U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos:	50-275/93-16 and 50-323/93-16
Docket Nos:	50-275 and 50-323
License Nos:	DPR-80 and DPR-82
Licensee:	Pacific Gas and Electric Company Nuclear Power Generation, B14A 77 Beale Street, Room 1451 P. O. Box 770000 San Francisco, California 94177
Facility Name:	Diablo Canyon Units 1 and 2
Inspection at:	Diablo Canyon Site, San Luis Obispo County, California
Inspection Conducted:	May 25 through July 6, 1993
Inspectors:	M. Miller, Senior Resident Inspector F. Gee, Resident Inspector

Approved by: P. H. Johnson, Chief — Date Signed 7/30/93
Reactor Projects Section 1

Summary:

Inspection from May 25 Through July 6, 1993 (Report Nos. 50-275/93-16 and 50-323/93-16)

Areas Inspected: Routine, announced, resident inspection of plant operations; maintenance and surveillance activities; review of plant events; followup of onsite events; open items; and selected independent inspection activities. Inspection Procedures 40500, 41500, 61726, 62703, 71707, 82701, 92701, and 93702, were used as guidance during this inspection.

Safety Issues Management System (SIMS) Items: None

Results:

General Conclusions on Strengths and Weaknesses

Strengths: Licensed operator training conducted in the simulator was challenging and specifically trained operators in individual diagnostic skills, as well as communications and crew cooperation, to more effectively and rapidly diagnose plant conditions and events (Paragraph 8).

Weaknesses were identified in: Failure to prevent two separate occurrences of boron dilution in the reactor coolant system (RCS), and failure to evaluate action requests within the required 30 days to determine if they represent a quality problem (Paragraph 5).

Significant Safety Matters: None

Summary of Violations:

The inspectors identified two violations, involving: (1) two instances of failure to provide or follow appropriate procedures for operation and boration of demineralizers in the chemical and volume control system (Paragraph 5.c and 5.d), and (2) the licensee's failure to perform timely quality evaluations (Paragraph 5.e).

DETAILS

1. Persons Contacted

Pacific Gas and Electric Company

*G. M. Rueger, Senior Vice President and General Manager, Nuclear Power Generation Business Unit
*J. D. Townsend, Vice President and Plant Manager, Diablo Canyon Operations
*W. H. Fujimoto, Vice President, Nuclear Technical Services
*J. A. Sexton, Manager, Nuclear Regulatory Services
D. B. Miklush, Manager, Operations Services
*B. W. Giffin, Manager, Maintenance Services
*R. Anderson, Former Manager, Nuclear Engineering/Construction Services
*W. G. Crockett, Manager, Technical and Support Services
*R. Russell, Director, Nuclear Regulatory Services
J. E. Molden, Director, Instrumentation and Controls
*R. P. Powers, Manager, Nuclear Quality Services
*T. L. Grebel, Supervisor, Regulatory Compliance
J. S. Bard, Director, Mechanical Maintenance
S. R. Ortore, Director, Electrical Maintenance
*S. R. Fridley, Director, Operations
*M. R. Tresler, Manager, Nuclear Engineering Services
*D. Tateosian, Assistant to Vice President
*K. A. Hubbard, Senior Engineer, Regulatory Compliance
*S. Chesnut, Senior Reactor Engineer
*J. Bonner, Site Quality Control Specialist
J. J. Griffin, Group Leader, Onsite Engineering
*C. R. Groff, Director, Plant Engineering
J. E. Fields, Lead Engineer, Quality Control
W. T. Rapp, Chairman, Onsite Safety Review Group
T. King, Shift Foreman, Operations
D. J. Dye, Shift Supervisor, Operations
*P. Sarafian, Senior Engineer, Nuclear Quality Services
*E. Carlsen, Regulatory Compliance Engineer
S. R. Vosburg, Director, Work Planning

*Denotes those attending the exit interview.

