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SUBJECT: Provides update re long-term actions intended to be implemented to resolve issue of containment penetration & piping segment overpressurization in response to GL 96-06.

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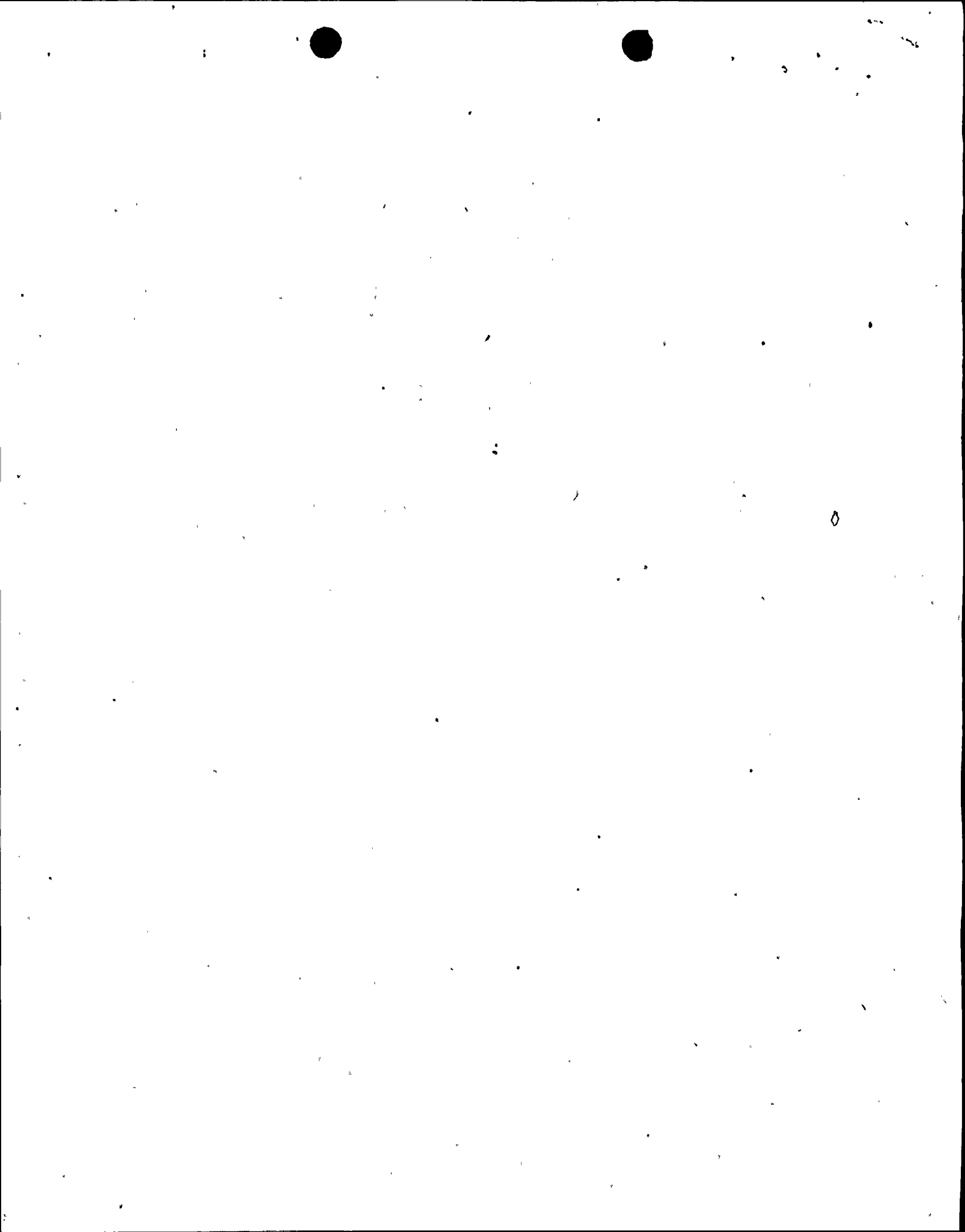
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July 28, 1997

PG&E Letter DCL-97-130



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Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Update to Response to Generic Letter 96-06 for Long-Term Actions

Dear Commissioners and Staff:

This letter provides an update regarding the long-term actions PG&E intends to implement to fully resolve the issue of containment penetration and piping segment overpressurization as discussed in NRC Generic Letter (GL) 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions."

