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October 29, 1997

PG&E Letter DCL-97-182



U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
10 CFR 50.59 Safety Evaluation for Operation of Units 1 and 2 in a Mid-loop Configuration

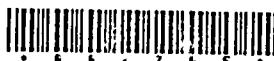
Dear Commissioners and Staff:

PG&E is submitting for your information the enclosed licensing basis impact evaluation (LBIE), including a 10 CFR 50.59 safety evaluation and the associated Westinghouse technical report (Enclosure 1). The safety evaluation provides justification for mid-loop operation prior to completion of a core reload when core decay heat is high, and using both the gap between the reactor pressure vessel head and the reactor vessel flange and a removed pressurizer safety valve flowpath as pressure relief paths (evaluated as case 2a of the Westinghouse technical report).

In late 1988, Generic Letter (GL) 88-17, "Loss of Decay Heat Removal," was issued. PG&E responded to the GL in several letters, including DCL-89-005, dated January 6, 1989, and DCL-89-030 dated February 6, 1989. These responses included evaluation and program enhancements to address: (1) prevention of a loss of decay heat removal, (2) mitigation of an accident before events progress to core damage, and (3) control of radioactive material should core damage occur. The NRC responded in April 1989 that PG&E's responses were "generally complete and appears to meet the recommendations of the generic letter with respect to expeditious actions."

In 1992, PG&E performed analyses that updated the responses to GL 88-17. These analyses also addressed NUREG-1449 regarding the use of the reactor pressure vessel head flange as a vent path during mid-loop. This information was submitted to the NRC in PG&E letter DCL-92-191, dated September 1, 1992. The analysis provided in the letter included evaluations of mid-loop operation with both high and low decay heat loads, and considered the required pressure relief flow paths to assure that reactor coolant system (RCS) pressure

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would not increase enough to prevent gravity feed to the RCS from the refueling water storage tank (RWST) or overpressurize the nozzle dams installed in the RCS piping. The pressure relief paths included use of the gap between the reactor pressure vessel head and reactor vessel flange as a pressure relief path. The supporting Westinghouse evaluation specifically excluded use of the flowpath of a removed pressurizer safety valve for pressure relief.

On September 23, 1992, PG&E and the NRC met to discuss the use of the gap between the reactor pressure vessel head and the reactor vessel flange as a vent path during mid-loop operation. In a letter dated October 23, 1992, documenting the September 23, 1992, meeting with the NRC, the NRC indicated that they had no objection to PG&E using detensioned reactor pressure vessel head as a vent path during mid-loop operation late in an outage with low core decay heat loads. In addition to performing mid-loop operation late in the outage when decay heat is relatively small, the NRC included several other factors to be considered when using the reactor pressure vessel head as a vent path and when operating during mid-loop conditions. These factors include: (1) availability of controlled flow from the RWST in the event of a loss of all AC electric power, (2) availability of incore thermocouples or their equivalent, to monitor upper reactor vessel temperature, (3) closure of significant cold leg openings is required as long as the head lift capability is depended upon for venting, and (4) suitable procedures and controls, including training, are established prior to entering a condition where head lift is used as a potential vent.

With the higher core decay heat loads proposed in the attached LBIE, all conditions previously evaluated by the NRC are still satisfied except the core decay heat load requirement. PG&E has performed subsequent analyses which demonstrates that with higher core decay heat loads, adequate pressure relief capability is available when using both the gap between the reactor pressure vessel head and the reactor vessel flange and the removed pressurizer safety valve flowpath as the relief flowpaths.

Therefore, PG&E has reviewed the previous documentation associated with operation during mid-loop conditions and believes that the proposed change to operate in a mid-loop condition prior to core offload does not constitute an unreviewed safety question.

Enclosure 2 contains the Proprietary Information from Public Disclosure, a Proprietary Information Notice, Copyright Notice, and an accompanying Affidavit CAW-97-1178 signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission, and it addresses with specificity the



considerations listed in paragraph (b) (4) of 10 CFR 2.790 of the Commission's regulations. PG&E requests that the Westinghouse proprietary information be withheld from public disclosure in accordance with 10 CFR 2.790.

Correspondences with respect to the proprietary aspects of the Westinghouse documents in Enclosure 1 should reference Westinghouse Letter CAW-97-1178 and be addressed to H. A. Sepp, Manager Regulatory and Licensing Engineering, Westinghouse Electric Corporation, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Sincerely,



Lawrence F. Womack

cc: Edgar Bailey, DHS
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Enclosures

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