UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

January 27, 2003

Gregory M. Rueger, Senior Vice
President, Generation and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 3
Avila Beach, California 93424

SUBJECT: DIABLO CANYON NUCLEAR POWER PLANT - NRC INTEGRATED INSPECTION REPORT 50-275/02-05; 50-323/02-05

Dear Mr. Rueger:

On December 28, 2002, the NRC completed an integrated inspection at your Diablo Canyon Nuclear Power Plant, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings that were discussed on January 9, 2003 with David H. Oatley and members of your staff as discussed in Section 40A6.

This inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection one NRC-identified issue and one self-revealing issue were evaluated under the risk significance determination process as having very low risk significance (Green). The NRC has determined that violations are associated with each of these issues. However, because of their very low risk significance and because they are entered into your corrective action program, the NRC is treating these two findings as noncited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. If you contest any NCV in this report, 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, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Diablo Canyon Power Plant.

Pacific Gas and Electric Company operated under voluntary bankruptcy proceedings during this inspection period. The NRC has monitored plant operations, maintenance, and planning to better understand the impact of the financial situation and how it relates to your responsibility to safely operate the Diablo Canyon reactors. NRC inspections, to date, have confirmed that you are operating these reactors safely and that public health and safety is assured.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

William B. Jones, Chief
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Division of Reactor Projects

Docket Nos: 50-275, 50-323
License Nos: DPR-80, DPR-82

Enclosure: Inspection Report 50-275, 323/02-05

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Dockets:	50-275 50-323
Licenses:	DPR-80 DPR-82
Report:	50-275/02-05 50-323/02-05
Licensee:	Pacific Gas and Electric Company
Facility:	Diablo Canyon Power Plant, Units 1 and 2
Location:	7 ½ miles NW of Avila Beach Avila Beach, California
Dates:	October 6 through December 28, 2002
Inspectors:	D. L. Proulx, Senior Resident Inspector T. W. Jackson, Resident Inspector P. A. Goldberg, Senior Reactor Inspector R. E. Lantz, Senior Emergency Preparedness Inspector J. S. Dodson, Health Physics Inspector W. L. Britz, Fuel Cycle Inspector, DNMS G. A. Pick, Senior Physical Security Inspector
Approved By:	W. B. Jones, Chief, Projects Branch E Division of Reactor Projects
Attachment:	Supplemental Information

SUMMARY OF FINDINGS

IR 05000275/2002-005, 05000323/2002-005; Pacific Gas and Electric Co.; 10/06/02 - 12/28/02; Diablo Canyon Power Plant Units 1 and 2; Operability Evaluations and Identification and Resolution of Problems.

This report covered a 12 week period of inspection by resident inspectors and announced inspections by a senior reactor inspector, senior emergency preparedness inspector, and a senior physical security inspector. Two Green noncited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. A violation of Technical Specification 5.4.1.a was identified for the failure to initiate a prompt operability assessment when a degraded electrical termination associated with backup Battery Charger 1-3-1 was identified. In July 23, 2002, the licensee identified a warm termination in the charger when it was lightly loaded and the subsequent engineering evaluation recommended that the termination not be subjected to heavy loads and be repaired as soon as possible. Additional analysis was necessary to determine charger operability during design-basis loading. During a full load test on December 4, operators declared Battery Charger 1-3-1 inoperable due to high termination temperature.

  The finding is greater than minor because it affects the cornerstone objective of mitigating systems, and in particular, the equipment performance objective as it relates to reliability of the battery charger. The finding is of very low safety significance because it was subsequently determined that the backup battery charger, that is placed in service when one of the primary chargers is unavailable would have been able to perform its function (Section 1R15).

- Green. A self-revealing violation of Technical Specification 5.4.1.a was identified for the failure to implement procedures related to the removal of foreign material from the Unit 1 containment. This resulted in an accumulation of foreign material inside containment that exceeded the original containment sump screen blockage design margin by approximately 2 square feet, as well as material inside the containment recirculation sump near the containment recirculation sump valve inlet. The material was left inside containment following the last refueling outage, which occurred five months earlier.

  The finding was greater than minor because, if left uncorrected, the finding would become a more significant safety concern in that the presence of additional foreign material inside containment could render the containment sump inoperable and impact the postaccident containment recirculation function. This finding is under the mitigating system cornerstone and of very low risk

significance since the licensee subsequently determined that the material left inside containment would not have prevented the postaccident containment recirculation function (Section 4OA2).

