



DIABLO CANYON

Decommissioning Engagement Panel



# A Strategic Vision

December 2018

*Revised May 2019*

# Acknowledgements

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The Diablo Canyon Decommissioning Engagement Panel (DCDEP) would like to thank PG&E for recognizing the value of public engagement and creating and supporting the DCDEP over the past year. The meetings, workshops, tours and other outreach efforts that PG&E has made available to the DCDEP and the public has provided invaluable information and created a forum for an open dialog with the citizens of the County.

The DCDEP greatly appreciates and thanks the numerous individuals, groups and agencies for helping us understand the decommissioning process, the opportunities available for conservation of the scenic lands that surround the power plant, the possibilities for repurposing of on-site facilities and the deep connection that our local Native American community has to this land.

The DCDEP would especially like to thank you, the Public. Without your testimony at meetings and workshops, your letters and emails, and your passion for our beautiful county, the DCDEP could not have created such a comprehensive vision for the future of the Diablo Canyon Power Plant.

The DCDEP would also like to thank two individuals in particular who helped significantly in bringing this Strategic Vision together. First, Charles Anders, the DCDEP facilitator, who enabled fruitful discussions between DCDEP members and the public and kept us on track and focused. Second, Kami Griffin, who provided invaluable writing and editing assistance. We are sincerely grateful to you both.

Thank you.

*The Diablo Canyon Decommissioning Engagement Panel*



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## **Photos**



# Executive Summary

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This Strategic Vision was prepared by the Diablo Canyon Decommissioning Engagement Panel (DCDEP). The DCDEP anticipates that this vision document will have multiple purposes. In December 2018, PG&E submitted its [Nuclear Decommissioning Cost Triennial Proceeding](#) (Triennial Report) to the California Public Utilities Commission (CPUC). The DCDEP has submitted the initial Strategic Vision (prepared in 2018) as a supplement to that Triennial Report, and will submit each revision of the Strategic Vision as they are completed. The Strategic Vision will also be a stand-alone document that will be available to the community, stakeholders and regulatory agencies in order to provide information about the decommissioning process itself and recommendations from the DCDEP that reflect the community's wishes for what will occur before, during and after decommissioning.

The Strategic Vision will be revised, updated and refined as the DCDEP continues to hold public meetings and workshops and receive comments on other important issues associated with the decommissioning process. This includes the complex issue of long-term storage and intended future removal from the DCP site of spent nuclear fuel, a review and self-evaluation of the DCDEP, the potential economic impacts of the closure of Diablo Canyon Power Plant, transportation of demolished materials from the site and the DCDEP's response to the Triennial Report.

## Diablo Canyon Power Plant (DCPP)

The DCP is an electricity generating nuclear power plant located near the town of Avila Beach in San Luis Obispo County operated by Pacific Gas and Electric (PG&E). The plant has two 4-loop pressurized water nuclear reactors. In June 2016, PG&E announced plans to close the two Diablo Canyon reactors in 2024 and 2025. The closure was approved by the CPUC on January 11, 2018.

## Diablo Canyon Decommissioning Engagement Panel (DCDEP)

The DCDEP was convened by PG&E as a volunteer, non-regulatory body created to foster and encourage open communication, public involvement and education on DCP decommissioning plans and activities. It is intended to serve as a forum for the local community to provide direct input to PG&E and regulatory agencies on matters related to DCP decommissioning.

The DCDEP was formed specifically to provide an avenue for communication from the public to PG&E on the issues surrounding decommissioning, and not to address the decision to close the DCP.

## Community Outreach Process

The DCDEP has held regular public monthly meetings as well as workshops focused on specific subjects. The first meeting was held on May 30, 2018. Since that time the DCDEP has conducted a total of eight public community meetings and six all-day public workshops to receive information and listen to the public's concerns and perspectives. In response to the significant outreach efforts by the DCDEP, over 1,000 documented comments have been received to date.

## Strategic Vision

This Strategic Vision has been prepared by the DCDEP as a “living document” that will be amended and refined as the decommissioning process continues and the DCDEP addresses and hears from the public on other issues, such as spent fuel storage and on-going management, the structure and form of the DCDEP, the potential economic impacts of the closure of DCP, and the demolition and transport of demolished materials (both radiological and non-radiological). The recommendations contained in this vision document are based on the views of the community as expressed during public meetings and workshops, as well as through emails, letters and other correspondence. The Vision, Goals and Recommendations were prepared by the DCDEP and this document was created by the DCDEP using a facilitated process.

