

PRIORITY 2

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SUBJECT: Responds to NRC 941216 ltr re violations noted in insp rept
 50-275/94-29 & 50-323/94-29. Corrective actions: controls
 training module & instrumentation revised, operations
 incident summary issued & surveillance procedures revised.

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January 17, 1995

PG&E Letter DCL-95-008



U.S. Nuclear Regulatory Commission
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Docket No. 50-323, OL-DPR-82
Diablo Canyon Unit 2
Reply to Notice of Violation Contained in Inspection Report 94-29

Gentlemen:

NRC Inspection Report Nos. 50-275/94-29 and 50-323/94-29, dated December 16, 1994, included three Severity Level IV violations regarding inoperable accumulator pressure instrumentation channels during mode transitions, failure to follow procedures regarding an equipment clearance, and inadequate procedural guidance regarding initial test conditions and timely problem review prior to plant startup. PG&E's response to the violations is enclosed.

The cover letter transmitting NRC Inspection Report Nos. 50-275/94-29 and 50-323/94-29 discussed a concern that PG&E controls regarding equipment configuration management were ineffective to prevent restart of Unit 2 with three accumulators inoperable. PG&E recognizes that exhibiting a questioning attitude is fundamental in maintaining excellence in its operation of Diablo Canyon. Maintaining an awareness of plant configuration and sustaining an appropriate questioning attitude require constant diligence by all Diablo Canyon management, operating, and maintenance personnel. PG&E recognizes that management performance expectations regarding procedural adherence and attention to detail were not met regarding the inoperable accumulators. PG&E is continuing to pursue these concerns and is taking actions regarding this concern as described in the enclosure.

Sincerely,

A handwritten signature in dark ink, appearing to read "Greg Rueger", written over the name Gregory M. Rueger.

Gregory M. Rueger

Enclosure

cc: Edward T. Baker
L. J. Callan
Kenneth E. Perkins
Michael D. Tschiltz
Diablo Distribution

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ENCLOSURE 1

**REPLY TO NOTICE OF VIOLATION IN
NRC INSPECTION REPORT NOS. 50-275/94-29 AND 50-323/94-29**

On December 16, 1994, as part of NRC Inspection Report Nos. 50-275/94-29 and 50-323/94-29, NRC Region IV issued three Severity Level IV violations regarding inoperable accumulator pressure instrumentation channels during mode transitions, failure to follow procedures regarding the equipment clearance, and inadequate procedural guidance regarding initial test conditions and timely problem review prior to plant startup.

PG&E's response to the Notice of Violation is provided below:

DESCRIPTION OF VIOLATION A

Diablo Canyon Technical Specification 3.0.4 states, in part, that entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Conditions for Operations are not met, and the associated ACTION requires a Shutdown if they are not met within a specified time interval

Diablo Canyon Technical Specification 3.5.1 requires, in part, that each reactor coolant system accumulator shall be OPERABLE with a nitrogen cover pressure of between 595.5 psig and 647.5 psig. This requirement is applicable in MODES 1, 2, and 3, above 1000 psig pressurizer pressure.

Contrary to the above, Unit 2 entered MODE 3 at greater than 1000 psig pressurizer pressure on October 24, MODE 2 on October 26, and MODE 1 on October 28, 1994, with Accumulators 2-2, 2-3, and 2-4 inoperable with pressures below 595.5 psig.

This is a Severity Level IV violation (Supplement 1).

REASON FOR THE VIOLATION

PG&E agrees with the violation as stated in the Inspection Report.

During the Unit 2 sixth refueling outage (2R6), a plant clearance was issued to deenergize electrical power to the main annunciator system to allow replacement with an upgraded system. The clearance specified that the process loop be deenergized by removing fuses in the output circuits of devices providing input to the annunciator system. A licensed plant operator and non-licensed instrumentation and controls technician were concurrently implementing the clearance and incorrectly decided to

remove the channel comparator internal power supply fuse rather than the two output fuses. While this action provided the same level of personnel protection as removing the two output fuses, this was contrary to the requirements of the clearance. They also incorrectly concluded that since the fuses were not uniquely identified with plant equipment tags, a clearance change was not required.

