

October 19, 2000

Mr. Gregory M. Rueger
Senior Vice President, Generation and
Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
P.O. Box 3
Avila Beach, CA 94177

SUBJECT: DIABLO CANYON NUCLEAR POWER PLANT, UNIT 1 - ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT REGARDING
POWER UPRATE (TAC NO. MA7813)

Dear Mr. Rueger:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated December 31, 1999, as supplemented by letters dated January 18, July 7, September 22, and September 29, 2000. The proposed amendment would increase the maximum reactor core power level from 3338 megawatts thermal (MWt) to 3411 MWt, an increase of 2.2 percent of rated core thermal power for Diablo Canyon Nuclear Power Plant, Unit 1.

This assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Steven D. Bloom, Project Manager, Section 2
Project Directorate IV and Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-275

Enclosure: Environmental Assessment

cc w/encl: See next page

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Diablo Canyon Power Plant, Units 1 and 2

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UNITED STATES NUCLEAR REGULATORY COMMISSIONPACIFIC GAS AND ELECTRIC COMPANYDOCKET NO. 50-275DIABLO CANYON POWER PLANT, UNIT 1ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-80, issued to Pacific Gas and Electric Company (PG&E, or the licensee), for operation of the Diablo Canyon Nuclear Power Plant, Unit 1 (DCNPP), located in San Luis Obispo County, California.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed action would allow PG&E to increase the maximum reactor core power level from 3338 megawatts thermal (MWt) to 3411 MWt, which is an increase of 2.2 percent of rated core thermal power for DCNPP Unit 1.

The proposed action is in accordance with PG&E's application for amendment dated December 31, 1999, as supplemented by letters dated January 18, July 7, September 22, and September 29, 2000.

The Need for the Proposed Action:

The proposed action would permit an increase in the licensed core thermal power from 3338 MWt to 3411 MWt and would provide the flexibility to increase the potential electrical output of DCNPP Unit 1.

Environmental Impacts of the Proposed Action:

PG&E has submitted an environmental evaluation supporting the proposed power uprate and provided a summary of its conclusions concerning both the radiological and non-radiological environmental impacts of the proposed action. Based on the NRC's independent analyses and the evaluation performed by the licensee, the staff concludes that the proposed increase in power is not expected to result in a significant environmental impact.

Radiological Environmental Assessment:

Radwaste Systems

The reactor coolant contains activated corrosion products, which are the result of metallic materials entering the water and being activated in the reactor region. Under power uprate conditions, the feedwater flow increases with power and the activation rate in the reactor region increases with power. The net result may be an increase in the activated corrosion product production. However, the total volume of processed waste is not expected to increase appreciably.

Non-condensable radioactive gas from the main condenser, along with air in-leakage, normally contains activation gases (principally N-16, O-19 and N-13) and fission product radioactive noble gases. This is the major source of radioactive gas (greater than all other sources combined). These non-condensable gases, along with non-radioactive air, are continuously removed from the main condensers which discharge into the offgas system. The gaseous effluents will remain within the original limits following implementation of the power uprate.

PG&E has concluded that the operation of the radwaste systems at DCNPP will not be impacted by operation at uprated power conditions and the slight increase in effluents discharged would continue to meet the requirements of Part 20 of Title 10 of the *Code of*

Federal Regulations (10 CFR) and 10 CFR Part 50, Appendix I. Therefore, the power uprate will not appreciably affect the licensee's ability to process liquid or gaseous radioactive effluents and there are no significant environmental effects from radiological releases.

Dose Consideration

PG&E evaluated the effects of power uprate on the radiation sources within the plant and radiation levels during normal and post-accident conditions. Post-operation radiation levels in most areas of the plant are expected to increase by no more than the percentage increase in power level. In a few areas near the spent fuel pool cooling system piping and the reactor water piping, where accumulation of corrosion product crud is expected, as well as near some liquid radwaste equipment, the increase could be slightly higher. In this regard, procedural controls are expected to compensate for increased radiation levels. Occupational doses for normal operations will be maintained within acceptable limits by the site's as-low-as-reasonably-achievable program, which is required by 10 CFR 20.1101(b).

