



**Pacific Gas and  
Electric Company**

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January 23, 2004

PG&E Letter DCL-04-008

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 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 03-02, "Response Time Testing Elimination and Revision to  
Technical Specification 3.3.1, 'Reactor Trip System (RTS) Instrumentation'"

Dear Commissioners and Staff:

PG&E Letter DCL-03-016, dated February 28, 2003, submitted License Amendment Request (LAR) 03-02, which proposes to revise Technical Specification 3.3.1, "Reactor Trip System (RTS) Instrumentation," to add Surveillance Requirement 3.3.1.16 to function 3.a, "Power Range Neutron Flux Rate - High Positive Rate" trip in Table 3.3.1-1. In addition, LAR 03-02 proposes to eliminate periodic pressure sensor response time testing (RTT) in accordance with WCAP-13632-P-A, Revision 2, "Elimination of Pressure Sensing Response Time Testing Requirements," and to eliminate periodic protection channel RTT in accordance with WCAP-14036-P-A, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests."

On July 1, 2003, and July 25, 2003, the NRC staff identified additional information required to complete the evaluation associated with PG&E LAR 03-02. PG&E's response to the July 1, 2003, and July 25, 2003, requests for additional information were contained in PG&E Letters DCL-03-162 and DCL-03-137, respectively.

PG&E had a conference call with the NRC on December 16, 2003, to clarify the information provided in PG&E Letter DCL-03-016. The information contained in this letter supplements the information presented in PG&E Letter DCL-03-016.

The additional information does not affect the results of the safety evaluation or no significant hazards consideration determination previously transmitted in PG&E Letter DCL-03-016.

ADDF



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

Sincerely,

A handwritten signature in cursive script that reads 'D H Oatley'.

David H. Oatley  
*Vice President and General Manager - Diablo Canyon*

mjr/4557  
Enclosures

cc: Edgar Bailey, DHS  
Bruce S. Mallett  
David L. Proulx  
Diablo Distribution  
cc/enc: Girija S. Shukla

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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

AFFIDAVIT

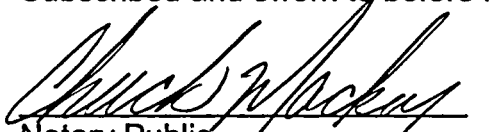
David H. Oatley, of lawful age, first being duly sworn upon oath says that he is Vice President and General Manager - Diablo Canyon of Pacific Gas and Electric Company; that he has executed this response to the request for additional information on License Amendment Request LAR 03-02 on behalf of said 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.



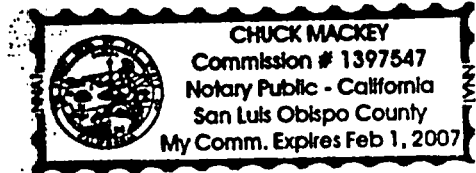
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David H. Oatley  
*Vice President and General Manager - Diablo Canyon*

Subscribed and sworn to before me this 23rd day of January 2004.



Notary Public  
County of San Luis Obispo  
State of California



**PG&E Response to NRC Request for Additional Information Regarding License Amendment Request 03-02, "Response Time Testing Elimination and Revision to Technical Specification 3.3.1, 'Reactor Trip System (RTS) Instrumentation'"**

**Questions received on December 16, 2003**

NRC Question 1

What is the basis for the values "5% RTP with time constant  $\geq 2$  seconds" and "0.5 seconds" as they relate to the PFRT function?

PG&E Response

The Westinghouse generic analysis used the conservative response time of three seconds. Westinghouse assumed this value since it was significantly greater than what was considered physically possible and it was expected that the conservatism of this assumed value would preclude plants from having to perform response time test verification.

In License Amendment Request (LAR) 03-02, PG&E indicated that the positive flux rate trip (PFRT) function would have a required response time of three seconds or less, since this response time was assumed in the Westinghouse generic analysis. To be consistent with other similar nuclear instrumentation system (NIS) reactor protection functions, PG&E plans to use 0.5 seconds as the acceptance criteria for the PFRT reactor trip function. Even though the analysis assumes a longer response time of 3 seconds, PG&E does not expect the actual response time to exceed 0.5 seconds due to the nature of the equipment, unless there is a malfunction. A response time of 0.5 seconds is consistent with the design specification requirements for NIS-generated reactor protection functions.

The PFRT function has a nominal reactor trip setpoint of "5% RTP with time constant  $\geq 2$  sec" and an allowable trip setpoint of " $\leq 5.6\%$  RTP with a time constant  $\geq 2$  sec," as reflected in Diablo Canyon Power Plant Technical Specification 3.3.1, Table 3.3.1-1. This term represents the value (5 percent rated thermal power (RTP)) and time constant (or  $\tau=2$  seconds) at which the reactor power process is changing which should demand a reactor trip signal. The "5% RTP" term is the bistable setpoint for which a greater than or equal to 5 percent RTP step change will produce a reactor trip signal. Both the setpoint and time constant values are verified during the PFRT calibration surveillance. When the rate/lag circuit output reaches the trip setpoint, a reactor trip (loss of stationary gripper coil voltage) must then occur within 0.5 seconds (which is within the 3 seconds assumed in the generic analysis).

A differentiator-type circuit senses when the trip setpoint of "5% RTP with time constant  $\geq 2$  sec" is exceeded and generates the reactor trip signal.

NRC Question 2

If the sensor and NIS string are no longer going to be tested, what will be tested?

PG&E Response

The following information is from Enclosure 6 of PG&E Letter DCL-03-016, LAR 03-02, "Response Time Testing Elimination and Revision to Technical Specification 3.3.1, 'Reactor Trip System (RTS) Instrumentation.'"

FUNCTION	SENSOR	TIME (sec)	EAGLE/NIS STRING	TIME (sec)	SSPS RELAYS	TIME (sec)
Power Range Neutron Flux Rate - High Positive Rate (Note 2)	EXEMPT	(Note 3)	NIS	0.2	Input + ssps logic	0.020

(Note 2) These variables are currently not required to be response time tested.

(Note 3) Neutron detectors are exempt from RTT [TS SR 3.3.1.16]

The PFRT function consists of 3 elements: the sensor, the processing/logic channel, and the actuating device. The sensor, like all other NIS sensors, is not required to be response time tested. The processing/logic channel consists of the NIS string and the solid state protection system (SSPS) relays (input + ssps logic). LAR 03-02 proposes to use the allocated response times of 0.2 seconds for the NIS string and 0.020 seconds for the SSPS relays. These allocated times add up to 0.22 seconds. The actuating device consists of the reactor trip breakers (RTBs). The response times for the RTBs will continue to be routinely tested. The total channel response for the PFRT function, including the allocated values for the processing/logic channel and the measured values of the RTBs, must be less than 0.5 seconds.