The clearance change resulted in a decrease of the effective input impedance at the alarm module test connection. The change in impedance due to removal of the input power fuse was not known by the personnel involved with the preparation and/or implementation of the equipment clearance. While the clearance was in effect, transmitter calibrations were performed on six of the eight accumulator pressure channels. The remaining two channels had been successfully tested, without adjustment, prior to implementation of the clearance.

Instrument and controls technicians investigated the accuracy of the calibration process, verified the test equipment, and used a different test method to validate the results. Based on the results of this investigation, PG&E incorrectly concluded that the transmitter calibration results were correct. With no apparent problems identified, the technicians adjusted the pressure transmitters to achieve what was thought to be correct "as left" test results, inadvertently resulting in an out of tolerance (OOT) of approximately four percent. PG&E management was aware of and agreed with the technical basis for determining the accumulator pressure channels operable.

Since the "as left" transmitter calibrations were thought to be correct, PG&E initially concluded that the transmitters had been OOT during the previous operating cycle. A formal review of plant surveillance test results reported OOT for performance monitoring equipment (PME) is required to be performed within 30 days in accordance with plant procedures. The STP coordinator who conducted the review initially noted the OOT was present during the last fuel cycle, while the plant was in Mode 3 above 1000 psig. PG&E initiated an investigation to determine how and when the channels had become OOT. Although management believed that the channels were operable based on the investigation described above, as a conservative measure to provide further assurance of equipment operability, PG&E management authorized a containment entry during plant startup to perform a single point calibration check of the accumulator pressure channels. Due to a containment access problem, the containment entry was delayed and plant restart continued from Mode 3 to Modes 2 and 1 based upon management belief the transmitters were calibrated properly. Upon attaining stable plant operation, instead of the single point calibration check requiring containment entry, plant operators performed a controlled accumulator pressure crosstie test that confirmed the pressure channels were actually OOT by the four percent error introduced during the 2R6 transmitter calibration.

Plant operators immediately declared the accumulator pressure indication and alarm channels inoperable, and they raised the pressure approximately four percent to assure

functional capability of the accumulators. The transmitters were then recalibrated correctly by instrumentation and controls personnel.

In summary, PG&E concludes the causes of these events were (1) improper implementation of equipment clearances, (2) inadequate verification of equipment clearances, (3) inadequate procedures for surveillance testing, and (4) lack of prompt corrective actions for nonconforming conditions.

PG&E recognizes that there were missed opportunities that could have prevented the accumulator underpressure condition.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

PG&E has revised the instrumentation and controls training module (IPS103, "Electronic Instrumentation") to include the impedance change effects due to input power fuse removal. This training module is provided to utility I&C personnel as a routine part of the maintenance technician training accreditation program.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. PG&E will provide a summary of this event in the I&C quarterly training seminar. This training is conducted quarterly for utility I&C personnel. This training will assure that I&C personnel are knowledgeable of the input impedance characteristics of these alarm modules.
2. PG&E instrumentation and controls will issue a policy statement emphasizing that instrument channels found with excessive OOT are to be thoroughly investigated and resolved prior to recalibration. The I&C policy statements are routinely reviewed by I&C personnel and outage personnel prior to refueling outages. This policy will reemphasize that I&C personnel need to maintain a questioning attitude regarding any unusual test result and the need to identify the root cause and corrective actions for any abnormal condition.
3. PG&E will review and revise administrative procedures to require a more timely review of excessive OOT conditions to provide further assurance of equipment performance. This will assure that OOT conditions are appropriately resolved prior to mode transition.
4. PG&E management will review and revise as necessary outage policies, procedures and practices to assure that shorter refueling outage durations do not adversely affect control of plant systems and equipment.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The corrective actions described above will be completed prior to the next refueling outage.

DESCRIPTION OF VIOLATION B

Diablo Canyon Technical Specification 6.8.1 states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978.

Appendix A of Regulatory Guide 1.33, Revision 2, recommends procedures covering equipment control.

1. *Procedure OP2.ID1, Revision 1, "DCPP Clearance Process," Step 5.9, states, in part, that changes to active clearances shall receive the same review as the initial clearance and that Shift Foreman approval shall be documented on the Notes Page of the Master Clearance.*

Contrary to the above, on September 25, 1994, Clearance 45351 was hung contrary to the instructions of the clearance without obtaining the required prior review and approval

2. *Procedure OP1.DC2, "Verification of Operating Activities," describes in Section 4.4.4, the requirement for proper verification of the removal and installation of fuses. This section states, in part, that the position of circuit breakers, fuses, and switches shall be verified by observation of the device requiring independent verification, and specifically states that fuses shall be verified to be properly installed or removed.*

Contrary to the above, on September 25, 1994, safety injection accumulator pressure instrument fuses were not independently verified as having been removed as required by Clearance 45351.

This is a Severity Level IV violation (Supplement 1).

REASON FOR THE VIOLATION

PG&E agrees with the violation as stated in the Inspection Report

The clearances for the accumulator alarm modules stated, in part, "remove fuses for PC-96xA and B." A licensed plant operator and a non-licensed instrumentation and



controls technician implementing the clearance concurrently, incorrectly decided to remove the channel comparator internal power supply fuse rather than the two output fuses by removing a single (input) power fuse. They also incorrectly concluded that since the fuses were not uniquely identified with plant equipment tags, a clearance change was not required.

PG&E acknowledges that the change should have been documented as a formal clearance change and should have received additional shift foreman review and approval prior to implementation and that an inadequate independent verification was performed.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

PG&E has issued an operations incident summary stressing the procedural requirement to obtain prior shift foreman review and approval if a clearance can not be implemented specifically as written. This summary will be discussed with the operating crews to ensure clear understanding of management expectations regarding procedural adherence.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. PG&E will provide a detailed incident summary for training of plant maintenance personnel and operations personnel. This training will emphasize the procedural requirement to obtain prior shift foreman review and approval if a clearance can not be implemented specifically as written and emphasizing management expectations regarding procedural adherence.
2. PG&E will revise OP1.DC2, "Verification of Operating Activities," to include procedural precautions to further emphasize the need to obtain additional review and approval if a plant activity can not be implemented specifically as written.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The incident summary training and OP1.DC2 revision will be completed prior to the next refueling outage.

DESCRIPTION OF VIOLATION C

10 CFR Part 50, Appendix B, Criterion V, states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances

Contrary to the above, as of October 24, 1994:

1. *Procedure OM7.ID1, "Problem Identification and Resolution - Action Requests," which describes the requirements for the conduct of reviews to disposition Action Requests, was inadequate in that Section 4.5.1 required only that Action Requests be reviewed within 30 days of issuance and did not provide appropriate instructions to ensure timely review of Action Requests to support plant restart following outages of short duration. As a result, six Action Requests which impacted the operability of safety injection accumulators were not reviewed prior to MODE changes which required operable accumulators.*
2. *Surveillance test procedures (STP I-9-P960.B through I-9-P967.B), for calibration of the accumulator pressure instruments, were inappropriate to the circumstances in that they did not specify adequate initial test condition requirements to ensure that the pressure instrument calibration was not adversely impacted by other maintenance activities.*

This is a Severity Level IV violation (Supplement 1).

REASON FOR THE VIOLATION

PG&E agrees with the violation as stated in the Inspection Report.

The accumulator pressure transmitter calibration procedures did not specify initial test condition requirements regarding other maintenance activities prior to calibration. PG&E agrees that plant procedures do not specifically require verification of channel status prior to transmitter calibration. PG&E further acknowledges that the root cause of this event was personnel error by utility personnel involved with the accumulator transmitter calibrations and annunciator replacement, in that they did not have immediate knowledge of the change in the alarm module input impedance due to the removal of the electrical (input) power.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

During two recent unit forced outages, PG&E specifically reviewed and ensured that no OOT conditions existed prior to plant restart.



CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. As discussed in the response to Violation A, an I&C policy statement will be issued emphasizing that instrument channels found with excessive OOT are to be thoroughly investigated and resolved prior to recalibration. The I&C policy statements are routinely reviewed by I&C personnel and outage personnel prior to refueling outages. This policy will reemphasize that I&C personnel need to maintain a questioning attitude regarding any unusual test result and the need to identify the root cause and corrective actions for any abnormal condition.
2. Procedural guidance will be revised to assure a thorough review of excessive OOT conditions is performed prior to mode transition.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The I&C policy statement will be issued and administrative procedures review and revision will be completed prior to next refueling outage.

