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PG&E Letter DCL-23-011

Drew Bohan, Executive Director
California Energy Commission
715 P Street – Mail-Stop 39
Sacramento, CA 95814
Drew.bohan@energy.ca.gov

References:

1. Senate Bill No. 846, Diablo Canyon powerplant: extension of operations, Introduced by Senator Dodd, Principal coauthor Assembly Member Cunningham, accessed at Bill Text - SB-846 Diablo Canyon powerplant: extension of operations.

Subject: Pacific Gas and Electric Company, Diablo Canyon Power Plant Available Capacity of Existing Wet and Dry Spent Fuel Storage Facilities and Forecasted Amount of Spent Fuel Through Continued Operation

Dear Mr. Bohan:

Senate Bill 846 (SB 846) determined the continued operation of the Diablo Canyon Power Plant in all respects constitutes an essential governmental purpose for the welfare and benefit of the people of the State and to the protection public peace, health, and safety. As such, SB 846 requires Pacific Gas and Electric Company (PG&E) to submit various reports, including a response to the following in SB 846, Section 5, Chapter 6.3:

"A covenant that the operator shall report to the commission no later than March 1, 2023, on the available capacity of existing wet and dry spent fuel storage facilities and the forecasted amount of spent fuel that will be generated by powerplant operations through the retirement dates for both units as of August 1, 2022, and November 1, 2029, for Unit 1 and November 1, 2030, for Unit 2."

The Enclosure to this submittal contains PG&E's response to this covenant.

Should you have any questions, please contact me at (805) 545-4242.

Sincerely,

Maureen R. Zawalick
Vice President Business and Technical Services

February 27, 2023
Date

Diablo Canyon Power Plant Available Capacity of Existing Wet and Dry Spent Fuel Storage Facilities and Forecasted Amount of Spent Fuel Generated Through Continued Operation

<u>Available Capacity of Existing Wet Fuel Storage:</u>

Diablo Canyon Power Plant (DCPP) Unit 1 (U1) Spent Fuel Pool (SFP)
- The DCPP U1 SFP has 1,324 usable cells for spent fuel storage.
- As of August 1, 2022, there were 992 fuel assemblies in the U1 SFP and 15 usable cells occupied by Non-Special Nuclear Materials.
- As of August 1, 2022, the available capacity of the U1 SFP was 317 open cells.

DCPP Unit 2 (U2) Spent Fuel Pool (SFP)
- The DCPP U2 SFP has 1,318 usable cells for spent fuel storage.
- As of August 1, 2022, there were 928 fuel assemblies in the U2 SFP, 1 usable cell occupied by a fuel rod storage canister, and 10 usable cells occupied by Non-Special Nuclear Materials.
- As of August 1, 2022, the available capacity of the U2 SFP was 379 open cells.

<u>Available Capacity of Existing Dry Fuel Storage:</u>

Diablo Canyon Independent Spent Fuel Storage Installation (DC ISFSI)
- The existing DC ISFSI is designed to store up to 4,400 spent fuel assemblies.
- As of August 1, 2022, there were 58 casks containing a total of 1,856 fuel assemblies in the DC ISFSI.
- As of August 1, 2022, the available capacity of the existing DC ISFSI was 2,544 fuel assemblies.

Forecasted Amount of Spent Fuel Generated Through Continued Operation:

DCPP Unit 1

The forecasted amount of spent fuel generated by DCPP Unit 1 from August 1, 2022, to the retirement date of November 1, 2029, is 529 fuel assemblies, as documented in Table 1. This is based on:

- It is estimated that Unit 1 will complete four refueling outages (Unit 1 Twenty-Fourth Refueling Outage [1R24] through Unit 1Twenty-Seventy Refueling Outage [1R27]) from August 1, 2022, through November 1, 2029.
- Refueling outages 1R24 through 1R27 are estimated to add 84 fuel assemblies per outage into the U1 SFP.
- The shutdown of Unit 1 will discharge all 193 fuel assemblies from the Unit 1 core into the Unit 1 SFP.

Table 1
Diablo Canyon Power Plant Unit 1 Spent Fuel Generated between August 1, 2022, to November 1, 2029

Refueling Outage	Fuel Assemblies
1R24 (Oct 2023)	84
1R25 (Apr 2025)	84
1R26 (Oct 2026)	84
1R27 (Apr 2028)	84
Shutdown (Nov 2029)	193
Total	529

Note – The estimated number of spent fuel assemblies are subject to change based on refueling outage planning and the core design for each cycle.

Forecasted Amount of Spent Fuel Generated Through Continued Operation (cont.):

DCPP Unit 2

The forecasted amount of spent fuel generated by DCPP Unit 2 from August 1, 2022, to the retirement date of November 1, 2030, is 642 fuel assemblies, as documented in Table 2. This is based on:

- It is estimated that Unit 2 will complete six refueling outages (Unit 2 Twenty-Third Refueling Outage [2R23] through Unit 2 Twenty-Eight [2R28]) from August 1, 2022, through November 1, 2030.
- Refueling outage 2R23 started in October 2022 and completed in November 2022. Seventy-seven spent fuel assemblies were added to the U2 SFP during 2R23.
- Unit 2 Twenty-Fourth Refueling Outage (2R24) through Unit 2 Twenty-Seventy Refueling Outage (2R27) are estimated to add 84 fuel assemblies per outage into the U2 SFP. 2R28 is estimated to add 36 fuel assemblies into the U2 SFP.
- The shutdown of Unit 2 will discharge all 193 fuel assemblies from the Unit 2 Core into the U2 SFP.

Table 2
Diablo Canyon Power Plant Unit 2 Spent Fuel Generated between August 1, 2022, to November 1, 2030

Refueling Outage	Fuel Assemblies
2R23 (Oct 2022)	77
2R24 (Apr 2024)	84
2R25 (Oct 2025)	84
2R26 (Apr 2027)	84
2R27 (Oct 2028)	84
2R28 (Apr 2030)	36
Shutdown (Nov 2030)	193
Total	642

Note – The estimated number of spent fuel assemblies are subject to change based on refueling outage planning and the core design for each cycle.