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| TO: Mr. O. Parr | ORIG 1 signed | CC | OTHER | SENT NRC PDR XX<br>SENT LOCAL PDR XXX | | |
| CLASS | UNCLASS XXX | PROP INFO | INPUT | NO CYS REC'D 1 | DOCKET NO: 50-275/323 | |

DESCRIPTION: Ltr re our 8-7-75 ltr....furn info on postulated beaks in "non seismic"piping systems....

ENCLOSURES:

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ACKNOWLEDGED

PLANT NAME: Diablo Canyon 1 & 2

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January 14, 1976



Mr. Olan D. Parr, Chief
Light Water Reactors
Project Branch 1-3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Dockets 50-275-OL
50-323-OL
Diablo Canyon Site
Units 1 and 2

Dear Mr. Parr:

Item 3.53 (5) of the request for additional information transmitted with your letter dated August 7, 1975 asked that we discuss further the effect on the auxiliary feedwater system of postulated breaks in "non-seismic" piping systems, as described in the report entitled, "Jet Effects Analysis of Postulated Pipe Break Outside Containment at Diablo Canyon Unit 1", dated April 15, 1975. We believe that the discussion contained in this letter should respond to the Regulatory Staff's request.

The "non-seismic" piping systems which are referred to in the request are auxiliary steam lines which are routed through the space occupied by the auxiliary feedwater pumps. These auxiliary steam lines supply steam to non-safety related equipment which is not located in the auxiliary feedwater pump compartment. As shown in Chapter 3 of the Diablo Canyon Final Safety Analysis Report, these lines are classified Design Class II and were designed, erected, and tested in accordance with the requirements of ANSI B31.1 (1967). The design criteria for these lines did not include the requirement that the lines remain functional following Double Design Earthquake (DDE) loadings.

We have evaluated the requirements for auxiliary feedwater system operability in the event of postulated breaks in the auxiliary steam lines in question. The results of this evaluation are as follows:

1. A postulated break in an auxiliary steam line in the auxiliary feedwater pump compartment would not automatically initiate a turbine or reactor trip and would not require immediate action to shut down the unit. Upon detection