The inspectors interviewed other licensee employees including shift supervisors, shift foremen, reactor and auxiliary operators, maintenance personnel, plant technicians and engineers, and quality assurance personnel.

2. Operational Status of Diablo Canyon Units 1 and 2

On June 2, the system dispatcher requested that Diablo Canyon reduce plant output by 500 MW to follow the electrical distribution system load, the first request of this type in the plant's history. Plant management initiated a 250 MW reduction in load on each unit, which corresponded to each of the units operating at about 78 percent power.

During the power reduction, as Unit 1 reached 95 percent power, the low pressure steam stop valve on main feedwater pump 1-1 closed unexpectedly, reducing feedwater flow to about 10 percent of the pump's capacity. Operators promptly reduced reactor power to 50 percent and stopped the pump. Since this power reduction on Unit 1 was about 550 MW, Unit 2, which had been reduced to about 95 percent power at that time, was then returned to 100 percent power.

Unit 1 remained at 50 percent power for about 36 hours, increased power to 85 percent, and then reduced to 25 percent power on June 5 and 6 for a scheduled condenser and circulating water tunnel cleaning over the weekend. Additional troubleshooting of the feedwater pump was also performed during the curtailment. This event is discussed in detail in the following paragraph.

Otherwise, Units 1 and 2 operated at 100% power during this inspection period.

3. Followup of Onsite Events (93702)

Unit 1 Spurious Closure of Main Feedwater Pump Low Pressure Steam Stop Valve: In response to system dispatcher's request on June 2, both units commenced power reduction to 78 percent power. At about 95% power, Unit 1 experienced a spurious closure of the low pressure steam stop valve on main feedwater pump 1-1, which reduced the pump's output to about 10 percent of capacity. Operations staff personnel quickly reduced the unit to 50 percent power and commenced troubleshooting to identify the cause of failure. After about 30 hours, the licensee had not determined the cause of the failure, and raised power to 85 percent. Power was limited to this level since plant management was concerned that the failure could recur, and concluded that the plant's response to a transient would be more favorable beginning at 85 percent than at 100 percent power. Power was maintained at 85 percent until the evening of June 4, when power was reduced to 50 percent for scheduled condenser and tunnel cleaning during the weekend.

Troubleshooting of the feedwater pump valve continued, and power was later reduced to 25 percent to permit the performance of preventive maintenenance work on a feedwater regulating valve. Since no cause was identified for the stop valve failure, and since the licensee had addressed several potential causes of the failure during the power reduction (such as cleaning of the main feedwater pump hydraulic control oil and associated system orifices), the licensee returned the plant to 100 percent power at the conclusion of the tunnel cleaning on June 6. No similar failures have occurred.

No violations or deviations were identified.

4. Operational Safety Verification (71707)

a. General

During the inspection period, the inspectors observed and examined activities to verify the operational safety of the licensee's

facility. The observations and examinations of those activities were conducted on a daily, weekly or monthly basis.

On a daily basis, the inspectors observed control room activities to verify compliance with selected Limiting Conditions for Operation (LCOs) as prescribed in the facility Technical Specifications (TS). Logs, instrumentation, recorder traces, and other operational records were examined to obtain information on plant conditions and to evaluate trends. This operational information was then evaluated to determine whether regulatory requirements were satisfied. Shift turnovers were observed on a sampling basis to verify that all pertinent information on plant status was relayed to the oncoming crew. During each week, the inspectors toured accessible areas of the facility to observe the following:

(1) General plant and equipment conditions

(2) Fire hazards and fire fighting equipment

(3) Conduct of selected activities for compliance with the licensee's administrative controls and approved procedures

(4) Interiors of electrical and control panels

(5) Plant housekeeping and cleanliness

(6) Engineered safety features equipment alignment and conditions

(7) Storage of pressurized gas bottles

The inspectors talked with control room operators and other plant personnel. The discussions centered on pertinent topics of general plant conditions, procedures, security, training, and other aspects of the work activities.

b. Radiological Protection

The inspectors periodically observed radiological protection practices to determine whether the licensee's program was being implemented in conformance with facility policies and procedures and in compliance with regulatory requirements. The inspectors verified that health physics supervisors and professionals conducted frequent plant tours to observe activities in progress and were aware of significant plant activities, particularly those related to radiological conditions and/or challenges. ALARA considerations were found to be an integral part of each RWP (Radiation Work Permit).

c. Physical Security

Security activities were observed for conformance with regulatory requirements, the site security plan, and administrative

procedures, including vehicle and personnel access screening, personnel badging, site security force manning, compensatory measures, and protected and vital area integrity. Exterior lighting was checked during backshift inspections.

No violations or deviations were identified.

5. Inadvertent Dilution of Reactor Coolant System (Unresolved Item 50-323/93-12-01), Closed (92701)

Inspection Report 93-12 discussed two reactor coolant system dilution events which occurred April 5, and May 12, 1993. This inspection included additional examination of the circumstances surrounding the two events, with findings as follows:

a. Background

Each Unit's chemical and volume control system (CVCS) has five demineralizers, consisting of three types: two mixed bed, one cation bed, and two deborating bed demineralizers.

Mixed Bed: The mixed bed demineralizers contain lithiated anion resins and are used to place lithium into the reactor coolant system (RCS) for pH control. A new lithiated resin bed can last for approximately 2 years of routine operation. A mixed bed demineralizer with a new lithiated anion resin bed has some capacity for removing boron from the RCS. However, after the mixed bed demineralizer has been saturated with boron, the boron concentration of coolant passing through it will not change.

Cation Bed: The cation bed demineralizer is used to remove lithium from the RCS; the cation resin bed has no affinity for boron.

Deborating Bed: The deborating bed demineralizers contain anion resins and are used for removing boron from the RCS.

b. Chronology

On August 12, 1992, following a procedure review, the licensee concluded that the steps in Operating Procedure OP G-5:III, "Spent Resin Transfer System Demineralizer Resin Load and Rinse," Revision 4, were adequate to preclude an unexpected reactivity change after placing newly replenished ion exchange beds in service.

On December 8, 1992, during the NRC shutdown risk team inspection, the team identified to the licensee the specific need for controls to preclude inadvertent dilution of boron in the spent fuel pool and the refueling cavity. The licensee issued a new procedure and installed metering devices to monitor water inventory additions.

On April 5, 1993, during a Unit 2 refueling outage, Operations personnel returned mixed bed demineralizer 2-2 to service without

consulting chemistry staff personnel, and induced a 24 ppm boron dilution in the refueling cavity. Chemistry personnel determined that the boron concentration in the refueling cavity had been diluted from 2421 ppm to 2397 ppm. The boron concentration in the refueling cavity remained above the administrative refueling limit of 2100 ppm.

May 12, 1993, shortly after startup and return to 100% power operation of Unit 2, a CVCS cation bed demineralizer, which had last been in service on January 29, 1993, prior to the refueling outage, was placed in service. The relatively diluted coolant (approximately 100 ppm boron) in the associated vessel and piping caused a dilution of the RCS. The added reactivity was noticed by a control operator as reactor power and the primary average temperature began to rise. The control operator inserted control rods and added approximately 20 gallons of boric acid to the RCS, limiting the resulting power increase to 0.7%.

On May 12, 1993, after the second unplanned boron dilution event, the action request (AR) (No. A0301928) written for the dilution event on April 5, 1993, was reviewed (approximately 40 days after the event) and determined to require a quality evaluation.

c. <u>Reactivity Addition Caused by Returning Mixed Bed Demineralizer to Service</u>

On April 5, 1993, during the Unit 2 outage, Operations personnel returned mixed bed demineralizer 2-2 to service, inducing a decrease of 24 ppm boron concentration in the refueling cavity. Prior to this event, the resin for this demineralizer had been replaced, and the bed had been rinsed; however, it had not been saturated with boron. Operations personnel had affixed two administrative clearance tags to an isolation valve for the demineralizer to prevent its use. These tags were temporarily removed to permit filling and venting of the CVCS. The tags were inadvertently not returned to the valve, and the demineralizer was left in service. The chemistry staff noticed that the demineralizer had been returned to service, and sampled the boron concentration in the refueling cavity. The concentration had been diluted from 2421 ppm to 2397 ppm. The boron concentration in the refueling cavity remained above the licensee's administrative refueling limit of 2100 ppm and the Technical Specification limit of 2000 ppm.