## Summary of Recommendations

This Strategic Vision contains specific Visions, Goals and Recommendations that represent the DCDEP’s vision for the DCP and lands before, during and after the decommissioning process. In general, the DCDEP recommends:

- ❖ The decommissioning (decontamination) process should begin immediately upon shutdown with a goal of 10 years for completion of radiological decommissioning and decontamination, avoiding SAFSTOR (which allows up to 60-year delay in decontamination)
- ❖ The health and safety of the community and the environmental quality of the area should be the primary consideration when evaluating cost-effective methods of decommissioning in order to save ratepayers money
- ❖ The 12,000 acres that surround the DCP are a spectacular natural resource and need to be conserved in perpetuity while allowing for managed-public access and use
- ❖ The repurposing of facilities should be explored as a way to both reduce the amount of demolition materials created and create opportunities for new local jobs and economic development while considering public safety, traffic concerns and the environmental quality of the region
- ❖ The engagement panel should be in a form that would lead to the best possible recommendations on achieving a safe and effective decommissioning of the DCP, including the disposition of Diablo Canyon Lands and Facilities
- ❖ The planning, execution and communication of a rigorous safety and emergency planning program should be ensured until the plant site is fully cleared of all waste, facilities, and other structures not suitable for repurposing *[Added April 2019]*
- ❖ The protection of human health and safeguarding the community, workers and the environment should be the primary considerations in the management of spent nuclear fuel at DCP *[Added May 2019]*

## Topics Included - Strategic Vision Document

The following topics are included in this document:

- |  |   |
|--|---|
| A. Decommissioning Process                     | E. Engagement Panel Structure and Function Review |
| B. Decommissioning Funding                     | F. Emergency Planning                             |
| C. Diablo Canyon Lands                         | G. Spent Fuel Management                          |
| D. Repurposing of the Diablo Canyon Facilities |   |

*[Amended May 2019]*

## Topics Scheduled for Meetings and Workshops in 2019

The following topics are scheduled to be the subject of DCDEP workshops and meetings in 2019. Vision, Goals and Recommendations covering these topics will be included in a revised document:

- First Quarter – Spent Fuel Storage - Complete
- Second Quarter – Engagement Panel Evaluation
- Third Quarter – Potential Economic Impacts / Possible Economic Development Opportunities
- Fourth Quarter – Transportation

## Revisions – Strategic Vision Document

The Strategic Vision Document will be amended and added to by the DCDEP from time to time. You can search for these changes by the month followed by the year as shown on the Amendments Page at the back of the document. In addition, a vertical line in the margin delineates the most recent changes.

The following memos provide a general description of revisions.

[May 2019](#)

# I. Introduction/Background

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The following sections provide an overview of the Diablo Canyon Power Plant (DCPP), the lands surrounding the DCPP, the decision to close DCPP, the decommissioning process itself and the Diablo Canyon Decommissioning Engagement Panel (DCDEP).

## A. History of the Diablo Canyon Power Plant

The DCPP is an electricity-generating nuclear power plant located near the community of Avila Beach in San Luis Obispo County, California. After the permanent shutdown of the San Onofre Nuclear Generating Station in 2013, it is the only remaining operational nuclear power plant in the state.

The facility, which is located on about 12,000 acres of which about 12 acres form the power-producing portion of the plant, has been in operation since 1985. Its two Westinghouse Pressurized Water Reactor units are licensed until 2024 and 2025 respectively. The two units produce a total of 18,000 gigawatt-hours of electricity annually, which is enough energy to meet the needs of more than three million Northern and Central Californians. This is nearly 10 percent of California's energy portfolio and 20 percent of the power that PG&E provides throughout its service area.

In February, 1963 PG&E announced plans to construct five nuclear reactors at the Nipomo Dunes in southern San Luis Obispo County. Protests were immediately raised and later that year, the Sierra Club met with PG&E to discuss establishing the new power plant on an alternative site. PG&E agreed to choose an alternative site and two years later in 1965, the Diablo Canyon site became the new alternative to the Nipomo Dunes. Over the next three years, PG&E began the process for construction of a two unit reactor with the Atomic Energy Commission (precursor to the Nuclear Regulatory Commission) and the California Public Utility Commission (CPUC). The Atomic Energy Commission formally approved the construction permit in April 1968 and in July of 1968, construction began on Unit 1. The Unit 2 construction permit was issued in December of 1970, with construction beginning in early 1971.

Continuing through the 1970s, there were hearings, referenda and litigation covering issues involving earthquake safety, security plans, and environmental quality. In 1984, after 14 years of hearings, protests, blockades, interventions, court cases, retrofits and reconstruction, PG&E was granted a full power licenses by the Nuclear Regulatory Commission (NRC) for Unit 1 on August 2nd and Unit 2 on November 2nd. On May 7, 1985, Unit 1 began commercial operation and on March 13, 1987, Unit 2 followed.

## B. Diablo Canyon Lands and the Irish Hills

The Diablo Canyon Lands stretch along 14 miles of pristine coastline, containing relatively undisturbed grasslands, coastal sage, oak woodlands and bishop pine forests. These areas are currently managed by PG&E using innovative best management practices and a strong land stewardship program. The Diablo Canyon Lands include the North Ranch (north of the power plant), South Ranch (directly south of the power plant) and the 2,400-acre Wild Cherry Canyon property to the southeast. The Diablo Canyon Lands also include the public Point Buchon and Pecho Coast trails, as well as the Point San Luis Lighthouse, which is open to the public through docent led tours.