The power uprate would not involve significant increases in offsite doses to the public from noble gases, airborne particulates, iodine, tritium, or liquid effluents. A review of the normal radiological effluent doses shows that, at the current power level, doses are less than one percent of the doses allowed by the plant's technical specifications (TS). Present offsite radiation levels are a negligible portion of background radiation. Therefore, the normal offsite doses would not be significantly affected by operation at the uprated power level and would remain below the limits of 10 CFR Part 20 and 10 CFR Part 50, Appendix I.

The change in core inventory that would result from the power uprate is expected to increase post-accident radiation levels by no more than the percentage increase in power level. The licensee reanalyzed the large break loss-of-coolant accident (LOCA), the small break LOCA, the overtemperature and overpressure ΔT (OT ΔT /OP ΔT) setpoint calculation, and the

accidental reactor coolant system (RCS) depressurization event. The residual heat removal (RHR) cooldown calculation and main steam line break at full power were also reanalyzed as part of the uprate project. The slight increase expected in the post-accident radiation levels would have no significant effect on the plant nor on the habitability of the control room envelope, the Emergency Operations Facility, or the Technical Support Center. Thus, the licensee has determined that access to areas requiring post-accident occupancy would not be significantly affected by the power uprate. The licensee evaluated the whole body and thyroid doses at the exclusion area boundary that might result from the postulated design basis LOCA and determined that expected doses remain below established regulatory limits. Therefore, the results of the radiological analyses remain below the 10 CFR Part 100 guidelines and all radiological safety margins would be maintained if the amendment were granted.

Summary

The proposed power uprate would not significantly increase the probability or consequences of accidents, would not involve any new radiological release pathways or would not result in a significant increase in occupational or public radiation exposure, and would not result in significant additional fuel cycle environmental impacts. Accordingly, the NRC staff concludes that there are no significant radiological environmental impacts associated with the proposed action.

Non-Radiological Environmental Assessment:

The licensee reviewed the non-radiological environmental impacts of the requested power uprate based on information submitted in the Environmental Report, Operating License Stage, the NRC Final Environmental Statement (FES), and the requirements of the Environmental Protection Plan. Based on this review, the licensee concluded that the proposed power uprate would have no significant effect on the non-radiological elements of

concern and the plant will be operated in an environmentally acceptable manner as established by the FES. In addition, the licensee states that existing Federal, State, and local regulatory permits presently in effect accommodate the power uprate without modification.

The cooling water systems at DCNPP (e.g., circulating water and auxiliary saltwater systems) are drawn from the ultimate heatsink, Diablo Cove, part of the Pacific Ocean. DCNPP has determined that the power uprate would not cause any change to the DCNPP Environmental Protection Plan, however, it would reduce the margin between DCNPP performance and the allowable heat rejection to the Pacific Ocean. The licensee is allowed a maximum of 22°F between the cooling water intake and outflow between the two units. The outflows of both units mix together, therefore a 2.2 percent uprate of DCNPP Unit 1 will tend to increase the temperature change by 1.1 percent, or approximately 0.2°F.

DCNPP operates in compliance with a National Pollution Discharge Elimination System (NPDES) Permit, which requires all effluents to be closely monitored to assure compliance with the permit levels. DCNPP does not expect any effluent increases due to the power uprate of DCNPP Unit 1. With regards to potential non-radiological impacts, the proposed action would not change the method of operation at DCNPP or the methods of handling effluents. No changes to land use would result and the proposed action does not involve any historic sites. Therefore, no new or different types of non-radiological environmental impacts are expected. Accordingly, the NRC concludes that there are no significant non-radiological environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). Denial of the application would result in no change in

current environmental impacts, but would reduce the operational flexibility that would be afforded by the proposed change. The environmental impacts of the proposed action and the alternative action are not significantly different.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the FES for DCNPP.

Agencies and Persons Consulted:

In accordance with its stated policy, on October 3, 2000, the staff consulted with the California State official, Mr. Steve Hsu, of the Radiologic Health Branch of the State Department of Health Services, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated December 31, 1999, as supplemented by letters dated January 18, July 7, September 22, and September 29, 2000, which may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville,

Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site (the Electronic Reading Room).

Dated at Rockville, Maryland this 19th day of October 2000. .

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation