

NUCLEAR REGULATORY COMMISSION

Docket Nos. 50-275 and 50-323

Pacific Gas and Electric Company

Diablo Canyon Nuclear Power Plant, Units 1 and 2

Exemption

I. Background.

Pacific Gas and Electric Company (PG&E or the licensee) is the holder of Facility Operating License Nos. DPR-80 and DPR-82, which authorizes operation of Diablo Canyon Nuclear Power Plant (Diablo Canyon), Units 1 and 2, respectively. The licenses provide, among other things, that Diablo Canyon, Units 1 and 2 are subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect. Diablo Canyon is located in San Luis Obispo, California.

By letter dated November 27, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18331A553), the licensee informed the NRC of its intent to permanently cease operations for Diablo Canyon, Units 1 and 2, on November 2, 2024, for Unit 1, and August 26, 2025, for Unit 2.

By letter dated January 29, 2019 (ADAMS Accession No. ML19029A020), PG&E notified the NRC that a voluntary petition for relief under Chapter 11 of Title 11 of the United States Code was filed on January 29, 2019, in the United States Bankruptcy Court for the Northern District of California. The NRC acknowledged PG&E's bankruptcy notification on February 5, 2019 (ADAMS Accession No. ML19031C816). By letter dated March 14, 2019, the NRC staff stated that it does not anticipate that the PG&E bankruptcy filing, including that of its parent company, will have any adverse safety impacts at Diablo Canyon, Units 1 and 2 (ADAMS Accession No. ML19074A109). Additionally, the NRC staff stated that the bankruptcy filing

does not relieve PG&E of its obligations to comply with NRC requirements and that PG&E must continue to comply with all of its obligations under the Atomic Energy Act of 1954 (AEA) as amended, and the NRC's regulations, including the obligations relating to decommissioning financial assurance. The NRC continues to monitor PG&E's decommissioning financial assurance for Diablo Canyon and continued compliance with NRC's decommissioning funding requirements.

II. Request/Action.

By letter dated December 13, 2018 (ADAMS Accession No. ML18347B552), PG&E submitted a request for exemptions from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.82(a)(8)(ii) for Diablo Canyon, Units 1 and 2. The exemptions would allow the licensee to use an amount of funds from the Diablo Canyon Nuclear Decommissioning Trust (NDT)¹ for decommissioning planning above the amount limitations specified in NRC regulations for operating reactors and use withdrawals from the NDT for planning activities associated with spent fuel management and site restoration. Overall, the proposed action would allow PG&E to withdraw \$187.8 million (\$2017) from the Diablo Canyon NDT to fund radiological decommissioning, spent fuel management, and site restoration planning activities necessary prior to permanent cessation of operations of Diablo Canyon, Units 1 and 2, in 2024 and 2025, respectively.

According to the application, planning activities necessary to support direct transition to physical decommissioning upon permanent shut down of Diablo Canyon, Units 1 and 2, include: obtaining revisions to NRC licenses and requirements; obtaining state and local permits required for decommissioning activities and supporting required stakeholder processes related to future land use and disposition of facilities; completing engineering design, work plans,

¹ The NRC notes that decommissioning trust funds in the NDT are not property of PG&E's estate and are held in trust for the exclusive purpose of providing funds for the decommissioning of the nuclear plants. See 10 CFR 50.75.

technical evaluations, and procurement to support several major, critical decommissioning projects scheduled at the front end of the decommissioning effort; developing and supporting decommissioning cost estimates and supporting nuclear decommissioning proceedings at the California Public Utilities Commission (CPUC); and developing detailed executable work plans for decommissioning work, revising plant processes and procedures as necessary.

PG&E has estimated that a total of \$187.8 million (\$2017) would be required to be spent on pre-shutdown planning activities; \$148.4 million would be for radiological decommissioning planning activities, and \$39.4 million would be for spent fuel management and site restoration planning activities. The estimated \$148.4 million amount is more than 3 percent of the generic minimum decommissioning amount calculated for an operating reactor using the formula set forth by NRC regulations at 10 CFR 50.75. Furthermore, withdrawals from the decommissioning trust fund cannot be used to fund the PG&E estimated \$39.4 million for spent fuel management and site restoration planning activities absent (1) a clear indication that monies in the fund were collected for those purposes and are clearly and consistently accounted for separately,² or (2) an exemption from the requirements of 10 CFR 50.82(a)(8)(i)(A) for use of funds for those purposes.

The requirements of 10 CFR 50.82(a)(8)(ii) restrict the use of the NDT for decommissioning planning to 3 percent of the generic minimum decommissioning amount calculated using the formula set forth by the regulations at 10 CFR 50.75. For licensees that have submitted the certifications required under 10 CFR 50.82(a)(1) and commencing 90 days after the NRC has received the Post-Shutdown Decommissioning Activities Report, an additional 20 percent may be used. A site-specific decommissioning cost estimate must be

² The NRC does not preclude the commingling of funds accumulated to comply with NRC radiological decommissioning requirements and funds accumulated to address site restoration costs and spent fuel management costs, as long as the licensee is able to identify and account for the NRC radiological decommissioning funds that are contained within its single account. See NRC Regulatory Issue Summary 2001-07, Revision 1, "10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning," dated January 8, 2009 (ADAMS Accession No. ML083440158); Regulatory Guide 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013 (ADAMS Accession No. ML13144A840).

submitted to the NRC prior to the licensee using any funding in excess of these amounts. Furthermore, as required by 10 CFR 50.82(a)(8)(i)(A), decommissioning trust funds may be used by the licensee if the withdrawals are for legitimate decommissioning activities, consistent with the definition of decommissioning in 10 CFR 50.2. The definition in 10 CFR 50.2 states, that “Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits (1) Release of the property for unrestricted use and termination of the license; or (2) Release of the property under restricted conditions and termination of the license.”

This definition addresses radiological decommissioning and does not include activities associated with irradiated fuel management or site restoration activities. Therefore, these regulations would limit withdrawals from the Diablo Canyon NDT to \$37.2 million (\$18.6 million per unit) and would allow spending only on planning activities for radiological decommissioning. In addition, as noted above, the licensee does not plan to permanently cease operations for Diablo Canyon, Units 1 and 2, until November 2, 2024 for Unit 1, and August 26, 2025, for Unit 2. Therefore, exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.82(a)(8)(ii) are needed to allow the licensee to use an amount of funds from the Diablo Canyon NDT for decommissioning planning above the 3 percent limitation specified in NRC regulations and to use withdrawals from the NDT for planning activities associated with spent fuel management and site restoration.

III. Discussion.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) any of the special circumstances listed in 10 CFR 50.12(a)(2) are present. These special circumstances, as stated in 10 CFR 50.12(a)(2) include, among other things: (a) “Application of the regulation in

the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule”; and (b) “Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated.”

A. The Exemptions are Authorized by Law

The exemptions would allow PG&E to withdraw \$187.8 million (\$2017) from the Diablo Canyon NDT to fund planning activities for radiological decommissioning, spent fuel management, and site restoration prior to permanent cessation of operations. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined, as explained in Section D below, that there is reasonable assurance of adequate funding for radiological decommissioning because PG&E’s withdrawal of \$187.8 million (\$2017) from the Diablo Canyon NDT for planning activities for radiological decommissioning, spent fuel management, and site restoration will not adversely impact PG&E’s ability to complete radiological decommissioning within 60 years of permanent cessation of operations and terminate the Diablo Canyon licenses. Accordingly, the exemption is authorized by law because granting the licensee’s proposed exemptions will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission’s regulations.

B. The Exemptions Present no Undue Risk to Public Health and Safety

The proposed exemptions would allow PG&E to withdraw \$187.8 million (\$2017) from the Diablo Canyon NDT to fund planning activities for radiological decommissioning, spent fuel management, and site restoration between now and permanent cessation of operations, to support a safe and efficient transition from operational to decommissioning status. PG&E has estimated that a total of \$187.8 million (\$2017) would be needed for pre-shutdown planning activities; \$148.4 million would be for radiological decommissioning planning activities, and \$39.4 million would be for spent fuel management and site restoration planning activities.

According to the licensee, spending the \$187.8 million now will save approximately \$166.1 million (\$2017) in overall decommissioning cost mainly due to savings on security, fire protection, and overall staffing costs mainly due to savings on security, fire protection, and overall staffing costs.

As explained in further detail in Section D below, based on the NRC staff's review of PG&E's exemption request and site-specific cost estimate and the staff's independent cash flow analysis, the NRC staff finds that PG&E's withdrawal of \$187.8 million (\$2017) from the Diablo Canyon NDT for planning activities for radiological decommissioning, spent fuel management, and site restoration, will not adversely impact PG&E's ability to complete radiological decommissioning within 60 years of permanent cessation of operations and terminate the Diablo Canyon licenses. Therefore, the requested exemptions will not present an undue risk to public health and safety if granted.