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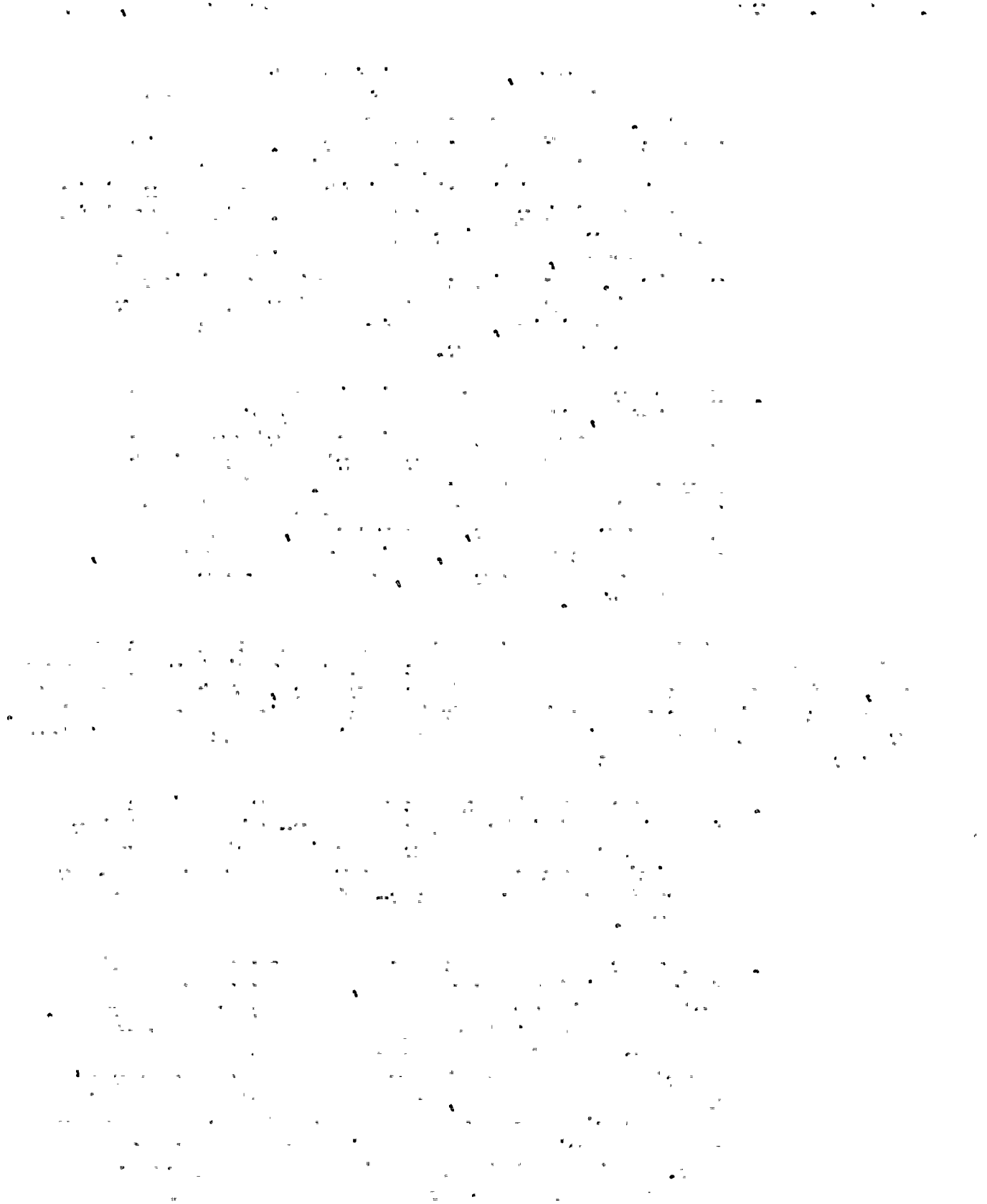
of such a break, the auxiliary steam lines could be isolated by closing manual isolation valves. Access to these valves would not be affected by the postulated break. The unit could continue to operate subject to the Technical Specification limits on the operability of the auxiliary feedwater pumps. If operability of all three auxiliary feedwater pumps can be demonstrated, shutdown of the unit would not be required. Even if the postulated auxiliary steam line break affects auxiliary feedwater pump operability, the unit can be shut down in an orderly manner.

2. In order to place the unit in the cold shutdown condition, it is necessary to provide makeup to the secondary system until the primary system is cooled down and depressurized sufficiently for the RHR system to be used. This can be accomplished using any one of the auxiliary feedwater pumps or, alternately, by the condensate and feedwater system, using a condensate pump, condensate booster pump, and feedwater pump combination.

We have analyzed in more detail the effect of postulated auxiliary steam line breaks on components of the auxiliary feedwater system, using the methodology given in the report, "Jet Effects Analysis of Postulated Pipe Break Outside Containment at Diablo Canyon Unit 1." The results of this analysis show the following effects on auxiliary feedwater system components:

1. Postulated auxiliary steam line breaks in the immediate vicinity of the motor-driven auxiliary feedwater pumps could result in environmental conditions at the pump motors such that long-term operability of the motor-driven pumps cannot be assured.

2. For a break postulated to occur at any location in an auxiliary steam line, the steam turbine driven auxiliary feed pump would remain operable. Since some auxiliary steam line break locations could result in ambient temperatures at pump bearings somewhat higher than the manufacturer's recommended maximum, the pump bearing design is being revised to make use of auxiliary feedwater as the bearing cooling medium rather than ambient air. This modification will provide further assurance of long-term pump operability.



The Design Class II auxiliary steam lines routed within the space occupied by the auxiliary feedwater pumps have been seismically analyzed using the same methods of analysis employed for Design Class I piping. The results of this analysis show that stresses in these lines for DDE loading conditions are in all cases less than allowable stress values for Design Class I piping. This demonstrates that pipe breaks in these lines would not be expected as a result of the occurrence of the Double Design Earthquake.

The report, "Jet Effects Analysis of Postulated Pipe Break Outside Containment at Diablo Canyon Unit 1", dated April 15, 1975, will be revised as soon as possible to incorporate the information contained in this letter.

Very truly yours,

Philip A. Crane, Jr.

CC: ASLB
Parties