

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

TO: MR O D PARR	FROM: PACIFIC GAS & ELEC CO SAN FRANCISCO, CALIF P A CRANE, JR	DATE OF DOCUMENT 3-16-75
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DESCRIPTION

LTR RE THEIR 8-5-75 LTR.....ADVISING OF THE DECISION TO MODIFY THE STEAM GENERATOR FEEDWATER DISTRIBUTION RINGS BY INSTALLING "J" TUBES.....

PLANT NAME: **DIABLO CANYON 1 & 2.**

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ASSIGNED AD :	DEYoung	ASSIGNED AD :		3-23-76	2/3
BRANCH CHIEF :	(2) PARR	BRANCH CHIEF :			
PROJECT MANAGER:	ALLISON	PROJECT MANAGER:			
LIC. ASST. :	LEE/Goulbourne	LIC. ASST. :			

INTERNAL DISTRIBUTION			
<input checked="" type="checkbox"/> REG FILE	SYSTEMS SAFETY	PLANT SYSTEMS	ENVIRO TECH
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<input checked="" type="checkbox"/> GOSSICK & STAFF	ENGINEERING	IPPOLITO	
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		OPERATING TECH	
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<input checked="" type="checkbox"/> HELTEMES	AT & I	SITE SAFETY & ENVIRO	
<input checked="" type="checkbox"/> SKOVHOLT	SALTZMAN	ANALYSIS	
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March 16, 1976

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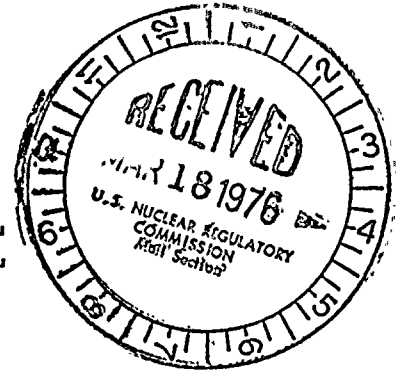
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Light Water Reactors
Project Branch 1-3
Division of Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Docket No. 50-275-OL
Docket No. 50-323-OL



Dear Mr. Parr:

The Regulatory Staff has asked that we update the information concerning secondary system fluid flow instability which was provided in our letter dated August 5, 1975. The major change since this information was provided has been the decision to modify the steam generator feedwater distribution rings by installing "J tubes."

Last August, when we replied to your questions of June 13, 1975, we and our nuclear steam supply system supplier believed that the installation of vents in the feedwater distribution rings, the modification originated and tested at Doel in Belgium, would prevent the occurrence of flow instabilities. The vent and other modifications which had been made to the steam generators at Diablo Canyon were made also to the same model of steam generators at the Ringhals plant in Sweden. Subsequent to our reply to you, there was an attempt to demonstrate by test that there would be no flow instability in the modified Ringhals steam generators. Unfortunately, the tests did produce an audible water hammer, so that the adequacy of the Doel vent modification to solve this problem was cast into doubt.

The only known modification relating to flow instability which had not been incorporated at that time in the Diablo Canyon steam generators or in the attached feedwater piping was the distribution ring revision used successfully at Indian Point Unit 2. In this design the feedwater distribution ring in the steam generator is modified by plugging the original holes in the bottom of the ring and by making new holes in the top of the ring. The flow from the new holes is reversed by the addition of return bends, so that the feedwater flow is downward as in the original design. These return bends, called "J tubes," give

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Mr. Olan D. Parr

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this modification its name. The vents added in the previous modification, the Doel design, remain and are incorporated into this modification. The holes and the return bends are the same for both modifications. Following the successful testing of J tubes at the Trojan Nuclear Power Plant the decision was made to make the same change at Diablo Canyon.

The design drawings for the modification were prepared by the steam generator manufacturer. This assures that the modification is compatible with the design criteria for the steam generators and that the feedwater is distributed as intended for the operation of the steam generators. The Unit 1 steam generator feedwater distribution rings are being modified. The Unit 2 ring modification has been completed.

The tests made at Trojan, which PGandE representatives attended, demonstrated that the J tube modification would prevent the occurrence of secondary system fluid flow instabilities over the entire range of auxiliary feedwater flow and of steam generator pressure for which this possibility is of concern. The Diablo Canyon steam generators are of the same design as at Trojan and incorporate the same modifications. The feedwater lines are effectively similar. The thorough Trojan testing showed that flow instability would not occur with this design and arrangement. We do not propose to perform a redundant retest.

Very truly yours,

Philip A. Grane, J

CC: ASLB
Parties