In addition, granting the requested exemptions will not alter the operation of any plant equipment or systems and, therefore, does not present an undue risk to safety. The proposed exemptions do not introduce any new industrial, radiological, chemical, or radiological hazards that would present a health and safety risk nor would granting the exemptions result in modifying or removing design or operational controls or safeguards that are intended to mitigate onsite hazards. This exemption does not diminish the effectiveness of other regulations that ensure available funding for decommissioning, including 10 CFR 50.82(a)(6), which prohibits licensees from performing any decommissioning activities that could foreclose release of the site for possible unrestricted use, result in significant environmental impacts not previously reviewed, or result in there no longer being reasonable assurance that adequate funds will be available for decommissioning. Therefore, the requested exemptions will not present an undue risk to public health and safety if these exemptions are granted.

C. The Exemptions are Consistent with the Common Defense and Security

The exemptions, allowing withdrawal of \$187.8 million (\$2017) of the Diablo Canyon NDT for planning activities for radiological decommissioning, spent fuel management, and site restoration do not alter the design, function, or operation of any structures or plant equipment that is necessary to maintain the safe and secure status of the plant and will not adversely affect PG&E's ability to physically secure the site or protect special nuclear material. Therefore, the common defense and security is not impacted by the exemptions.

D. Special Circumstances

The regulation under 10 CFR 50.12(a)(2) states, in part, that “[t]he Commission will not consider granting an exemption unless special circumstances are present,” and identifies, in 10 CFR 50.12(a)(2)(i)-(vi), when special circumstances are present. Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.82(a)(8)(ii) is to provide reasonable assurance that adequate funds will be available for radiological decommissioning of power reactors within 60 years of permanent cessation of operations. Strict application of these requirements would limit withdrawal from the Diablo Canyon NDT to \$37.2 million (\$18.6 million per unit) and would allow spending only on planning activities for radiological decommissioning.

The NRC staff performed an independent cash flow analysis using information provided in PG&E's cash flow statement in Enclosure 2 of the exemption request, dated December 13, 2018, and information provided in PG&E's site-specific cost estimate submitted by letter dated March 26, 2019 (ADAMS Accession No. ML19094B780). The balance in the NDT as of December 31, 2018, was \$1.31 billion for Unit 1 and \$1.71 billion for Unit 2. The site-specific cost estimate states that PG&E plans to deposit

\$226.7 million per year into the Unit 1 NDT in 2020-2024, and \$151.1 million per year into the Unit 2 NDT in 2020-2025. The site-specific cost estimate also states that the estimated costs for radiological decommissioning are \$1.581 billion for Unit 1 and \$1.578 billion for Unit 2.

Using the costs for radiological decommissioning for both units provided in the site-specific cost estimate, a 2% rate of return on the NDT (as allowed by 10 CFR 50.75(e)(1)(ii)), and considering withdrawal of \$187.8 million (\$2017) from the Diablo Canyon NDT for the specified planning activities, the NRC staff determined that the balance in the NDTs at the completion of radiological decommissioning in 2038 is expected to be approximately \$1.046 billion for Unit 1 and \$1.117 billion for Unit 2 indicating that the licensee will have sufficient funds to complete radiological decommissioning. In addition, the staff's independent cash flow analysis projects that the Diablo Canyon NDT would contain approximately \$3.68 billion in 2076 (for both units) when PG&E projects the site will be fully decommissioned, and all spent fuel will be removed from the site. Therefore, the NRC staff finds that there is reasonable assurance of adequate funding for radiological decommissioning because PG&E's withdrawal of \$187.8 million (\$2017) from the Diablo Canyon NDT for radiological decommissioning, spent fuel management, and site restoration planning activities will not adversely impact PG&E's ability to complete radiological decommissioning within 60 years of permanent cessation of operations and terminate the Diablo Canyon licenses.

In addition, under 10 CFR 50.75(f), the licensee will be required to submit an annual report regarding the status of decommissioning funding for Unit 1, beginning in 2020, and for Unit 2, beginning in 2021 because the units will be within five years of permanently shutting down. Also, under 10 CFR 50.75(h)(2), the licensee is required to provide the NRC with written notice at least 30 business days prior to any disbursement from the NDT for spent fuel management and site restoration planning activities. Lastly,

the NRC notes that PG&E is an electric utility as defined by 10 CFR 50.2, and therefore, has the ability to address any future shortfall in the NDT with the CPUC (who sets the electric rates for PG&E), should that be necessary in the future.

