



**Pacific Gas and  
Electric Company**

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March 11, 2008

PG&E Letter DCL-08-022

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80  
Docket No. 50-323, OL-DPR-82  
Diablo Canyon Units 1 and 2  
Response to Request for Additional Information on License Amendment  
Request 07-02, "Revision to Technical Specification (TS) 3.5.4, 'Refueling Water  
Storage Tank (RWST)'"

Reference 1: PG&E Letter DCL-07-093, "License Amendment Request 07-02,  
Revision to Technical Specification (TS) 3.5.4, 'Refueling Water  
Storage Tank (RWST),' " dated October 2, 2007

Dear Commissioners and Staff:

By letter dated October 2, 2007 (Reference 1), Pacific Gas and Electric Company (PG&E) submitted License Amendment Request (LAR) 07-02, "Revision to Technical Specification (TS) 3.5.4, 'Refueling Water Storage Tank (RWST).'" LAR 07-02 proposes a change to TS 3.5.4 Surveillance Requirement 3.5.4.2 to increase the minimum required borated water volume. This proposed change is required to meet commitments related to the resolution of issues raised in NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors," dated September 13, 2004.

By e-mail dated March 3, 2008, the NRC requested additional information required to complete the review of LAR 07-02. PG&E's response to that request is enclosed.

This information does not affect the results of the technical evaluation, or the no significant hazards consideration determination, previously transmitted in Reference 1.

PG&E makes no regulatory commitments (as defined by NEI 99-04) in this letter.

If you have any questions, or require additional information, please contact Stan Ketelsen at (805) 545-4720.

A member of the STARS (Strategic Teaming and Resource Sharing) Alliance  
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ADD  
NRR



I state under penalty of perjury that the foregoing is true and correct.

Executed on March 11, 2008.

Sincerely,

James R. Becker  
*Site Vice President & Station Director*

tcg/4231  
Enclosure

cc: Gary Butner, California Department of Public Health  
Elmo E. Collins, NRC Region IV  
Michael S. Peck, NRC Senior Resident Inspector  
Diablo Distribution  
cc/enc: Alan B. Wang, Project Manager NRR

**Response to Request for Additional Information on License  
Amendment Request 07-02, "Revision to Technical Specification (TS) 3.5.4,  
'Refueling Water Storage Tank (RWST)'"**

NRC Question 1:

*The licensee, in an email dated 02/21/2008, provided a summary discussing the relationships between calculations N-227 and STA-255, Rev. 2. In comparing the information in item 2 of page 2 of the summary with item 7.2 of Calculation STA-255, the NRC Staff noticed a potential non-conservatism in how the post-LOCA sump level is calculated at the time of the first RHR [residual heat removal] pump taking suction from the sump. It appears to Staff that the net increase in the RWST injection volume to the sump as a result of the more accurate instrumentation documented in calculation J-142A should be 0.5% of the RWST measured level, not 1.8% as indicated in Calculation STA-255. Please clarify?*

PG&E Response:

The minimum post-LOCA sump level of 93.6 ft to ensure adequate submergence of the GE sump strainers is acceptably demonstrated in STA-255 with currently installed RWST level instrumentation, and without any credit for installation of more accurate instrumentation. The purpose of Calculation STA-255, Section 7.2, was to assess the additional RWST liquid volume that would be available to reach the sump if more accurate RWST level instrumentation was installed. This available volume is not credited in the minimum required sump water level determination. The current calculation in STA-255, Section 7.2, conservatively estimated the additional margin that could be gained. The RWST level increase calculated in STA-255 is based on the 90 percent RWST level case in N-227, and the corresponding post-LOCA sump volume of 94.31 ft, which included a 2.2 percent sump volume penalty to bound instrument uncertainties. Therefore, the additional margin in sump volume that could be gained based on the smaller 1.7 percent uncertainty discussed in Section 7.3 would be 0.5 percent or 2291 gallons at 4582.63 gallon/percent. This corresponds to an increase in the current design basis post-LOCA sump level (93.6 ft) at the time of the first RHR pump start to a value of:

$$\begin{aligned} \text{Sump}_{L18:31} &= 93.6 \text{ ft} + 2291 \text{ gal} / 7.4805 \text{ gal/ft}^3 / 11325.7 \text{ ft}^3 / \text{ft} \\ &= 93.62 \text{ ft} \end{aligned}$$

NRC Question 2:

*Please explain the process of aligning the RHR pump to the Safety Injection Pumps (SIPs) and Centrifugal Charging Pumps (CCPs) discussed in Section 7.3, "Sump water Level Increase During Cold Leg Switchover Process," of Calculation STA-255. Specifically, explain how 900 gpm [gallons per minute] is diverted from the RWST to the*

*sump by the SIPs and the CCPs in the time periods discussed in Sections 7.3.B and 7.3.C, respectively?*

PG&E Response:

Table 1 (next page) provides a sequential summary of the various flow intervals evaluated in STA-255, Section 7.3, in order to establish the relative post-LOCA sump level as the switchover from cold leg injection to cold leg recirculation occurs. The section titles identify the action taken at the end of the interval being evaluated such that the RWST flow credited to reach the sump during the interval has been determined to be accurately calculated.

Table 1 Summary of STA-255, Section 7.3, Flow Intervals

Interval Start			Flows During Interval		Interval Finish		
Time	Action	Sump Level (ft)	RWST Suction	Sump Suction	Time	Action	Sump Level (ft)
18:31	7.3.B RHRPP # 2 Started	93.6	2 CCPs - 900 gpm 2 SIPs - 900 gpm 2 CSPs - 6800 gpm Total - 8600 gpm	1 RHRPP - 2762 gpm	19:26	8804B Opened	93.7
19:26	7.3.C 8804B Opened	93.7	2 CCPs - 900 gpm 2 CSPs - 6800 gpm Total - 7700 gpm	1 RHRPP - 2762 gpm 2 SIPs - 900 gpm Total - 3662 gpm	20:21	8807A/B Opened	93.8
20:21	7.3.D 8807A/B Opened	93.8	2 CSPs - 6800 gpm Total - 6800 gpm	1 RHRPP - 2762 gpm 2 CCPs - 900 gpm 2 SIPs - 900 gpm Total - 4562 gpm	21:46	RHRPP #1 Started	93.9
21:46	7.3.E RHRPP # 1 start	93.96	2 CSPs - 6800 gpm Total - 6800 gpm	2 RHRPPs - 7769 gpm 2 CCPs - 900 gpm 2 SIPs - 900 gpm Total - 7769 gpm	29:17	CSPs Stopped	94.5'

NRC Question 3:

*The opening paragraph in Section 7.3.D of Calculation STA-255 appears to be inconsistent with the previous sections of the calculation. Specifically, explain the validity of references to valves 8807 A/B, and CCPs? Also, clarify if "20:21" referenced in the last sentence of this paragraph should be "21:46"?*

PG&E Response:

The description in the calculation will be revised to read:

"During this period, right before starting RHRP #1, the CSPs are the only pumps pumping water from the RWST into the containment sump. The sump water level just before 21:46 is:"

Also, the following description will be added at the end of Section 7.3.D:

"Once RHRP #1 is started at 21:46 taking suction from the sump, the total suction flow from the sump to the RHR pumps is 7,769 gpm per Design Input 5."

The next revision of STA-255 will incorporate these changes.

NRC Question 4:

*Is there any affect on the seismic qualification of the RWST due to the proposed increase in the tank inventory?*

PG&E Response:

No, the increase in tank inventory is enveloped by the volume already considered in the seismic analysis of the RWST.