The licensee had decided to not borate the new bed placed in mixed bed demineralizer 2-2, to reserve the deboration capacity of the new bed for use at the end of core life. Using the deboration capacity of the new bed in this manner would have reduced the generation of radioactive waste. To implement this policy, Operations issued a shift order, dated February 23, 1993, and relied on administrative clearance tags to prevent unintended use of the unborated mixed bed demineralizers.

The inspector noted the following weaknesses which contributed to the April 5, 1993, dilution event:

(1) The use of a shift order to provide long-term instructions for the use and control of mixed bed demineralizers was not allowed by the licensee's administrative procedures. Administrative Procedure (AP) C-151, "Administrative Procedure Dissemination of Operations Department Information," Revision 3, governing the use of shift orders, prescribed that shift orders address only short-term instructions or communications which are daily in nature. The administrative procedure further stated that operating procedures are to be used to control plant operation.

(2) The licensee did not follow an applicable operating procedure. Operating procedure OP G-5:III, "Spent Resin Transfer System Demineralizer Resin Load and Rinse," Revision 4, Section 5.2, required the mixed Bed demineralizer to be thoroughly saturated with boron.

(3) The licensee did not maintain adequate control of the administrative clearance tags which had been placed on the mixed bed demineralizer. Operations issued two administrative clearance tags, Clearance Numbers 00036563 and 00039966, and affixed them to the isolation valve for mixed bed demineralizer 2-2 to reserve the new unborated resin bed for deboration use at end of core life. Operations personnel removed the two clearance tags to permit filling and venting of the CVCS system and system realignment, but did not replace them after this evolution was complete, leaving the demineralizer in service. One tag was not returned due to a lack of clarity of the clearance instructions. The other was not returned due to oversight by licensed operators during a busy period near the end of the outage.

The inspector reviewed the safety significance of the event. The risk from boron dilution is higher during refueling since manual control of boron concentration in the refueling cavity is relied upon to maintain shutdown margin . Although the boron concentration was reduced by 24 ppm, a margin of 290 ppm remained above the licensee's administrative limits for refueling.

The failure to follow OP G-5:III was an instance of violation of 10 CFR Part 50, Appendix B, Criterion V, which requires that activities affecting quality be accomplished in accordance with established procedures (50-323/93-16-01).

d. <u>Reactivity Addition Caused by Returning Cation Demineralizer to Service</u>

On May 12, 1993, shortly after Unit 2 had been returned to 100% power operation following the refueling outage, operators placed a CVCS cation bed demineralizer in service. The cation bed

demineralizer had last been in service on January 29, 1993, prior to the refueling outage, and contained relatively diluted reactor coolant (approximately 100 ppm boron), compared to the RCS boron concentration after refueling. When the bed was placed into service, the less concentrated coolant in the demineralizer vessel and associated piping was flushed into the RCS, causing a boron dilution and adding reactivity to the core. The added reactivity was noticed by a control operator as reactor power and primary average temperature began to rise. The control operator inserted control rods 2½ steps and added approximately 20 gallons of boric acid to the RCS to limit the power transient to 0.7%.

The inspector noted the following weaknesses which contributed to the May 12 dilution event:

(1) The operators were not aware of the low boron concentration in the piping of the cation bed demineralizer system or the potential for reactivity addition associated with this lower concentration.

