



**Pacific Gas and  
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PG&E Letter DCL-01-008

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 NRC Request for Additional Information Regarding License  
Amendment Request 00-02, "Refueling Water Purification System Upgrade and  
Temporary Reverse Osmosis Skid Installation To Support RWST Cleanup During  
Power Operation"

Dear Commissioners and Staff:

On December 6, 2000, the NRC staff identified additional information required in order to complete their evaluation associated with License Amendment Request 00-02, which proposed an upgrade to the refueling water purification system and use of a temporary reverse osmosis skid installation. PG&E's response to the request for additional information is included in Enclosure 1. This additional information does not affect the results of the safety evaluation and no significant hazards determination previously transmitted in PG&E Letter DCL-00-071, "License Amendment Request 00-02, Refueling Water Purification System Upgrade and Temporary Reverse Osmosis Skid Installation To Support RWST Cleanup During Power Operation," dated May 12, 2000.

If you have any questions regarding this response, please contact Patrick Nugent at (805) 545-4720.

Sincerely,

  
Gregory M. Rueger

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January 25, 2001  
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cc: Edgar Bailey, DHS  
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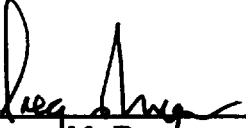
Enclosure  
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

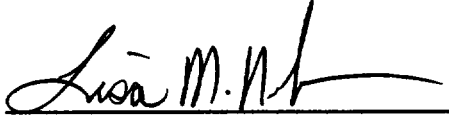
_____	)	Docket No. 50-275
In the Matter of	)	Facility Operating License
PACIFIC GAS AND ELECTRIC COMPANY	)	No. DPR-80
_____	)	
Diablo Canyon Power Plant	)	Docket No. 50-323
Units 1 and 2	)	Facility Operating License
_____	)	No. DPR-82

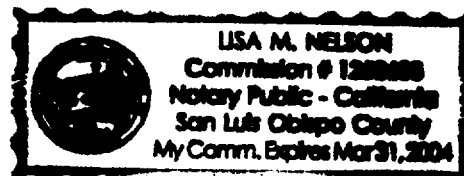
AFFIDAVIT

Gregory M. Rueger, of lawful age, first being duly sworn upon oath says that he is Senior Vice President - Generation and Chief Nuclear Officer of Pacific Gas and Electric Company; that he has executed this response to the request for additional information on License Amendment Request 00-02 on behalf of said company with full power and authority to do so; that he is familiar with the content thereof; and that the facts stated therein are true and correct to the best of his knowledge, information, and belief.

  
\_\_\_\_\_  
Gregory M. Rueger  
Senior Vice President - Generation  
Chief Nuclear Officer

Subscribed and sworn to before me this 25<sup>th</sup> day of January 2001.  
County of San Luis Obispo  
State of California

  
\_\_\_\_\_  
Notary Public



**PG&E Response to Request for Additional Information Regarding License  
Amendment Request (LAR) 00-02, Refueling Water Purification System Upgrade  
and Temporary Reverse Osmosis Skid Installation To Support  
RWST Cleanup During Power Operation**

**Question 1**

*What is meant by "temporary" reverse osmosis system?*

**PG&E Response to Question 1**

The reverse osmosis (RO) system is a skid mounted system, connected by a hose to the refueling water storage tank (RWST) piping. Installation is by procedure with removal occurring when the RWST silica concentrations are reduced to the desired level. The RO system is only connected and used when the RWST silica concentration needs to be reduced, and therefore it is a temporary system.

**Question 2**

*What is meant by the "RO system is expected to be used for approximately 1 month during the cycle..." What is the "cycle"?*

**PG&E Response to Question 2**

Based on current projected RWST silica concentrations, it is estimated that the RWST silica removal operation (i.e. RO system connected to the RWST) will take approximately one month during a reactor operating cycle to reduce the RWST silica concentration to the desired level. The RO system will only be connected to the RWST when RWST silica removal is required. The cycle is the reactor operating cycle at power between refueling outages.

