UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM RELIEF REQUEST

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON UNIT 2

DOCKET NO. 50-323

1.0 INTRODUCTION

1.1 Enforcement Discretion

On June 24, 1994, the NRC verbally granted enforcement discretion to not enforce compliance with Technical Specification 4.0.3 regarding cold shutdown full-stroke testing of residual heat removal (RHR) check valves 8730A, 8730B, 8742A, and 8742B. This enforcement discretion was for the period it takes the NRC to process a temporary relief request. We based this decision on information Pacific Gas and Electric Company (PG&E) provided over the phone and later documented in a June 25, 1994, letter requesting enforcement discretion. Our June 28, 1994, letter confirmed our verbal granting of enforcement discretion.

1.2 Temporary Relief Request

Section 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR) requires that inservice testing (IST) of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code (the Code) and applicable Code addenda. However, the licensee may request alternatives to the requirements of the regulation pursuant to 10 CFR 50.55a(a)(3)(i) and (a)(3)(ii). The Commission may grant relief under 10 CFR 50.55a(f)(4)(iv) upon making the necessary findings. The Commission may also approve the use of later editions, or portions of later editions, of the ASME Code pursuant to 10 CFR 50.55a(f)(4)(iv).

In proposing alternatives or requesting relief, the licensee must demonstrate that (1) the proposed alternatives provide an acceptable level of quality and safety, (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, or (3) conformance is impractical for its facility. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which are acceptable to the staff without further NRC review. Implementation of the GL 89-04 positions is subject to inspection.

A second June 25, 1994, letter from P&GE requested temporary relief from Section XI of the ASME Code. This safety evaluation contains the NRC's findings to approve the licensee's requested relief.

2.0 TEMPORARY RELIEF REQUEST EVALUATION

PG&E requested one-time, temporary relief from full-stroke exercising certain RHR Code Class 2 check valves in accordance with IWV-3522 of Section XI of the ASME Code. The requested relief is for an interim period to expire at the next Unit 2 cold shutdown outage. The valves are as follows:

8730A	RHR pump 1 discharge check valve
8730B	RHR pump 2 discharge check valve
8742A	RHR heat exchanger 1 discharge check valve
8742B	RHR heat exchanger 2 discharge check valve

The safety function of these check valves in the open position is to pass RHR flow to the reactor coolant system. In addition, valves 8742A and 8742B have a safety function in the closed position to prevent reverse flow through the opposite idle RHR train and to prevent RHR pump-to-pump interaction.

2.1 Licensee's Relief Request Bases

In its June 25, 1994, IST program temporary relief request letter, PG&E indicated:

> "One-time temporary relief is requested from the code required cold shutdown full-stroke test requirement for check valves 8730A&B and 8742A&B until full-stroke tests can be performed during the next Unit 2 cold shutdown. Full-stroke exercising of these RHR check valves can and will be performed on all future Unit 2 cold shutdowns. The requested temporary relief is supported by a safety evaluation, an evaluation of the safety significance and potential consequences of the proposed course of action, and an evaluation of the potential impact on the public health and safety and the environment in the associated Request for Enforcement Discretion (PG&E Letter DCL-94-137, dated June 25, 1994)."

The licensee's June 25, 1994, letter requesting enforcement discretion included more information.

On April 1, 1994, one of PG&E's quality organizations, reviewing the IST procedure for the subject valves, determined that the test data taken were inadequate to verify the required 2200 gallons per minute (gpm) (8328 liters per minute) flow through check valves 8742A and 8742B. This was because the positions of certain key valves which could have diverted flow were not documented. Subsequently, PG&E personnel determined that the 2200 gpm (8328 liters per minute) flow requirement specified in the test procedure was not consistent with GL 89-04 guidance for full-flow check valve testing. The

utility could not perform a full-stroke test of check valves 8730A, 8730B, 8742A, and 8742B during power operation of the plant and so could not meet the guidance of GL 89-04. The 3976 gpm (15,051 liters per minute) acceptance criteria for RHR system IST performed during refueling outages is adequate to verify valve full stroke using the accident flow rate. The most recent test at the higher flow was performed April 12, 1993, during the last refueling outage. Also, during a forced cold shutdown on March 28, 1994, each of the valves was at least partial-stroke exercised as both trains of RHR were used for shutdown cooling. Valves 8730A and 8730B are partial-stroke exercised during quarterly RHR pump testing, which also verifies the closing capability of valves 8742A and 8742B. A review of industry operating experience for the these check valve models did not turn up evidence that these valve types are unreliable. The stainless steel material reduces the likelihood of valve internals corrosion and of corrosion product intrusion into the moving elements of the valve internals.

2.2 Alternative Testing

The licensee proposes no alternative valve testing for the interim period until the next Unit 2 cold shutdown. The current condition of the valves, as evidenced by the testing performed during the April 1993 refueling outage and by the partial-stroke exercising performed quarterly or during cold shutdown outages, provides a basis for deferral of the full-stroke exercise to the next cold shutdown.

2.3 Evaluation

The licensee cannot perform testing with flow sufficient to meet the design accident flow rate with the plant in power operation (Modes 1 through 4). It would be an undue burden to require a forced shutdown of the plant solely to perform a full (accident) flow test of these valves. The testing performed at the last refueling outage, with additional partial-stroke exercising quarterly or during cold shutdown outages, would meet the requirements of the 1989 Edition of Section XI of the ASME Code and provide a level of assurance that has been found acceptable to the ASME Code committees and the NRC. In a final rulemaking effective September 8, 1992, the staff approved the 1989 Edition of Section XI of the ASME Code; this edition references OMa-1988 Part 10 as alternative rules for valve IST. The rulemaking was published in the Federal Register, Volume 57, No. 152, Thursday, August 6, 1992. Paragraph 50.55a(f)(4)(iv) of 10 CFR provides that valve inservice tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed, and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. ASME Operation and Maintenance of Nuclear Power Plants (O&M) Code OM-10 Paragraphs 4.3.2 and 6.2(d) show the related requirements for testing check valves. Paragraph 4.3.2 allows full-stroke exercising that is not practicable during power operation or cold shutdown to be deferred to refueling outages. Paragraph 6.2(d) requires the licensee to document the justification for deferral of check valve exercising in the inservice test plan. The licensee's proposed alternative essentially

meets OM-10 Paragraph 4.3.2. Submitting this relief request meets the OM-10 paragraph 6.2(d) documentation requirements.

2.4 Conclusion

The staff finds the licensee's interim relief request to be acceptable. This is based on the finding that the proposed alternative to test the subject valves during the next cold shutdown meets OM-10 paragraphs 4.3.2 and 6.2(d) and the related portions of the later Code requirements incorporated by reference in 10 CFR 50.55a(b). Therefore, the temporary relief alternative for an interim period until the next cold shutdown is authorized pursuant to 10 CFR 50.55a(f)(4)(iv). The interim period expires at the next Unit 2 cold shutdown. The next scheduled shutdown, which would result in the longest interim time period, is the sixth refueling outage planned to begin in September 1994.

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