In transitioning to and planning for decommissioning activities, several power reactor licensees have requested exemptions from the decommissioning funding assurance requirements in 10 CFR 50.75 and 10 CFR 50.82 to allow for the withdrawal of funds from their NDTs for expenses unrelated to radiological decommissioning as defined in 10 CFR 50.2, such as for spent fuel management and site restoration. Generally, the NRC has granted these exemption requests, on a case-by-case basis, finding reasonable assurance that even after the proposed withdrawals of funds for the requested use (e.g. spent fuel and site restoration), sufficient funding remains in the NDT to complete radiological decommissioning and terminate the license.

The Commission addresses a similar issue in Staff Requirements Memorandum (SRM) SECY-02-0085, "Recent Issues With Respect to Decommissioning Funding Assurance That Have Arisen as Part of License Transfer Applications and Other Licensing Requests," dated January 3, 2003 (ADAMS Accession No. ML030030539). In that SRM, the Commission stated that, "[t]he staff should continue to review requests for withdrawal or non-transfer of funds from decommissioning trusts on a case-by-case basis," and "...while a trust is accumulating, our regulations should be interpreted as strictly as possible to preclude withdrawals... (both radiological and non-radiological)." The staff recognizes that PG&E's exemption request has been submitted by the licensee during the operational life and decommissioning funding-accumulating phase of the license. However, given the unique circumstances of PG&E's request, including the known date of shutdown of the units in advance, the time period until the units are permanently shut down, PG&E's projected cost savings of \$166.1 million (\$2017), the current balance of the NDT, the projected balance of the NDT at license termination

based on the staff's independent cash flow analysis, and PG&E's ability to address any future shortfalls in the NDT with the CPUC, the NRC staff determined that the request is justified under the SRM.

In summary, the NRC staff found that reasonable assurance exists that adequate funds will be available in the Diablo Canyon NDT to complete radiological decommissioning and terminate the Part 50 license, with sufficient funding available beyond that required under 10 CFR 50.75 to pay for PG&E's proposed planning activities for radiological decommissioning, spent fuel management, and site restoration. Accordingly, the NRC staff concludes that application of the 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.82(a)(8)(ii) requirements that limit the withdrawal of funds from the Diablo Canyon NDT for decommissioning planning to 3 percent for operating reactors and preclude withdrawals from the NDT for planning activities associated with spent fuel management and site restoration are not necessary to achieve the underlying purpose of the rule; thus, special circumstances are present supporting approval of the exemption request.

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(iii), are present whenever compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others who are similarly situated.

The NRC staff analyzed PG&E's cash flow statements in Enclosure 3 of the application dated December 13, 2018, that compared conducting planning activities while the units are in operation and spending the proposed \$187.8 million (\$2017) over the next few years against waiting until permanent cessation of operations and then conducting the planning activities. PG&E's analysis shows that by waiting to conduct the planning activities, the licensee would need to spend significant resources (\$166.1 million) on various activities (security, operations, chemical and radiation protection, and fire brigade) that can be avoided by conducting the

planning activities while the units are in operation. The licensee also stated that executing on planning and permitting activities between now and permanent shut down would allow physical decommissioning to begin shortly after permanent shut down. The licensee estimates this would reduce the duration of the decommissioning activities by 2 years. Based on the above, the staff finds that this increased cost would result in undue hardship or other costs to the licensee that are significantly in excess of those contemplated when the regulation was adopted as these increased costs can be avoided by granting the exemption request.

E. Environmental Considerations

In accordance with 10 CFR 51.31(a), the Commission has determined that granting of these exemptions will not have a significant effect on the quality of the human environment (see Environmental Assessment and Finding of No Significant Impact published on August 16, 2019 (84 FR 42025)).

IV. Conclusions.

In consideration of the above, the NRC staff finds that PG&E has provided reasonable assurance that adequate funds will be available for the radiological decommissioning of Diablo Canyon, even with the withdrawal of \$187.8 million (\$2017) from the Diablo Canyon NDT for planning activities for radiological decommissioning, spent fuel management, and site restoration.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants PG&E exemptions from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.82(a)(8)(ii) to allow the licensee to use \$187.8 million (\$2017) from the Diablo Canyon NDT for decommissioning planning above the 3 percent

limitation specified in NRC regulations and for withdrawals from the NDT for planning activities associated with spent fuel management and site restoration.

The exemptions are effective upon issuance.

Dated at Rockville, Maryland, this 10th day of September 2019.

For the Nuclear Regulatory Commission.

/RA/

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