(2) Operating procedure OP B-1A:XIII, "CVCS - Place Cation Bed in Service / Prepare Deborating Demineralizer for Service," Revision 2, did not require a verification of boron concentration in the cation bed demineralizer and piping, to guard against an inadvertent dilution event.

(3) As discussed in the next section, the licensee had not initiated a review or taken corrective actions for the April 5 dilution event.

The inspector reviewed the safety significance of this event. The reactor power ramp rate briefly exceeded the licensee's restriction imposed for new fuel conditioning, and there was the potential that a turbine runback could have been initiated. The licensee determined that exceeding the fuel conditioning restriction did not have adverse consequences, since the magnitude of the power increase was minimal and the basis of the restriction was to limit local power and temperature increases in the fuel pellets. The licensee estimated that, without operator action, the power excursion would have been approximately 3% and might have resulted in a turbine runback. Although this control system is non-safety related, a runback would have imposed an unnecessary transient on the Unit.

Based upon review of this issue, the inspector concluded that the procedure for placing the cation demineralizer in service was not adequate to prevent potential unplanned boron dilution. The procedure did not verify proper boron concentration in the demineralizer (and associated piping) before placing it in service. This was an instance of violation of 10 CFR Part 50, Appendix B, Criterion V, which requires that procedures be appropriate to the circumstances (50-323/93-16-02).

e. Untimely Quality Evaluations

During followup of the April 5, 1993, dilution event, the inspector found that the licensee had not taken corrective actions in accordance with approved procedures. Licensee chemistry personnel initiated an action request (AR A0301928), the lowest level of problem report, on April 6, 1993. However, a quality evaluation (QE), which would have prompted a root cause evaluation and corrective actions to prevent recurrence, was not initiated until after the May 12, 1993 dilution event.

Inter-Departmental Administrative Procedure (IDAP) OM7.ID1, "Problem Identification and Resolution - Action Requests," Revision 0, required that each AR be reviewed to determine whether a QE should be initiated. The procedure established that the Section Director of Operations and the Director of Quality Control (QC) were responsible for assuring that this review was completed. IDAP OM7.ID2, "Quality Evaluations," required that all corrective maintenance and administrative task ARs, to which the Quality Assurance Program is applicable, be reviewed by Quality Assurance/Quality Control within 30 days to determine whether a quality problem exists.

In several instances, the QC organization requested that Operations determine the need for a QE for this AR (A0301928). Operations did not respond to these requests until after the second inadvertent reactivity addition event occurred on May 12, 1993. At that time, Operations management concluded that the change in boron concentration was insignificant. In addition, operations perceived that the demanding schedule of the refueling outage allowed some latitude in not following the established procedure requirements to promptly issue a QE. Therefore, Operations did not perform a critical review of the configuration control process or other contributors to the problem.

During additional review and questioning of licensee personnel, the inspector found that the licensee had failed to perform timely reviews of ARs in several instances. On June 9, 1993, the inspector noted the following:

- Operations had a backlog of five ARs which required review to determine the need for QEs. The age of these ARs ranged from approximately 40 days to 90 days. Three other ARs with outstanding QE determinations were closed soon after the May 26, 1993, exit meeting for NRC Inspection Period 93-12, at which the inspectors identified the untimely QE review related to the April 5, 1993, dilution event.

- Approximately 100 other ARs more than 30 days old, from various departments, still required a QE determination. Of these, about 80 were the responsibility of the Mechanical Maintenance department. On June 16, 1993, the licensee documented (on QE-Q0010742) that 130 ARs from various departments were older than thirty days and had not yet

received a QE determination. Ninety-one of these ARs had statements indicating more time was required for the QE determination. Some of these statements were documented more than 30 days after initiation of the AR. Thirty-nine of these 130 ARs did not have a statement regarding the status of the pending QE determination.

