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PG&E Letter DCL-12-057

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

10 CFR 50.90

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Supplement to PG&E Letter DCL-12-017, Response to NRC Request for Additional Information: NRC Question 1

References: 1. PG&E Letter DCL-11-059, "License Amendment Request 11-04, Revision to Technical Specification (TS) 3.6.6, 'Containment Spray and Cooling Systems,' TS 3.7.5, 'Auxiliary Feedwater (AFW) System,' TS 3.8.1, 'AC Sources - Operating,' TS 3.8.9, 'Distribution Systems - Operating,' and TS Example 1.3-3," dated June 1, 2011

2. PG&E Letter DCL-12-017, Response to NRC Request for Additional Information Regarding PG&E Letter DCL-11-059, "License Amendment Request 11-04, Revision to Technical Specification (TS) 3.6.6, 'Containment Spray and Cooling Systems,' TS 3.7.5, 'Auxiliary Feedwater (AFW) System,' TS 3.8.1, 'AC Sources - Operating,' TS 3.8.9, 'Distribution Systems - Operating,' and TS Example 1.3-3," dated February 6, 2012

In Reference 1, Pacific Gas and Electric Company (PG&E) submitted a license amendment request to revise Technical Specification (TS) 3.6.6, "Containment Spray and Cooling Systems," TS 3.7.5, "Auxiliary Feedwater (AFW) System," TS 3.8.1, "AC Sources - Operating," TS 3.8.9, "Distribution Systems - Operating," and TS Example 1.3-3.

The NRC staff provided a request for additional information (RAI) via e-mail, dated January 5, 2012. PG&E provided a response to the RAI in Reference 2. The Enclosure to this letter provides a supplement to the Reference 2 response to NRC RAI question 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 Mr. Tom Baldwin at (805) 545-4720.

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

Executed on May 31, 2012.

Sincerely,

James R. Becker
Site Vice President

Mjrm/4557/50329767
Enclosure
cc: Diablo Distribution
cc/enc: Elmo E. Collins, NRC Region IV
Michael S. Peck, NRC Senior Resident Inspector
Joseph M. Sebrosky, NRR Project Manager

Supplement to PG&E Letter DCL-12-017 Response to NRC Request for Additional Information: NRC Question 1

References: 1. PG&E Letter DCL-11-059, "License Amendment Request 11-04, Revision to Technical Specification (TS) 3.6.6, 'Containment Spray and Cooling Systems,' TS 3.7.5, 'Auxiliary Feedwater (AFW) System,' TS 3.8.1, 'AC Sources - Operating,' TS 3.8.9, 'Distribution Systems - Operating,' and TS Example 1.3-3," dated June 1, 2011

2. PG&E Letter DCL-12-017, Response to NRC Request for Additional Information Regarding PG&E Letter DCL-11-059, "License Amendment Request 11-04, Revision to Technical Specification (TS) 3.6.6, 'Containment Spray and Cooling Systems,' TS 3.7.5, 'Auxiliary Feedwater (AFW) System,' TS 3.8.1, 'AC Sources - Operating,' TS 3.8.9, 'Distribution Systems - Operating,' and TS Example 1.3-3," dated February 6, 2012

In Reference 1, Pacific Gas and Electric Company (PG&E) submitted a license amendment request that proposed changes to several technical specifications (TSs) including changes to TS 3.7.5, "Auxiliary Feedwater (AFW) System." The license amendment request included changes to be consistent with TSTF traveler 412, Revision 3, "Allow 7 Day Completion Time for a Turbine-driven AFW Pump Inoperable."

During a public meeting on May 8, 2012, TSTF traveler 412 was discussed, including the NRC staff's issues associated with the portion of the TSTF traveler associated with a provision for 24 hour completion time for an inoperable motor-driven AFW pump coincident with one inoperable steam supply to the steam-driven AFW pump. The NRC staff's issues are documented in an April 12, 2012, memorandum from Greg Casto to Robert Elliot (ADAMS Accession No. ML121030032).

Because of the issues with TSTF traveler 412 identified during the May 8, 2012, meeting and in the April 12, 2012, letter, PG&E is proposing to amend the response provided to NRC question number 1 in Reference 2.