Report Details

Summary of Plant Status

Diablo Canyon Unit 1 began this inspection period at 98 percent power in order to maintain current transformer and Main Turbine Bearing Number 9 vibration below administrative limits. On October 11, 2002, operators commenced a unit down-power to 53 percent power in order to repair a tube leak in the Unit 1 Main Condenser. Maintenance personnel completed main condenser repairs on October 12, and operators returned Unit 1 reactor power to 98 percent on October 13.

On October 20, 2002, operators commenced a reactor shutdown for Generator Maintenance Outage 1G12 and entered Mode 3 (Hot Standby). Upon inspection of the main generator rotor, the licensee determined that a more extensive outage was required to replace the rotor. Operators initiated a plant cooldown and Unit 1 entered Mode 4 (Hot Shutdown) on October 26 and Mode 5 (Cold Shutdown) on October 27. Following replacement of the main generator rotor, the licensee commenced heatup and entered Mode 4 on December 3 and Mode 3 on December 4. On December 6, operators commenced a cooldown and entered Mode 5 to address problems with Battery Charger 1-3-1. Following repair and retest of the battery charger, operators commenced a heatup and entered Mode 4 up to Mode 3 on December 7. Unit 1 entered Mode 2 (Startup) on December 10, continued to increase power and entered Mode 1 (Power Operation) on December 10. Operators synchronized the main generator to the grid on December 12, ending Generator Outage 1G12. Power ascension continued until Unit 1 achieved 100 percent power on December 13.

Due to elevated vibration levels on the main generator and a high swell warning, operators reduced Unit 1 power to 15 percent and separated from the grid on December 16. Following a balance shot of the main turbine, and after ocean swells subsided, operators synchronized the main generator to the grid on December 17. Operators continued to increase power until Unit 1 achieved 100 percent power on December 18. Unit 1 remained at 100 percent power for the rest of the inspection period.

Diablo Canyon Unit 2 began this inspection period at 100 percent power. On November 8, 2002, operators reduced power to 20 percent power in anticipation of high Pacific Ocean swells. On November 9, operators commenced a rapid shutdown of Unit 2 to Mode 3 because of high differential pressure across the circulating water system traveling screens due to excessive kelp. Unit 2 remained in Mode 3 until the high swells subsided. Operators commenced a Unit 2 reactor startup and entered Mode 2 on November 10. Operators increased power, entered Mode 1, and synchronized the main generator to the grid on November 10. Operators continued to increase power such that Unit 2 operated at 100 percent power as of November 11. Because of a second high swell warning, operators reduced Unit 2 power to 48 percent on December 16. After the high Pacific Ocean swells subsided, operators increased Unit 2 reactor power until Unit 2 achieved 100 percent power on December 18. Unit 2 remained at 100 percent power for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R04 Equipment Alignments (71111.04)

Partial System Walkdowns

.1 Unit 1 Motor-Driven Auxiliary Feedwater Pumps

a. Inspection Scope

On October 16, 2002, with Turbine-Driven Auxiliary Feedwater Pump 1-1 in a maintenance outage window, the inspectors reviewed the system for proper alignment of Motor-Driven Auxiliary Feedwater Pumps 1-2 and 1-3. The inspectors observed valve alignment, labeling, lubrication, ventilation, seismic supports, and absence of obstructions that may prevent the pump from performing its safety function. The inspectors also considered the availability of electrical power and the proper working condition of associated electrical equipment. The following documents were used during the inspection:

- Procedure OP D-1:II, "Auxiliary Feedwater System - Alignment Verification for Plant Startup," Revision 28
- Drawing OVID 106703, "Feedwater System," Sheet 3, Revision 61

b. Findings

No findings of significance were identified.

.2 Unit 1 Reactor Coolant System

a. Inspection Scope

On October 22, 2002, while Unit 1 was in Mode 3, the inspectors entered the containment and walked down the pressurizer, Reactor Coolant Pump 1-3 flange, and the reactor vessel head. The inspectors observed operational status of ventilation and seismic supports, and they also viewed the containment to verify the absence of obstructions that may prevent the containment recirculation sump from performing its safety function. The inspectors also viewed the containment to verify the absence of boric acid deposits that would identify leakage from the reactor coolant system. Procedure STP R-8C, "Containment Walkdown for Evidence of Boric Acid Leakage," Revision 7 was used during the inspection.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Drill

a. Inspection Scope

On October 8, 2002, the inspectors observed a fire drill at the Unit 1 main turbine lube oil reservoir room. The purpose of the inspection was to evaluate the readiness of the fire brigade and other licensee personnel to prevent and fight fires. During the drill the inspectors considered whether:

- Protective clothing and equipment was donned
- Necessary fire fighting equipment was brought to the scene and properly used
- Suitable fire fighting strategies were executed
- Communications among the fire brigade and plant operators were adequate
- The fire brigade leader's commands were clear, thorough, and effective
- The drill scenario was followed and drill objectives were met

The inspectors used Section 9.5.1, "Fire Protection System," Final Safety Analysis Report (FSAR) Update, Revision 14, and Procedure TQ1.DC12, "Fire Brigade Training," Revision 5 during the inspection. Additionally, the inspectors reviewed fire drill evaluation forms for calendar years 2001 and 2002.

b. Findings

No findings of significance were identified.

