



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

January 11, 1999

Rob *David Powers*

MEMORANDUM TO: Arthur T. Howell, Director
Division of Reactor Safety
Region IV

FROM: William H. Bateman, Director *C. Poling Jan*
Project Directorate IV-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

SUBJECT: DIABLO CANYON, UNITS 1 AND 2 - RESPONSE TO 98TIA007,
SINGLE FAILURE VULNERABILITY OF AUXILIARY SALTWATER
SYSTEM AT DIABLO CANYON (TAC NOS. MA3787 AND MA3788)

By memorandum dated September 29, 1998, Region IV requested technical assistance to determine whether the potential for debris intrusion and subsequent common-cause failure of the auxiliary saltwater (ASW) system at Diablo Canyon merits regulatory action. The Region requested that NRR determine:

- a. whether a backfit for the ASW system at Diablo Canyon is warranted to address the potential for debris intrusion and common-cause failure;
- b. whether the licensee is obligated under its general commitment to Generic Letter (GL) 89-13 to flow test the demusseling line, which can provide an alternate suction flow path for the ASW system; and
- c. whether a backfit is warranted to require flow testing of the demusseling line to assure its availability in the event that the normal ASW suction flow path becomes clogged by debris (if the provisions of GL 89-13 are not applicable).

Based on our understanding of the ASW system as described in the Updated Final Safety Analysis Report (UFSAR) for the Diablo Canyon units, as discussed in the staff's licensing SER, and as described in the September 29 memorandum from Region IV, we do not feel that a plant-specific backfit of the ASW system or of the demusseling line (as discussed in a and c, above), is justified to address debris intrusion concerns. Our conclusion in this regard is based on the following considerations:

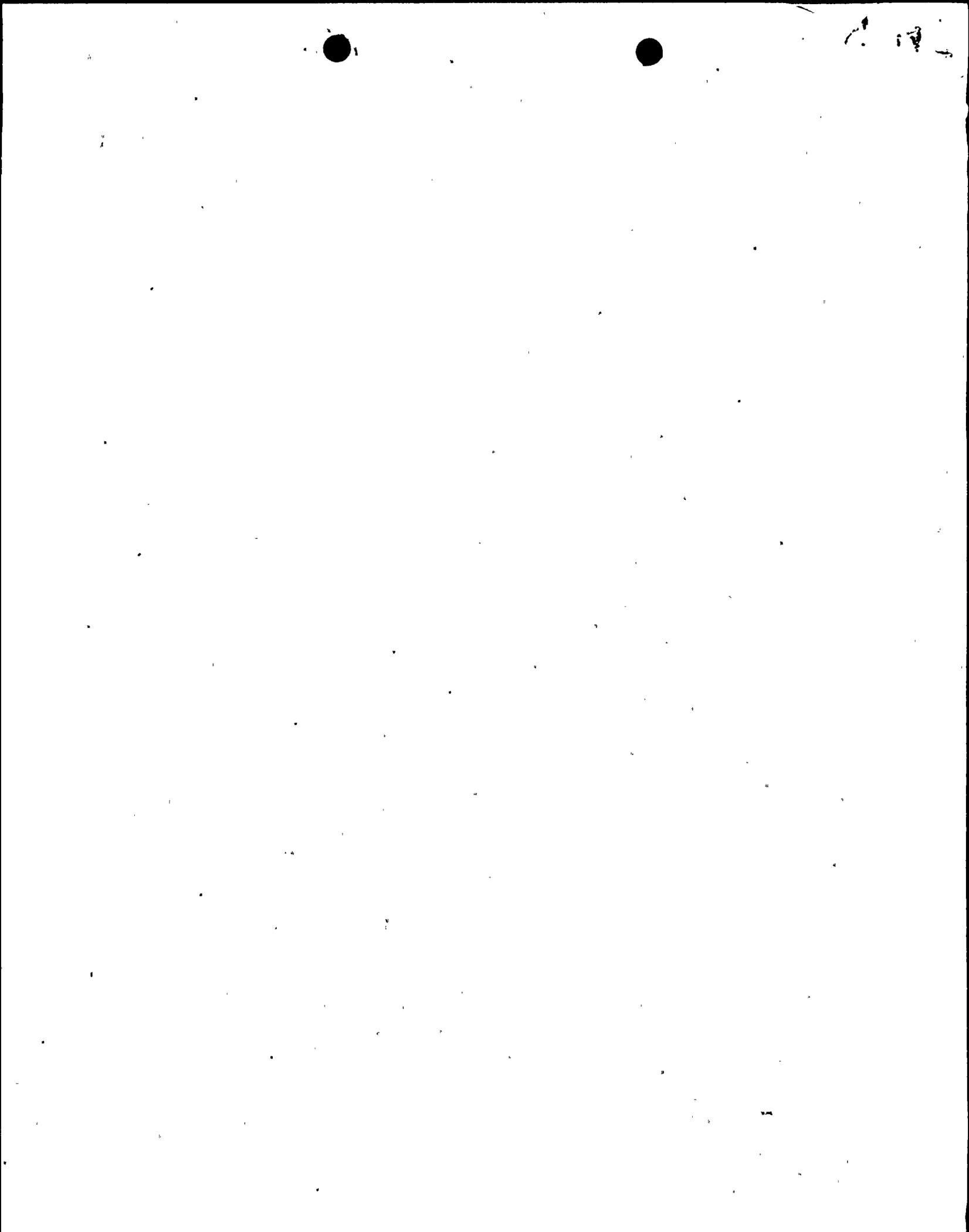
- The two Diablo Canyon units collectively have about 25 reactor-years of operating experience, and debris intrusion has not proved to be a problem for operation of the ASW system. While plugging and failure of the Diablo Canyon circulating water system traveling screens has been experienced, failure of the ASW system traveling screens has not occurred. This is a significant observation, and indicates that the ASW system