NRC Question 1:

On page 8 of the application letter dated June 1, 2011, the licensee, PG&E, states, "under the scenario with one steam supply for the turbine-driven auxiliary feedwater pump (TDAFWP) inoperable and one motor-driven auxiliary feedwater pump (MDAFWP) inoperable, a feed line or steam line rupture could challenge the capability of the auxiliary feedwater (AFW) system to provide feedwater." The staff is evaluating conditions of the plant during scenarios such as a feedwater line break (FWLB) or a main steamline break (MSLB) on steam generator (SG) 3 occurs when the MDAFWP 1-2 for SG1 and SG2 is inoperable and the steam supply from SG2 to the TDAFWP is inoperable. This scenario would leave only SG4 supplied by MDAFWP 1-3 available. In final safety analysis report (FSAR) Table 6.5-2, the licensee requires a minimum of 390 gpm auxiliary feedwater (AFW) flow to 2 of the 4 intact SGs to mitigate a main feed line

break. Therefore, in such scenarios the licensee would not meet the design requirement as stipulated in their design basis to mitigate an accident. Hence, the request to continue operations for 24 hours with one steam supply inoperable coincident with an inoperable motor driven pump may result in such postulated scenario that is beyond the current analyzed design basis.

In its draft safety evaluation report (SER) for TSTF-412, dated April 14, 2006, the staff considered the possible credit for operators having the ability to remotely feed other SGs from the control room using the operable MDAFWP. Figure 1 in the letter dated June 1, 2011, does show a possible cross tie line between the discharge headers of MDAFWP's. However, in their application the licensee does not mention using the cross tie line to mitigate accidents when the plant is in a degraded condition.

The staff requests the licensee to justify their proposed TS that allows for continued operations for 24 hours in conditions that result in an unanalyzed condition. Note: the licensee can limit the proposed condition, where the inoperable steam supply could only exist on the SG that can be fed by the operable MDAFWP.

PG&E Revised Response:

The NRC staff had included the following note in question 1:

> *"the licensee can limit the proposed condition, where the inoperable steam supply could only exist on the SG that can be fed by the operable MDAFWP."*

PG&E is proposing to remove the 24 hour limiting condition for operation (LCO) in accordance with the above note and replace it with a 48 hour LCO when the conditions in the above note are met.

PG&E included the following in Reference 1.

INSERT 3

D. Turbine driven AFW train inoperable due to one inoperable steam supply. AND One motor driven AFW train inoperable.	D.1	Restore the steam supply to the turbine driven train to OPERABLE status. OR Restore the motor driven AFW train to OPERABLE status.	24 hours 24 hours

PG&E is proposing the following revision to Reference 1 INSERT 3 as follows:

D. ----------NOTE---------- Only applicable when the remaining OPERABLE motor driven AFW train provides feedwater to the steam generator with the inoperable steam supply. ---------- Turbine driven AFW train inoperable due to one inoperable steam supply. AND One motor driven AFW train inoperable.	D.1	Restore the steam supply to the turbine driven train to OPERABLE status. OR	48 hours 48 hours
	D.2	Restore the motor driven AFW train to OPERABLE status.	

Attachment 1 to the enclosure provides retyped TS pages (Condition E moved to page 3.7-11). Attachment 2 to the enclosure provides a revised markup to the TS bases (included for information only).

The revised TS bases markup includes the following:

> With one of the required motor-driven AFW trains (pump or flow path) inoperable and the turbine-driven AFW train inoperable due to one inoperable steam supply, action must be taken to restore the affected equipment to OPERABLE status within 48 hours. Assuming no single active failures when in this condition, the accident (a FWLB or MSLB) could result in the loss of the remaining steam supply to the turbine-driven AFW pump due to the faulted SG.
>
> A note in Condition D limits applicability to only when the remaining OPERABLE motor-driven AFW train provides feedwater to the SG with the inoperable steam supply. This Condition will only apply during the following two scenarios:
>
> 1) Motor-driven AFW pump 2 OPERABLE, motor-driven AFW pump 3 inoperable, and steam supply from SG 2 inoperable, or
>
> 2) Motor-driven AFW pump 2 inoperable, motor-driven AFW pump 3 OPERABLE, and steam supply from SG 3 inoperable.
>
> This ensures that if a FWLB were to occur affecting the OPERABLE motor driven AFW pump, the turbine-driven AFW pump would still be capable of providing AFW to two intact SGs. If a MSLB were to occur on the SG feeding the remaining OPERABLE steam supply to the turbine-driven AFW pump, the

OPERABLE motor-driven AFW pump would still be capable of providing AFW to two intact SGs.