1R07 Biennial Heat Sink Performance (71111.07B)

.1 Performance of Testing, Maintenance, and Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's test and cleaning methodology for the residual heat removal system heat exchangers, the containment fan unit coolers, and the reactor coolant pump thermal barrier coolers. In addition, the inspectors reviewed test data for the heat exchangers, design, and vendor-supplied information to ensure that the heat exchangers were performing within their design bases. The inspectors also reviewed the heat exchanger inspection and test results. Specifically, the inspectors checked to ensure that proper extrapolation of test conditions to design conditions, appropriate use of test instrumentation, and appropriate accounting for instrument inaccuracies were performed. Additionally, the inspectors checked that the licensee appropriately trended these inspection and test results, assessed the causes of the trends, and took necessary actions for any step changes in these trends. The inspectors reviewed the methods and results of heat exchanger inspection and cleaning, and checked that the methods used to inspect and clean were consistent with industry standards and as-found results were appropriately dispositioned such that the final condition were acceptable.

b. Findings

No findings of significance were identified.

.2 Verification of Conditions and Operations Consistent with Design Bases

a. Inspection Scope

For the selected heat exchangers, the inspectors checked that the licensee established heat sink and heat exchanger condition, operation, and test criteria were consistent with the design assumptions. Specifically, the inspectors reviewed the applicable calculations to ensure that the thermal performance test acceptance criteria for the heat exchangers were being applied consistently throughout the calculations. The inspectors also checked that the appropriate acceptance values for fouling and tube plugging for the residual heat removal heat exchangers remained consistent with the values used in the design-basis calculations. Finally, the inspectors checked that the parameters measured during the thermal performance tests for the residual heat removal system were consistent with those assumed in the design bases.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors checked that the licensee had entered significant heat exchanger/heat sink performance problems into the corrective action program.

b. Findings

No findings of significance were identified.

1R11 Operator Requalification (71111.11)

a. Inspection Scope

The inspectors witnessed operator performance in the simulator during routine training and requalification examinations. The inspectors also attended the crew and individual debriefs to determine if the evaluators critically assessed operator performance. On December 5, 2002, the inspectors observed a simulator scenario associated with failure of a pressurizer level channel, low component cooling water surge tank pressure, a hydrogen cooler leak, and a reactor trip with safety injection following a steam generator feed line rupture. The inspectors used the following procedures to support the inspection activities:

- OP AP-1, "Excessive Reactor Coolant System Leakage," Revision 14
- OP AP-5, "Malfunction of Protection or Control Channel," Revision 17A
- OP A-11, "Malfunction of Component Cooling Water System," Revision 20
- EOP E-0, "Reactor Trip or Safety Injection," Revision 27
- EOP E-2, "Faulted Steam Generator Isolation," Revision 8A

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Reviews

a. Inspection Scope

The inspectors reviewed the licensee's Maintenance Rule implementation for equipment performance problems. The inspectors assessed whether the equipment was properly placed into the scope of the rule, whether the failures were properly characterized, and whether goal setting was recommended, if required. Procedure MA1.ID17, "Maintenance Rule Monitoring Program," Revision 9, was used as guidance. The inspectors reviewed the following Action Requests (ARs):

- A0543012, "Primary Met Tower Computer Not Sending Information" (Units 1 and 2)
- A0569040, Maintenance Rule performance criteria, goal setting review for Diesel Engine Generator 1-3 (Unit 1)
- A0567834, Maintenance Rule performance criteria, goal setting review for control room ventilation system (Unit 1)

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Risk Assessments

a. Inspection Scope

The inspectors reviewed daily work schedules and compensatory measures to confirm that the licensee had performed proper risk management for routine and emergent work. The inspectors considered whether the risk assessments were performed according to their procedures and the licensee had properly used their risk assessment tools. The inspectors reviewed the licensee's entry into appropriate risk categories, preservation of key safety functions, and implementation of work controls. The

inspectors used Procedure AD7.DC6, “On-line Maintenance Risk Management,” Revision 7, as guidance. The inspectors specifically observed Unit 2 Startup Transformer 2-1 maintenance outage window on October 14-19, 2002, with Unit 2 startup power crosstied from Unit 1 Startup Transformer 1-1

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events (71111.14)

a. Inspection Scope

For the nonroutine events described below, the inspectors reviewed operator logs, plant computer data, and strip charts to determine what occurred and how the operators responded, and to determine if the response was in accordance with plant procedures:

- (Unit 1) Due to elevated vibration levels on the main generator and a high swell warning, operators reduced Unit 1 power to 15 percent and separated from the grid on December 16, 2002. The inspectors responded to the control room and monitored operator response.

