

September 7, 2012

MEMORANDUM TO: FILE

FROM: Joseph M. Sebrosky */RA by BBenney for/*  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2 - SUMMARY  
OF AUDIT TO REVIEW CALCULATIONS THAT SUPPORT LICENSE  
AMENDMENT REQUEST RELATED TO MAIN STEAM SAFETY  
VALVES (TAC NOS. ME5713 AND ME5714)

This memorandum summarizes the results of a August 23, 2012, audit to review calculations that support a Pacific Gas and Electric (PG&E) February 17, 2011, license amendment request (LAR) associated with main steam safety valves (MSSVs). The LAR is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML110480870. The audit took place at Westinghouse's Rockville, Maryland offices. The U.S. Nuclear Regulatory Commission (NRC) staff participants were: John Billerbeck and Joe Sebrosky. Other participants included Philippe Soenen of PG&E and L. Ike Ezekoye of Westinghouse.

In a request for additional information (RAI) responses dated February 27, 2012, (ADAMS Accession No. ML12059A076) and July 2, 2012, (ADAMS Accession No. ML121850128) PG&E provided information to support the change in the MSSV accumulation initial condition uncertainties from 3% to 5 psi in the RETRAN loss of load calculation that supports the February 17, 2011, LAR. The discussion and review of information during the audit centered around whether or not a 5 psi accumulation assumption for the MSSVs was appropriate. The following are highlights of the result of the audit:

- The response to RAI 1 in the July 2, 2012, response indicates that based on Wyle test lab data Dresser MSSVs lifted lower than their set pressures during testing. The staff indicated that it did not understand the relevance of this information to the 5 psi accumulation assumption. Further the staff indicated that the response to RAI 1 from the July 2, 2012, letter seemed to contradict the information provided in response to RAI 3 from the July 2, 2012, letter. Specifically, the staff indicated that based on the information provided in RAI 3 response regarding DCPD testing that was performed on site almost 70% of the MSSVs lifted at higher than their nominal set pressure. PG&E took an action to review the response to RAI 1 and determine if a change is appropriate.
- The response to RAI 2 in the July 2, 2012, letter includes Table 3, "Valve Transient Performance Data for the Dresser 31739A Safety Valves." This table presents accumulation values for pressurizer safety valves (PSVs) that are similar to the Dresser MSSVs at DCPD. The table indicates that the valve accumulation is less than or equal to 5 psi with the exception of one test that had a accumulation of 6 psi. There was a discussion that for this particular test under the "Valve Stability" column in the Table the valve was noted as experiencing chatter. PG&E took an action to consider whether or

not to revise the response to provide an additional explanation as to whether or not this particular test was valid because of the valve's behavior during the test.

- The staff noted that PG&E calculation STA-279, "RETRAN Loss of Load Evaluation with and Inoperable MSSV," that is referenced in the February 17, 2011, LAR assumes a 3% drift for the MSSVs and a 1% drift for the PSVs. The staff and PG&E took an action to discuss the issue further with their respective organizations to better understand the reasoning behind the different assumptions.
- The staff and PG&E discussed the overall effect of reducing the MSSV accumulation assumption from 3% to 5 psi (i.e., approximately 0.5%). The overall uncertainty for the MSSV setpoint used in the RETRAN loss of load evaluation in effect went from 6 % (3% for drift, and 3% for accumulation) to approximately 3.5% (3% drift and 5 psi or approximately 0.5% accumulation). The staff's concern is that by reducing the MSSV setpoint uncertainty for accumulation other uncertainties such as instrument uncertainty and as-left setpoint uncertainty that are not explicitly modeled may render an overall MSSV 3.5% setpoint uncertainty assumption inappropriate. There was a discussion that the MSSV uncertainty is one of over 24 assumptions that was used in the STA-279 calculation and that perhaps given the overall conservatism of the calculation a 3.5% MSSV setpoint uncertainty is appropriate. The staff took an action to consider this issue further. PG&E took an action to determine whether the net 3.5% total setpoint uncertainty currently proposed in the calculation does, in fact, envelope all sources of uncertainty.

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