If motor-driven AFW pump 2 and the steam supply from SG 3 are inoperable, or if motor-driven AFW pump 3 and the steam supply from SG 2 are inoperable, then Condition E for two inoperable AFW pumps applies.

The 48 hour Completion Time is reasonable based on the fact that the remaining motor-driven AFW train is capable of providing 100 percent of the AFW flow requirements, and the low probability of an event occurring that would challenge the AFW system.

The proposed changes do not affect the basis for or conclusions of the no significant hazards consideration determination of Reference 1.

Enclosure
Attachment 1
PG&E Letter DCL-12-057

Revised TS Retype Pages

(replace pages 3.7-10a and 3.7-11 previously submitted in DCL-11-059)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more motor driven AFW trains with automatic control of one motor driven AFW level control valve per train inoperable.	B.1 ----------NOTE---------- No change in valve demand is required if AFW is being relied upon for SG level control. ---------- Place affected AFW level control valve(s) in manual control with valve demand full open. OR B.2 Declare the associated AFW train inoperable.	Immediately Immediately
C. One AFW train inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	C.1 Restore AFW train to OPERABLE status.	72 hours
D. ----------NOTE---------- Only applicable when the remaining OPERABLE motor driven AFW train provides feedwater to the steam generator with the inoperable steam supply. ---------- Turbine driven AFW train inoperable due to one inoperable steam supply. AND One motor driven AFW train inoperable.	D.1 Restore the steam supply to the turbine driven train to OPERABLE status. OR D.2 Restore the motor driven AFW train to OPERABLE status.	48 hours 48 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A, C, or D not met. OR Two AFW trains inoperable in MODE 1, 2 or 3 for reasons other than Condition D.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	6 hours 18 hours
F. Three AFW trains inoperable in MODE 1, 2, or 3.	F.1 ----------NOTE---------- LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. ---------- Initiate action to restore one AFW train to OPERABLE status	 Immediately
G. Required AFW train inoperable in MODE 4.	G.1 Initiate action to restore AFW train to OPERABLE status.	Immediately

Enclosure
Attachment 2
PG&E Letter DCL-12-057

Revised TS Bases Markup Page
(for information only)

~~the more restrictive must be met.~~

D.1 and D.2

With one of the required motor driven AFW trains (pump or flow path) inoperable and the turbine driven AFW train inoperable due to one inoperable steam supply, action must be taken to restore the affected equipment to OPERABLE status within 48 hours. Assuming no single active failures when in this condition, the accident (a FLB or MSLB) could result in the loss of the remaining steam supply to the turbine driven AFW pump due to the faulted SG.

A note in Condition D limits applicability to only when the remaining OPERABLE motor driven AFW train provides feedwater to the steam generator with the inoperable steam supply. This Condition will only apply during the following two scenarios:

1) Motor driven AFW pump 2 OPERABLE, motor driven AFW pump 3 inoperable, and steam supply from SG 2 inoperable, or

2) Motor driven AFW pump 2 inoperable, motor driven AFW pump 3 OPERABLE, and steam supply from SG 3 inoperable.

This ensures that if a FLB were to occur affecting the OPERABLE motor driven AFW pump, the turbine driven AFW pump would still be capable of providing AFW to two intact steam generators. If a MSLB were to occur on the SG feeding the remaining OPERABLE steam supply to the turbine driven AFW pump, the OPERABLE motor driven AFW pump would still be capable of providing AFW to two intact steam generators.

If motor driven AFW pump 2 and the steam supply from SG 2 are inoperable, or if motor driven AFW pump 3 and the steam supply from SG 3 are inoperable, then Condition E for two inoperable AFW pumps applies.

The 48 hour Completion Time is reasonable based on the fact that the remaining motor driven AFW train is capable of providing 100 % of the AFW flow requirements, and the low probability of an event occurring that would challenge the AFW system.

In MODE 4 with two AFW trains inoperable, operation is allowed to continue because only one motor driven pump AFW train is required in accordance with the Note that modifies the LCO. Although not required, the unit may continue to cool down and initiate RHR.

(continued)