- (Unit 2) On November 8, 2002, operators reduced power on Unit 2 to 20 percent power in anticipation of high Pacific Ocean swells. On November 9, operators commenced a rapid shutdown of Unit 2 to Mode 3 (Hot Standby) because of high differential pressure across the circulating water system traveling screens due to excessive kelp. The inspectors responded to the control room and monitored operator actions. Following the shutdown, the inspectors reviewed the postevent review to determine if the licensee adequately analyzed the event.

- (Unit 2) Because of a high swell warning, operators reduced Unit 2 power to 48 percent on December 16, 2002. After the high Pacific Ocean swells subsided, operators increased Unit 2 reactor power until Unit 2 achieved 100 percent power on December 18. The inspectors responded to the control room and monitored operator actions.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations and supporting documents to determine if the associated systems could meet their intended safety functions despite the degraded status. The inspectors reviewed the applicable Technical Specifications,

codes/standards, and FSAR Update sections in support of this inspection. The inspectors reviewed the following ARs:

- A0568818, STP M-9A failure on D/G 1-1 (Unit 1)
- A0568314, Evaluate cable spreading room humidity affect on several instruments (Units 1 and 2)
- A0570112, Evaluate crack on diesel engine generator turbocharger (Unit 2)
- A0561835, Warm side bus termination on Breaker 52-1F-52 for Battery Charger 1-3-1 (Unit 1)
- Operability Evaluation OE 95-05, Revision 2, Operability of spent fuel pool Region 1 with Boraflex silica dissolution

b. Findings

Introduction. A violation of Technical Specification 5.4.1.a was identified for the failure to initiate a prompt operability assessment when a degraded electrical termination associated with backup Battery Charger 1-3-1 was identified. The issue was evaluated using the risk significance determination process and determined to be of very low safety significance (Green).

Description. The inspectors identified the failure to perform a prompt operability assessment for backup Battery Charger 1-3-1 when indications of the degraded termination were first noticed. Battery Charger 1-3-1 is a swing charger that is used on occasions when Battery Charger 1-3-2 is cleared or fails. On July 23, 2002, the licensee noticed a warm bus-side cable termination located on the A Phase. A subsequent engineering evaluation was performed and it was recommended in AR A0561835 that the subject breaker be cleared and the termination be repaired promptly. The deviation in temperature of the termination was 25 degrees and the charger was considered operable if the deviation remained below 60 degrees. However, the temperature deviation was noticed when the charger was lightly loaded and the engineering evaluation stated that temperature would rise as load increased. The evaluation stated that a similar condition had been noticed on another battery charger that resulted in a severely overheated condition. However, the licensee decided to continue to monitor the connection and repair it at the next convenient opportunity since it would require clearing 480 V Bus F.

On December 4, 2002, the licensee performed a full load test of Battery Charger 1-3-1 and, 10 minutes into the test, the termination reached a temperature of 260 degrees and met the 60 degree deviation that required the charger to be declared inoperable. To repair the termination, the licensee entered Mode 5 to clear 480 V Bus F.

Subsequently, the licensee had testing performed on the degraded termination and it was demonstrated that the termination would have been able to function under full load conditions for the 30 day period following a design-basis accident.

Analysis. The deficiency associated with this event is a failure to initiate a prompt operability assessment associated with Battery Charger 1-3-1. The finding is greater than minor because it affects the cornerstone objective of mitigating systems, and in particular, equipment performance as it relates to reliability. The finding is of very low safety significance because the licensee had tested the termination and determined that it would be able to perform its function for the required amount of time.