A review of the outstanding action requests identified indicated that the untimeliness of quality evaluations was widespread. The above failures to promptly identify and initiate corrective actions to preclude recurrence were in violation of 10 CFR Part 50, Appendix B, Criterion XVI, which requires that conditions adverse to quality be promptly identified and corrected (50-323/93-16-03).

f. Licensee Corrective Actions

The inspector discussed the findings concerning the untimely quality evaluation review processes and the unplanned boron dilutions with the licensee during an exit meeting (for Inspection Report 93-12) on May 26, 1993. The licensee subsequently initiated the following actions:

(1) A review of the related procedures and an evaluation of the root causes,

(2) A review of past industry information to determine if other situations had occurred wherein the licensee had responded inadequately to industry lessons learned and corrective actions, and

(3) A review of the use of a new mixed bed demineralizer for deboration.

The licensee reported these events to industry representatives on July 15, 1993. In addition, the licensee completed an incident summary, issued on June 15, 1993, which reviewed the lessons learned from the dilution events, and informed the Operations staff of corrective actions which had been implemented. The summary stressed:

(1) The importance of maintaining a questioning attitude, especially during periods of high activity during outages,

(2) The importance of consulting all involved groups in an issue, since the chemistry department had not been contacted regarding the mixed bed demineralizer, and

(3) The importance of documenting intended actions, such as the clearance tag which was intended to be re-hung but was overlooked during the period of high activity in the control room.

The inspector will review the licensee's actions described above

in conjunction with the licensee's response to the Notice of Violation provided with this report.

6. Maintenance (62703)

During the inspection period, the inspectors observed portions of, and reviewed records on, selected maintenance activities to assure compliance with approved procedures, Technical Specifications, and appropriate industry codes and standards. Furthermore, the inspectors verified that maintenance activities were performed by qualified personnel, in accordance with fire protection and housekeeping controls, and that replacement parts were appropriately certified.

The inspectors observed portions of the following maintenance activities:

Description	Dates Performed
Work Order C0115401, Unit 2 ESF Room Temperature Scanner	June 18, 1993
Work Order C0115375, Unit 2 Seal Table Thimble Tube Mock-up Simulated Run, MP M-54.3	June 15 - 18, 1993
Work Order R0100615, ASW pump 1-1 Sample Bearing Oil	June 29, 1993
Work Order C0115591, ASW pump 1-1, Replace Bearing Oil	June 29, 1993
Work Order C0114762, MS-1-PCV-21, Repair Seat Leak-By	July 6, 1993
Work Order C0115439, ASW unit cross-tie, SW-0-FCV-601, Verify and Set Limits as Required	July 6, 1993

No violations or deviations were identified.

7. Surveillance (61726)

The inspectors reviewed a sampling of Technical Specifications (TS) surveillance tests and verified that: (1) a technically adequate procedure existed for performance of the surveillance tests; (2) the surveillance tests had been performed at the frequency specified in the TS and in accordance with the TS surveillance requirements; and (3) test results satisfied acceptance criteria or were properly dispositioned.

The inspectors observed portions of the following surveillance tests on the dates shown:

Procedure	Description	Dates Performed
STP I-1A	Shift Checklist Units 1 and 2	July 1 and 6, 1993
STP P-7B	Auxiliary Saltwater Pumps	June 29, 1993
STP M-26	ASW System Flow Monitoring	June 29, 1993
STP V-2A2	Auxiliary Saltwater Crosstie FCV-601 Verify Remote Position Indication	July 6, 1993
STP V-3F3	Exercising Valve FCV-601, Stroke Time Test	July 6, 1993

No violations or deviations were identified.

8. Observation of Licensed Operator Training (41500)

On June 15, 1993, the inspectors observed licensed operator training in the simulator (Lesson LR931S1). The training addressed shift crew performance as a team during design basis events. Skills exercised and discussed included understanding of plant equipment configurations and accident responses, individual operators' plant knowledge and diagnostics skills, team communications, and team diagnostic skills.

