.

#### Reports

- Annual Radioactive Effluent Release Report for 2004, HBL-05-009, March 30, 2005.
- Annual Radiological Environmental Monitoring Report for 2004, HBL-05-014, April 28, 2005.