Enforcement. The inspectors identified the failure to promptly evaluate operability, as required by Procedure OM7.ID12, "Operability Determination," Revision 6, as a violation. Specifically, Technical Specification 5.4.1.a states, in part, that written procedures shall be implemented covering applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A of Regulatory Guide 1.33, Section 1, identifies that the licensee shall have administrative procedures for conduct of operations. Procedure OM7.ID12 partially implements this requirement. Procedure OM7.ID12 states, in Section 1.3.1.c, that a prompt operability assessment is required if the hardware is initially considered operable but more detailed investigation, evaluation, or analysis is necessary to demonstrate the basis. Contrary to the above, the licensee failed to write a prompt operability assessment for Battery Charger 1-3-1 when it exhibited elevated temperatures on the termination when lightly loaded. Additional analysis was required to demonstrate performance under full load or design-basis loading. An engineering evaluation indicated that the operability of the charger was in question at full load. Because the failure to write a prompt operability assessment was of very low safety significance and has been entered into the corrective action system as AR A0561835, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 50-275/02-05-01, failure to perform a prompt operability assessment for a degraded battery charger termination.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed postmaintenance tests for selected risk-significant systems to verify their operability and functional capability. As part of the inspection process, the inspectors witnessed and/or reviewed the postmaintenance test acceptance criteria and results. The test acceptance criteria was compared to the Technical Specifications and the FSAR Update for the Diablo Canyon Power Plant. Additionally, the inspectors reviewed that the test was adequate for the scope of work, the test was performed as prescribed, jumpers and test equipment were properly removed after the test, and test equipment range, accuracy, and calibration were consistent for the application. The following are selected corrective maintenance activities reviewed by the inspectors:

- Unit 2 Containment personnel hatch leak detection system, replace solenoid valves on October 2 - 9, 2002

- Unit 1 Centrifugal Charging Pump 1-2, replace lube oil piping and auxiliary lube oil pump on October 29 - 31, 2002

b. Findings

No findings of significance were identified.

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2002 biennial emergency plan exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario simulated a coordinated terrorist attack on the facility which resulted in a loss of offsite power and damage to safe shutdown plant components. The scenario continued with a large loss of reactor coolant, subsequent damage to fission product barriers, core damage and a radiological release to the environment to demonstrate the licensee's capabilities to implement the emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of classification, notification, protective action recommendations, and offsite dose consequences in the simulator control room and the following emergency response facilities:

- Technical support center
- Operations support center
- Emergency operations facility

The inspectors also assessed personnel recognition of abnormal plant conditions, the transfer of emergency responsibilities between facilities, communications, protection of emergency workers, emergency repair capabilities, and the overall implementation of the emergency plan.

The inspectors attended the October 23, 2002, post-exercise critiques in each of the above facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended the October 25, 2002, presentation of the exercise evaluation results to plant management.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revision 4, Change 1, to the Diablo Canyon Emergency Plan against the previous revision and 10 CFR 50.54(q) to determine if the revision decreased the effectiveness of the plan.

b. Findings

No findings of significance were identified.

1EP6 Emergency Preparedness Evaluation (71114.06)

a. Inspection Scope

The inspectors witnessed the operator simulator session that included emergency plan implementation conducted on October 15, 2002. The scenario consisted of a letdown heat exchanger leak and a main steam line break with failure of the main steam isolation valves to close. This resulted in declaration of a Notification of Unusual Event and notification of state and local authorities. The inspectors witnessed the operator performance in the control room (simulator). The inspectors also attended the licensee's self-critique of the scenario. The following procedures were used to evaluate the performance:

- EP G-1, "Emergency Classification and Emergency Plan Activation," Revision 31
- EP G-3, "Notification of Off-Site Agencies and Emergency Response Organization Personnel," Revision 39

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection (PP)

3PP4 Security Plan Changes (71130.04)

a. Inspection Scope

The inspectors reviewed the following physical security plan changes to determine if they decreased the effectiveness of the physical security plan and to determine if requirements of 10 CFR 50.54(p) were met:

- Physical Security Plan, Revision 18, Change 20, dated June 20, 2002
- Physical Security Plan, Revision 19, Change 20, dated September 6, 2002

The inspectors noted that both changes were administrative.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Drill and Exercise Performance

a. Inspection Scope

The inspectors reviewed the following documents related to the drill and exercise performance indicator in order to verify the licensee's reported data:

- Drill schedules for calendar years 2001 and 2002
- Drill and exercise scenarios for a 100 percent sample of drills conducted during the fourth quarter of calendar year 2001 and the first through third quarters of calendar year 2002
- Evaluator and participant logs and offsite notification forms for a 100 percent sample of drills conducted during the fourth quarter of calendar year 2001, and the first through third quarters of calendar year 2002
- Drill evaluation worksheets
- Performance indicator reports

b. Findings

No findings of significance were identified.

.2 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors reviewed the following records related to emergency response organization participation in order to verify the licensee's reported data:

- List of key emergency response organization positions
- Drill participation date summaries for key emergency responders for the fourth quarter of calendar year 2001 and for the first through third quarters of calendar year 2002
- Emergency response organization rosters for the fourth quarter of calendar year 2001 and for the first through third quarters of calendar year 2002
- Drill participation records for a sample of 8 emergency responders
- Performance indicator reports

b. Findings

No findings of significance were identified.