**Question 3**

*How [does] the "dedicated operator" monitor the RO system's operation and monitor for leaks, what does he do, where does he do it, how long does he do it, etc.?*

**PG&E Response to Question 3**

While the RWST is required to be operable, the dedicated operator will rove between the RWST, the RO system skid, and the interfacing piping, hose, and valving. The skid will be located on the 115 foot elevation inside the auxiliary building in the cask washdown area or outside the auxiliary building near the RWST. While the RWST is required to be operable, the dedicated operator will visually monitor the RO system

operation and performance and will visually check for any system leakage while roving. The dedicated operator will be rotated throughout the shift at an interval that provides appropriate relief.

#### Question 4

*In the ANSI/ANS 58.8 analysis (p. 14-15), it is assumed that the dedicated operator is already at the valve location before/during the seismic event/ SI, as compared to being "dispatched" to that location. Why is it assumed that the operator is already at the valve location and is not "dispatched" to the location?*

#### PG&E Response to Question 4

The RO system skid and associated hoses which will be connected to the RWST will be nonsafety components. Leakage of these nonsafety components can result in loss of RWST inventory. As a precaution, during RO system operation when the RWST is required to be operable, a dedicated operator will be assigned locally in the vicinity of the RO system skid to monitor the RO system operation and to inspect for leaks in the RO system and associated hoses. The distance between the RO system skid and the RWST drain line isolation valve will be within approximately 100 feet. Thus the time for the dedicated operator to access the drain line isolation valve will be negligible. The ANSI/ANS 58.8 analysis allows 30 minutes for the dedicated operator to be notified by the unit shift foreman of a seismic event or a safety injection and to access the RWST drain line isolation valve. The ANSI/ANS 58.8 analysis also allows 2 minutes for the dedicated operator to isolate the valve. The use of a dedicated operator to monitor the RO system will prevent having to dispatch a control room operator to isolate the RWST drain line isolation valve and will prevent any adverse impact on required control room operator responses following a seismic event or safety injection.

#### Question 5

*In the ANSI/ANS 58.8 analysis (p. 14-15), please explain why there is no time allowed for the time interval "TI (indication)"?*

#### PG&E Response to Question 5

In the ANSI/ANS 58.8 analysis (pages 14-15 of DCL-00-071), the time interval for indication,  $TI_{\text{indication}}$ , was conservatively assumed to be 3 minutes.

#### Question 6

*In the ANSI/ANS 58.8 analysis (p. 14-15), please explain why there is no time allowed for the time interval "TI (dead)"?*

PG&E Response to Question 6

The ANSI/ANS 58.8 analysis time interval for dead time,  $TI_{\text{dead}}$ , was assumed to be zero since the dedicated operator action can be initiated immediately following the diagnosis of the assumed LOCA event by the control room operators. The time for the control room operators to diagnose the assumed LOCA event is included as part of the ANSI/ANS 58.8 diagnosis time interval ( $TI_{\text{diagnosis}}$ ).

Question 7

*In the ANSI/ANS 58.8 analysis (p. 14-15), credit is taken for only the "fixed sub-interval" (Table 2). What time(s) is/are allowed for the "variable sub-interval, i.e., 1 minute for each discrete manipulation required to complete a single operator action)?*

PG&E Response to Question 7

The ANSI/ANS 58.8 analysis operator action time variable subinterval was assumed to be 2 minutes. This is the time for the operator to identify and close the RWST drain line isolation valve. No other manipulations are required by the operator. The total time interval for the operator,  $TI_{\text{operator}}$ , was assumed to be 32 minutes, which consisted of a fixed subinterval of 30 minutes and a variable subinterval of 2 minutes. The ANSI/ANS 58.8 analysis assumed discrete time points and time intervals are summarized below.

**ANSI/ANS 58.8 Analysis Discrete Time Points**

$t_{\text{st}}$	= 0 minutes
$t_{\text{ind}}$	= 3 minutes
$t_{\text{ECA}}$	= 23 minutes
$t_{\text{MAI}}$	= 23 minutes
$t_{\text{SAC}}$	= 55 minutes
$t_{\text{SFC}}$	= 60 minutes
$t_{\text{Lim}}$	= 60 minutes

**ANSI/ANS 58.8 Analysis Time Intervals**

$TI_{\text{indication}}$	= 3 minutes
$TI_{\text{diagnosis}}$	= 20 minutes
$TI_{\text{dead}}$	= 0 minutes
$TI_{\text{operator}}$	= 32 minutes
$TI_{\text{process}}$	= 5 minutes
$TI_{\text{safety}}$	= 0 minutes