The lesson consisted of a scenario which included a condenser leak, a loss of vital DC, a reactor trip and safety injection, and implementation of the emergency plan. Since this was a team skills exercise as well, the trainers stopped the simulation at appropriate times during the exercise to probe the individual and shift crew understanding of changing plant information, as well as individual knowledge of the plant systems affected by the simulated events. The trainers encouraged teamwork and pointed out instances when conscientious involvement as a team would ensure that plant conditions are quickly and effectively assessed. Trainers appeared to have presented an appropriate level of challenges to operator teamwork and diagnostic skills by this method. Operator actions appeared appropriate and procedures were followed. The inspector also observed the licensee's critique of the simulator exercise, which appeared appropriately probing and critical.

No violations or deviations were identified.

9. Emergency Drill (82701)

On June 16, 1993, the licensee conducted an emergency drill. This drill included simulation of a medical emergency with contamination, a chemical spill, loss of annunciators, implementation of the site emergency plan, loss of offsite power, two seismic events, release of radioactive noble gases, evacuation of the Operations Support Center (OSC), and a natural circulation cooldown by control room operators.

The licensee reviewed the weaknesses identified during the past two drills with the plant emergency response staff, and addressed these weaknesses in the drill scenario where possible, so plant staff response could be monitored to determine if the weakness had been corrected.

During the drill, control room operators (in the simulator) appeared to conduct appropriate notifications and implementation of the emergency plan. Onsite personnel were notified of the plant status in timely announcements. Control room operators conducted a natural circulation cooldown of the plant. The scenario was run live on the simulator, a change from taped scenarios used in the past, which the NRC noted had limited the control room staff's participation in the exercise. This past weakness appeared to have been corrected.

The inspector observed emergency response activities in the OSC, relocation of OSC staff to an alternate location, and emergency response in the Technical Support Center (TSC). The OSC appeared to appropriately brief and track work teams. Congestion and noise were minimized. The relocation, brought on by loss of phone communications, was quick and without complication. Appropriate verification of habitability at the alternate location was performed before relocation. Procedures EP EF-2, "Activation and Operation of the Operational Support Center", and EP EF-9, "Activation of Back-up Emergency Response Facilities," were available and were followed.

The TSC appeared to function well, providing appropriate technical support to the control room and offsite monitoring. Analysis of plant conditions and trends appeared timely and appropriate. Emergency response organization management personnel in the TSC were appropriately involved in assessing plant conditions and in provided good direction of the TSC resources to support the control room and offsite monitoring.

For the areas observed by the inspector, the licensee appeared to have planned and performed the drill exercise, giving appropriate challenges to the plant staff, and demonstrating the emergency response organization's capability. The relocation of the OSC demonstrated the licensee's ability to relocate an emergency response facility.

No violations or deviations were identified.

10. NSOC Meeting (40500)

The inspector attended a meeting of the Nuclear Safety Oversight Committee (NSOC) on July 2, 1993. NSOC is the highest-level independent quality group comprised of plant management. Some of the issues

discussed by the members of NSOC concerned the objectives of the new Nuclear Quality Assurance group, monitoring of the performance and quality of plant organizations as reorganization and cost reductions are implemented, non-conformance reports, significant industry events, specific plant issues which had occurred since the meeting about two months previous, personnel safety, the diversity of the ATWAS mitigation system and the Eagle 21 reactor protection system replacement, and the recent boron dilution events.

The subjects of discussion appeared appropriate. Members of the NSOC who were not part of the licensee's organization activity participated in questioning and discussion of issues. Recommendations by the group members were adopted or resolved during the meeting.

No violations or deviations were identified.

11. Exit Meeting

An exit meeting was conducted on July 1, 1993, with the licensee representatives identified in Paragraph 1. The inspectors summarized the scope and findings of the inspection as described in this report. The only information that the licensee identified as proprietary was a technical and financial summary provided to the inspector to support their review of the diversity issue associated with the Eagle 21 replacement for the reactor protection system discussed in Paragragh 10. This information will be returned after review.