.3 Alert and Notification System

a. Inspection Scope

The inspectors reviewed a 100 percent sample of siren testing records for the fourth quarter of calendar year 2001 and the first through third quarters of calendar year 2002 to verify the accuracy of data reported for this performance indicator.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Unit 1 Auxiliary Feedwater Discharge Check Valves

a. Inspection Scope

The inspectors evaluated the leak-tightness of Unit 1 auxiliary feedwater discharge check valves. The discharge check valves are to open and allow auxiliary feedwater flow to the steam generators when the auxiliary feedwater pumps are providing their designed discharge pressure. When there is no demand for auxiliary feedwater to the steam generators, the discharge check valves prevent main feedwater flow from reaching the auxiliary feedwater pumps and raising the water temperature in the pumps to the degree that the pumps would cavitate upon a start signal. When operators increased reactor power following the last Refueling Outage, 1R11, there were several valid control room alarms as a result of high temperatures in the auxiliary feedwater discharge lines. The alarms were a result of auxiliary feedwater discharge check valves leaking-by.

The inspectors walked down the auxiliary feedwater discharge lines, interviewed plant personnel, and reviewed the following documents:

- Section 6.5, “Auxiliary Feedwater System,” FSAR Update, Revision 13
- Procedure MP M-51.15, “Velan Swing Check Valve Disassembly, Inspection, and Reassembly,” Revision 5
- Vendor Manual 663219-602, “Velan Maintenance Manual for 2½ “ - 24" Forged Bolted Bonnet Gate and Globe Valves and Bolted Cover Check Valves”
- ARs: A0522157, A0534762, A0536794, A0536795, A0537795, A0558406, A0559354, A0559601, A0562387

b. Findings

No findings of significance were identified.

.2 Containment Walkdowns

a. Inspection Scope

The inspectors evaluated incidents of foreign material found inside the Unit 1 containment. Prior to reactor restart following an outage, the licensee performs a containment walkdown to ensure that debris is not left inside containment. A sufficient amount of debris could block the containment recirculation sump screens and prevent postaccident containment recirculation function, which would continue to cool the core following an accident. The inspectors interviewed system engineers and reviewed the following documents:

- A0569322, "STP V-645 Paperwork Discovered Inside Containment"
- A0569545, "Blue Paper Towel Found Inside U-1 Recirculation Sump"
- A0569581, "Post M-45A Containment Inspection Prior to Mode 4 Entry"
- Procedure STP M-45A, "Containment Inspection Prior to Establishing Containment Integrity," Revision 18

b. Findings

Introduction. A self-revealing violation of Technical Specification 5.4.1.a was identified for the failure to implement procedures related to the removal of foreign material from the Unit 1 containment. This resulted in an accumulation of foreign material inside containment that exceeded the original containment sump screen blockage design margin by approximately 2 square feet, as well as material inside the containment recirculation sump near the containment recirculation sump valve inlet. The material was left inside containment following the last refueling outage, which occurred five months earlier.

Description. On November 26, 2002, while obtaining a chemistry sample from the pressurizer relief tank, paperwork dated April 25, 2002, was discovered inside Unit 1 containment. The paperwork consisted of a total of 10, 8 1/2 by 11 inch sheets of paper, 6 sheets were stapled and 4 sheets were loose-leaf. The licensee estimated that the paperwork could have been transported down to the containment recirculation sump and covered an area of 3.9 square feet. The licensee also determined that the paper had been inside containment for approximately 5 months. During this period the reactor was operated in Modes 1 through 4, when the emergency core cooling systems are required to be operable. The licensee used a standing operability assessment to consider foreign material in the containment and its potential impact on the containment recirculation sumps. The assessed margin for screen blockage was determined to be approximately 2 square feet at the time the material was left inside containment. Additional

containment walkdowns were performed and the licensee discovered a blue paper towel inside the secondary recirculation sump screen. Other material found inside containment included small pieces of duct tape, a plastic cup, 12x18 inch piece of paper, three pens, and a one inch metal cater pin.

The licensee performed a detailed analysis of the debris found inside Unit 1 containment and the amount of debris margin. Subsequently, the licensee determined that there was approximately 12.5 square feet of debris margin associated with the containment recirculation sump. The licensee concluded that the material found inside the Unit 1 containment would not have degraded the emergency core cooling system postaccident recirculation function.

The licensee determined that a contributing cause to the failure to identify the material left inside containment was that management expectations for containment cleanliness were not being adequately communicated to personnel performing the walkdowns. The acceptance criteria in STP M-45A, "Containment Inspection Prior to Establishing Containment Integrity," states in Section 5.1, "A visual inspection shall be performed and any debris found during the inspection shall be removed from containment." Personnel performing the containment walkdowns would look for debris and remove the debris when it was identified. However, personnel did not adequately understand management's expectation that they were to ensure that there was no debris left inside containment.