In PG&E's 120-day response to GL 96-06 (PG&E Letter DCL-97-012, dated January 28, 1997), PG&E noted that issues related to water hammer or two-phase flow had been resolved such that no further actions related to these issues were required. Also, PG&E noted that, while all systems and containment penetrations were considered operable, there were 15 piping segments per unit that were susceptible to overpressurization. These piping segments were being evaluated for long-term resolution. PG&E provided further information regarding resolution of piping segment pressurization in PG&E Letter DCL-97-046, dated March 17, 1997; for completeness, some information from that letter is repeated below.

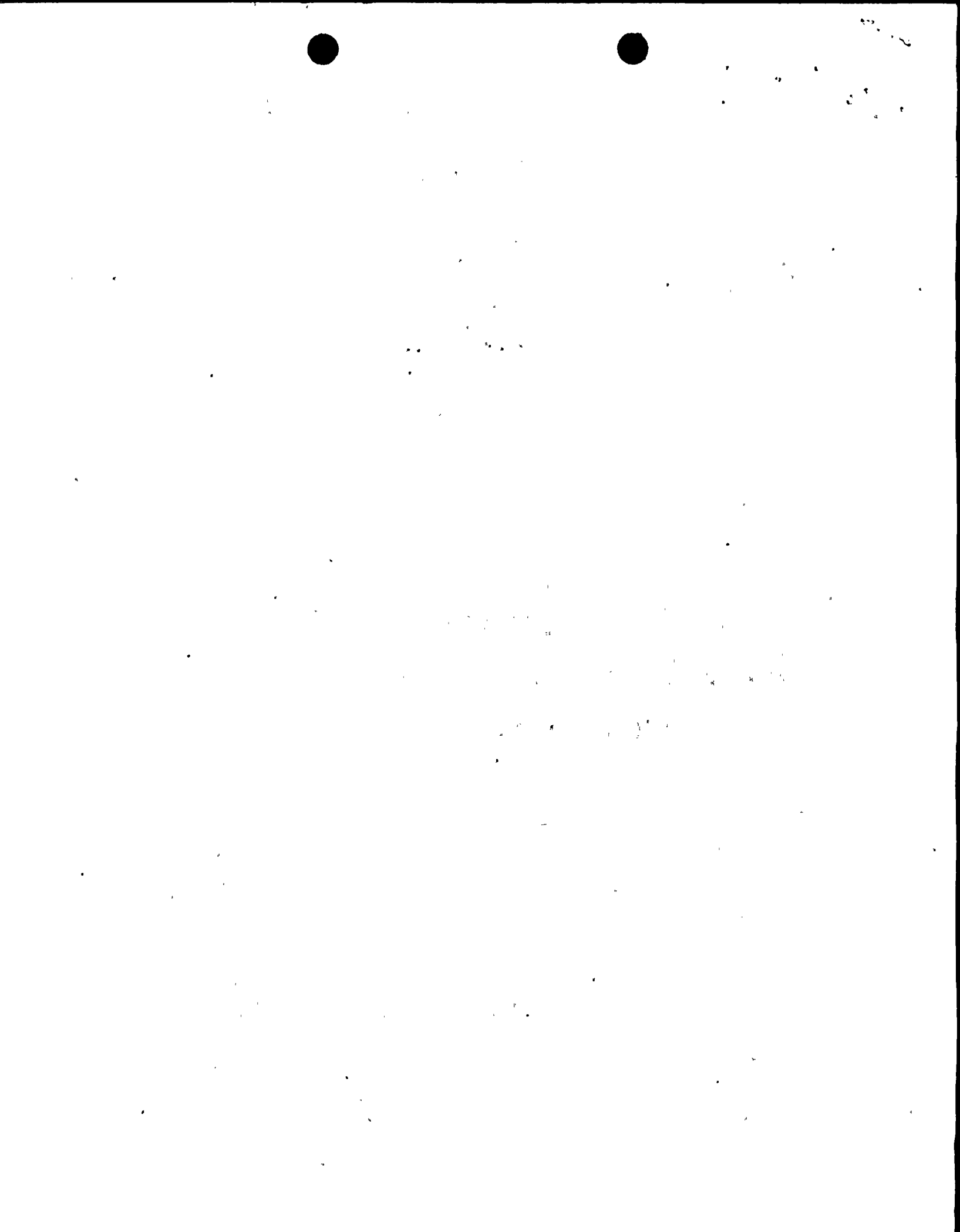
At present, all containment penetrations and piping segments are considered operable. Of the 15 piping segments susceptible to overpressurization, 13 segments do not require any physical modification:

- One piping segment meets ANSI B-31.1 allowable pressure values.
- Eight piping segments have valves whose design prevents overpressurization (one air-operated diaphragm valve, one solenoid valve, and six air-operated globe valves).