1/0

DFol

050034

9904050258 990111
PDR ADOCK 05000275
P PDR



traveling screens have remained functional during periods of heavy debris intrusion. Obviously, there are differences that exist between the circulating water system and the ASW system that make the ASW system less vulnerable to debris intrusion events. One major difference has to do with system flow requirements: The ASW system requires much less flow than the circulating water system, which results in a lower rate of debris buildup on the ASW system traveling screens and allows more time for operator action during periods of debris intrusion. Also, the lower flow demand of the ASW system allows for more blockage of the traveling screens before ASW flow becomes impeded.

- In the event that flow blockage of the ASW system traveling screens does occur, water can be obtained either from the ASW system of the other unit (if the other unit is not affected) through a system cross-connect arrangement, or water can be obtained from the circulating water system suction bay through a demusseling line. Although the demusseling line is non-safety related, the isolation valves are exercised periodically, and the licensee has recently confirmed that the line is free of obstruction. Therefore, the demusseling line is considered to be a reliable alternate source of water for mitigating debris intrusion.
- The ASW system traveling screens are instrumented for differential pressure indication and annunciation, and procedures are in place that instruct the reactor operators on actions to be taken should the ASW system traveling screens become clogged.
- From a deterministic perspective, a loss-of-coolant accident, coincident with a loss-of-offsite-power (LOOP), coincident with debris intrusion, is "beyond design basis" and for the general case, this is considered to be a very low probability event.
- Licensees have been asked to identify and address significant plant-specific vulnerabilities through the IPE and IPEEE initiatives, and the licensee has not reported debris intrusion to be a risk-significant concern as a result of these initiatives.

We also do not feel that it is necessary for the licensee to perform flow testing of the demusseling line in order to demonstrate the capability of this alternate flow path (discussed in item b, above). The licensee currently exercises the demusseling line isolation valves on a periodic basis, and has recently confirmed that the flow path is free of obstructions. For this particular situation, the flow rate through the demusseling line can be readily calculated, and

622

Arthur T. Howell

- 3 -

January 11, 1999

there really is no need for flow testing. Because the demusseling line is non-safety related and it represents additional capability beyond what was required by the staff during plant licensing, regulatory action beyond what is required by the IPE and IPEEE initiatives is not warranted.

Docket Nos. 50-275
and 50-323

cc: W. Lanning, Region I
B. Mallett, Region II
J. Grobe, Region III



10-1-1