Analysis. The deficiency associated with this event is the failure to implement procedures for material left inside containment. The finding was greater than minor because if left uncorrected, the finding would become a more significant safety concern. Specifically, if licensee personnel fail to ensure the absence of material from containment, there is a potential for sufficient amount of material to be left inside containment that would impact the postaccident containment recirculation function. This finding is under the mitigating system cornerstone and of very low risk significance since the licensee determined that the material left inside containment would not have prevented the postaccident containment recirculation function.

Enforcement. Technical Specification 5.4.1.a requires, in part, that written procedures be established, implemented, and maintained covering the activities specified in Regulatory Guide 1.33, Appendix A. Regulatory Guide 1.33, Appendix A, Item 3.d, requires procedures be established and implemented for startup and changing modes of operation for emergency core cooling systems. Contrary to the above, licensee personnel performing containment walkdowns failed to remove the material/debris that could have degraded the functionality of the emergency core cooling system in postaccident containment recirculation. Because this failure to implement procedures concerning debris inside containment was of very low risk significance and has been entered into your corrective action system as AR A0569322, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy:
NCV 50-275/02-05-02, failure to follow procedure resulted in debris left inside containment.

40A5 Other

.1 (Closed) Unresolved Item (URI) 50-323/02004-01: Evaluation of failure of Component Cooling Water (CCW) Pump 2-3 power supply cable requiring Notice of Enforcement Discretion (NOED)

The licensee requested and received an NOED due to a degraded power supply cable for CCW Pump 2-3, because the estimated time for replacement of the cable was greater than the Technical Specification allowed outage time of 72 hours. The licensee submitted an adequate safety basis to demonstrate that not enforcing the Technical Specifications would not impact safe operation of Unit 2.

The inspectors reviewed the history of cable failures at the facility. The inspectors noted that the licensee experienced six previous failures that were unrelated. The licensee established a long-term program to address cable degradation, and thus the inspectors concluded that no violations of NRC requirements occurred that resulted in the need for the NOED. This item is closed.

.2 Evaluation of Diablo Canyon Safety Condition in Light of Financial Conditions

a. Inspection Scope

Due to the licensee's financial condition, Region IV initiated special review processes for Diablo Canyon. The resident inspectors continued to evaluate the following factors to determine whether the financial condition and power needs of the station impacted plant safety. The factors reviewed included: (1) impact on staffing, (2) corrective maintenance backlog, (3) corrective action system backlogs, (4) changes to the planned maintenance schedule, (5) reduction in outage scope, (6) availability of emergency facilities and operability of emergency sirens, and (7) grid stability (i.e., availability of offsite power to the switchyard, status of the operating reserves especially at the onset of rolling blackouts, and main generator Volt-Ampere reactive loading).

Additionally, the resident inspectors observed the energy supply and operating reserves available in the California market. Inspectors have also increased attention to areas such as employee morale, licensee activities, and specific technical issues.

b. Findings

No findings of significance were identified.

40A6 Management Meetings

Exit Meeting Summary

The resident inspection results were presented on January 9, 2003, to Mr. David H. Oatley, Vice President and General Manager- Diablo Canyon, and other members of licensee management. The licensee acknowledged the findings presented. Discussion of region-based inspection results are described in the following paragraphs.

The security plan change inspection results were presented to Mr. Larry Parker, Licensing Engineer, verbally on October 22, 2002. The licensee acknowledged the findings presented.

The emergency preparedness inspection results were presented to Mr. David H. Oatley, Vice President and General Manager- Diablo Canyon, and other members of licensee management at the conclusion of the inspection on October 25, 2002. The licensee acknowledged the findings presented.

The heat sink performance inspection results were presented to Mr. David H. Oatley, Vice President and General Manager - Diablo Canyon, and other members of licensee management on October 31, 2002. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. Proprietary information was reviewed by the inspectors and left with the licensee at the end of the inspection.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Becker, Vice President - Diablo Canyon Operations and Station Director
S. Chesnut, Director, Engineering Services
C. Gillies, Director, Site Services
J. Hays, Director, Maintenance Services
R. Jett, Regulatory Services, NRC Interface Engineer
S. Ketelsen, Manager, Regulatory Services
M. Lemke, Manager, Emergency Preparedness
P. Nugent, NSSS Engineering Manager
D. Oatley, Vice President and General Manager, Diablo Canyon
L. Parker, Licensing Engineer, Regulatory Services
J. Portney, NSSS Senior Systems Engineer
P. Roller, Director, Operations Services
D. Taggart, Manager, Nuclear Quality Services Engineering, Procurement & Maintenance
J. Tompkins, Director, Nuclear Quality, Analysis, and Licensing
L. Womack, Vice President Nuclear Services
M. Wright, Manager, Operations