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For the air operated globe valves, PG&E performed a bench test on a representative globe valve from the warehouse. The prototype test demonstrated that all 3/8-, 3/4- and 1-inch installed globe valves could be credited to relieve pressure prior to their piping segment pressure stresses exceeding ANSI B-31.1 allowable design values and, therefore, these segments do not need physical modification. PG&E previously noted that the affected valves were either 3/8- or 3/4-inch globe valves; this conclusion was based on a review that determined valve type and the affected lines were either 3/8- or 3/4-inch in size. Subsequently it has been determined that there are several 1-inch, air-operated globe valves installed in some of the 3/4-inch lines. Thus, PG&E has 3/8-, 3/4-, and 1-inch air-operated globe valves.

- Four piping segments per unit can be drained to prevent overpressurization (and thereafter maintained drained as appropriate). The Unit 1 segments were drained during the recent Unit 1 eighth refueling outage (1R8). The Unit 2 segments will be drained no later than the Unit 2 eighth refueling outage (2R8 - currently scheduled to begin February 1998).

Two of the 15 piping segments will require physical modification:

- For the two piping segments per unit that are isolated by ball valves, PG&E intends to install balls with drilled holes for Unit 2 during 2R8 and for Unit 1 during 1R9 (currently scheduled to begin January 1999).

The ball valve has a hollow ball that rotates between two valve seats. When the valve sees pressure, the ball is pushed into the valve away from the first valve seat and forms a tight seal against the second valve seat. PG&E intends to drill a small hole through the ball to allow for unidirectional pressure relief (one side of the hole sees the environment inside the pipe while the other side of the hole sees the inside of the valve body).

In a bench test performed on a representative valve, the prototype ball valve was pressurized on the side with the drilled hole to represent inside containment, and then on the side away from the drilled hole to represent the space between the containment isolation valves. The test demonstrated that the valve was leak-tight when tested from the side with the hole (ball is pushed in, fluid gets into the body of the valve, but it cannot get out because the ball forms a tight seal against the second valve seat where there is no hole) at all pressures from zero up to the point where there was leakage out of the body junctions with the end pieces of the valve (approximately 420 psi). The test also demonstrated that, when pressurized on the side away from the drilled hole (ball is pushed in, fluid gets inside the valve body, and even though the ball forms a tight seal against the second valve



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surface, fluid goes through the hole), the valve would start to relieve pressure at approximately 75 psig. Therefore, this prototype test demonstrated that the ball valves with a small drilled hole could be credited to relieve pressure prior to their piping segments exceeding allowable design values. The ball with the hole will be installed in the inside containment isolation valve with the hole facing inside the containment. In this way, the valve allows leakage into the containment, avoiding containment penetration overpressurization, but does not allow leakage to outside containment.

Summary


In summary, the 15 containment penetrations and piping segments per unit that are susceptible to overpressurization are considered operable. Thirteen of the piping segments do not require any physical modification other than draining four Unit 2 piping segments during 2R8. The two segments per unit with ball valves will be modified during refueling outages 2R8 and 1R9, scheduled to begin in February 1998 and January 1999, respectively.

Sincerely,



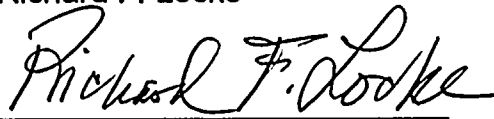
Lawrence F. Womack

Subscribed and sworn to before me
this 28th day of July 1997
State of California
County of San Francisco



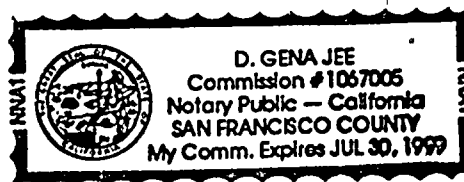
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