

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. 40 TO FACILITY OPERATING LICENSE NO. DPR-80 AND AMENDMENT N., 39 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NO. 50-275 AND 50-323

1.0 INTRODUCTION

By letter dated December 19, 1988 (Reference LAR 88-09), Pacific Gas and Electric Company (PG&E or the licensee) requested amendments to the combined Technical Specifications (TS) appended to Facility Operating License Nos. DPR-80 and DPR-82 for the Diablo Canyon Power Plant (DCPP). Unit Nos. 1 and 2, respectively. The amendments change the TS to allow the fully withdrawn position for the shutdown and control rod banks to be redefined as 225 steps or greater, rather than 228 steps, with insertion limits remaining the same. The amendments provide the flexibility to reposition the rod banks as part of a control rodlet wear management program and involve changes to TS 3.1.3.5 and 4.1.3.5 and Figures 3.1-1a and 3.1-1b.

Also, the amendments add x and y axis intercepts to Figure 3.1-1a. This administrative change facilitates the interpretation of this figure by operations personnel who wish to determine the value of rod bank positions for specific power conditions. The values for the x and y intercepts were taken from the Diablo Canyon "Precautions, Limitations and Setpoints" document.

2.0 EVALUATION

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In NRC (IE) Information Notice 87-19, "Perforation and Cracking of Rod Cluster Control Assemblies," the NRC notified Westinghouse PWR licensees of a potentially significant safety problem in which witrol rod wear may result in perforation and cracking of rod cluster introl assemblies. Based on the information notice, and recat experience at other Westinghouse PWRs, the licensee requested these amendments to address this concern at Diablo Canyon. Control rod wear appears to be due to fretting of the control rodlets against the upper internals guide plate as a result of flow-induced vibration. These amendments will allow periodic axial repositioning of the rod banks, which will move the worn control rodiet cladding away from the guide plate, thus reducing the possibility of wear-through of the rodlet cladding. Therefore, the likelihood of a malfunction of the rods will be decreased.

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The licensee also stated that, based on Westinghouse recommendations, the Diablo Canyon reactor coolant system is monitored for the presence of rod absorber material (Ag-110 in a metastable state) to provide early detection of significant control rodlet wear prior to experiencing operational problems.

In its letter of December 19, 1988, PG&E provided the results of a safety analysis performed by Westinghouse to evaluate the proposed changes. The analysis showed that sufficient margin exists that redefining the fully withdrawn position for the rod banks to 225 steps or greater will not have a significant effect on any of the key safety parameters. Specific safety parameters evaluated include the power distribution, peaking factors, axial offset, shutdown margin, control rod worths, and departure from nucleate boiling ratio (DNBR).

The NRC staff has reviewed the analysis results, and finds them acceptable. Specifically, changing the rod position by such a small amount, near the top of the active ore, is expected to result in very small changes in the key safety parameters. Based on this, the staff finds the proposed amendments to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes in the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and (3) the issuance of these amendments will not be inimical to the common defense and security or the health and safety of the public.

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Dated: June 7, 1989