NRC

D. Schneck, Emergency Preparedness, Nuclear Reactor Regulation
R. Sullivan, Emergency Preparedness, Nuclear Reactor Regulation

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed

50-275/02-05-01	NCV	Failure to perform a prompt operability evaluation for a degraded battery charger termination (Section 1R15)
50-275/02-05-02	NCV	Failure to follow procedure resulted in debris left inside containment (Section 4OA2)

Closed

50-323/02-04-01	URI	Evaluation of failure of CCW Pump 2-3 power supply cable requiring NOED (Section 4OA5.1)

DOCUMENTS REVIEWED

Diablo Canyon Emergency Plan, Revision 4, Changes 0 and 1
EP G-1, Emergency Classification and Emergency Plan Activation, Revision 31
EP G-4, Assembly and Accountability, Revision 19
EP G-5, Evacuation of Nonessential Site Personnel, Revision 9A
EP RB-10, Protective Action Recommendations, Revision 9
EP EF-1, Activation and Operation of the Technical Support Center, Revision 29
EP EF-2, Activation and Operation of the Operational Support Center, Revision 27
EP EF-3, Activation and Operation of the Emergency Operations Facility, Revision 22
EP EF-10, Joint Media Center Activation and Operation, Revision 25

Calculations

WCAP-13907, “Analysis of Containment Response Following Loss-of-Coolant Accidents for Diablo Canyon Units 1 and 2"

WCAP-13908, “Analysis of Containment Response Following Main Steamline Break Accidents for Diablo Canyon Units 1 and 2”

WCAP-14182, “Evaluation of Peak CCW Temperature Scenarios for Diablo Canyon Units 1 and 2,” Revision 1

M-966, “Establish Maximum CCW flow rate to the RHR Heat Exchanger,” Revision 0

WCAP-7336-L, “Topical Report Reactor Containment Fan Cooler Cooling Test Coil,” July 1969

Attachment to PGE-94-662, “Heat Transfer Coefficient Curves for the Diablo Canyon Residual Heat Exchanger,” dated October 6, 1994

Surveillance Tests

PEP M-238, “RHR Heat Exchanger 1-1 Performance Test,” Revision 0

STP M-93A, “Refueling Interval Surveillance Containment Fan Cooler System,” dated October 27, 2000

STP M-93A, “Refueling Interval Surveillance Containment Fan Cooler System,” dated May 23, 2002

STP M-93A, “Refueling Interval Surveillance Containment Fan Cooler System,” dated October 21, 1999

STP M-93A, “Refueling Interval Surveillance Containment Fan Cooler System,” dated May 21, 2001

STP V-13A, “CCW Flow Balancing,” dated May 21, 2002

STP V-13A, “CCW Flow Balancing,” dated May 23, 2001

Action Requests

A0492471	A0492791	A0493646	A0482329	A0518625
A0492628	A0492943	A0516953	A0518387	A0554700
A0492636	A0493002			

Procedures

STP M-93A, “Refueling Interval Surveillance Containment Fan Cooler System,” Revision 12

MP M-23.8, “Preventive Maintenance of Containment Fan Coolers and Associated Components,” Revision 11

Work Orders

R0215212	C0166543	R0151927	R0151975	C0166612	R0202010
C0177222	R0171362	R0214765	R0215206	C0125161	R0182062
C0173866	C0160354	C0176984	R0193760	R0202001	R0008115
R0172317					

Miscellaneous

Technical and Ecological Services File #420DC, “DCPP Unit 1 RHR Heat Exchanger Performance Test AR 0375650,” dated April 16, 1996

Westinghouse Residual Heat Removal Heat Exchanger data sheet, dated November 12, 1968 No. 23911, Westinghouse Vendor Manual for the Reactor Coolant Pumps, Revision 4

DC 663079-51-26, Vendor data sheet for the CFCU’s

Letter EA/S-91-118, PG&E Thermal Barrier Heat Exchanger Maximum Leakage into CCW System Due to Worst Case Credible Failure Mode and Crack Size, dated December 30, 1991

LIST OF ACRONYMS USED

AR	action request
CCW	component cooling water
CFR	Code of Federal Regulations
FSAR	Final Safety Analysis Report
NOED	Notice of Enforcement Discretion
NCV	noncited violation
NRC	Nuclear Regulatory Commission
PARS	publicly available records system
SDP	significance determination process
URI	unresolved item