The Diablo Canyon Lands are located in the Irish Hills region of San Luis Obispo County (See Figure 1), which has been the subject of significant conservation activity over the last two decades. In 2000, the Nature Conservancy identified the Irish Hills as a top conservation priority in the state, noting the following:

*“The Irish Hills embrace the rugged, western portion of the San Luis Range, extending from the Pacific Ocean to Los Osos Valley, and from the town of Los Osos on the north to the San Luis Obispo Creek on the south. The largely undisturbed and highly scenic site includes Montana de Oro State Park, the Hibberd Preserve [now owned by the SLO Land Conservancy], and scattered large private holdings, including PG&E properties surrounding the Diablo Canyon Nuclear Power Plant.”*

That same year, 75 percent of county voters supported the [DREAM](#) Initiative (Diablo Resources Advisory Measure, also known as Measure A). DREAM called on PG&E and county leaders to set aside the Diablo Canyon Lands for habitat preservation, agriculture, and public use upon the closure of the plant.

Since Measure A’s passage, multiple conservation projects have been completed within the Irish Hills. In 2001, The Nature Conservancy acquired approximately 1,000 acres along Davis Canyon, and over the next several years acquired and conserved the Andre, Basserti, Muzio, Yost and Miller properties, totaling nearly 1,900 acres. Additional properties have been conserved on the northwestern edge of the Irish Hills by the City of San Luis Obispo as part of its greenbelt protection program. These acquisitions along with other protected properties (including the Hibberd Preserve, BLM lands, and Montana de Oro) nearly complete a path for a 20-mile interior trail connecting Avila Beach to Los Osos. The last critical piece is Wild Cherry Canyon, which has been the subject of numerous (as of yet unsuccessful) conservation efforts.

### **C. [Process and Decision to Close Diablo Canyon Power Plant](#)**

On June 21, 2016, PG&E partnered with labor and leading environmental organizations on a joint proposal that would increase investment in energy efficiency and renewables while retiring Diablo Canyon Power Plant (DCPP) at the end of its current NRC operating licenses when they expire on November 2, 2024 (Unit 1), and August 26, 2025 (Unit 2). The parties to the DCPP joint proposal include PG&E, International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees, Friends of the Earth, Natural Resources Defense Council, Environment California, California Energy Efficiency Industry Council and Alliance for Nuclear Responsibility.

PG&E’s decision to withdraw the license renewal application for DCPP was based on the determination that the continued baseload operation of the two DCPP units beyond the currently approved operating periods is not necessary to meet PG&E’s projected energy demand requirements. This decision was also in support of the state policy to meet California future electricity needs with renewable generation resources. This resource planning decision was approved by the CPUC on January 11, 2018 (Decision 18-01-022). In February 2018, PG&E withdrew its application to the NRC for a licensing extension.

# LAND OWNERSHIP



The CPUC has authorized several elements of the joint proposal, including approval to cease plant operations once the NRC operating licenses expire, and funding for employee retraining and redeployment. The CPUC also stated its intention to avoid any increase in greenhouse gas emissions resulting from the closure of DCPD.

Funding for the community impact mitigation program and full funding of the employee retention program were not approved by the CPUC. The CPUC instead set forth that legislative authorization would be needed to approve the community impact mitigation program. Senate Bill (SB) 1090 was introduced in the California State Legislature to meet these key remaining goals of the joint proposal. It was approved by the State Senate and State Assembly in 2018 with bipartisan support, and was signed into law by Governor Brown on September 20, 2018.

## **D. Decommissioning**

When a power company decides to close a nuclear power plant permanently, the facility must be decommissioned by safely removing it from service and reducing residual radioactivity to a level that permits release of the property and termination of the operating license. The NRC has strict rules governing nuclear power plant decommissioning, involving cleanup of radioactively contaminated plant systems and structures and removal of the radioactive fuel. These requirements protect workers and the public during the entire decommissioning process and the public after the license is terminated.

### **Decommissioning Process**

The companies that operate nuclear power plants can use one or both of two options to decommission their facilities.

The first option is known as “DECON,” short for decontamination. With DECON, the first steps of taking the plant apart begin as soon as the fuel is removed from the reactor vessel. The operator first decontaminates or removes contaminated equipment and materials. The transfer of spent nuclear fuel into dry cask storage and the removal of equipment lowers the radiation level in the facility and significantly reduces the potential exposure to workers during subsequent decommissioning operations. DECON can take five years or more.

The second option is called “SAFSTOR,” for safe storage. This process takes much longer. After the fuel is removed from the reactor vessel, the plant is kept intact and placed in protective storage for an extended period of time. This allows the radioactive elements in components to decay to stable elements. During this time, the main components of the plant remain in place, including the reactor vessel, fuel pools, turbine and other elements. All fuel is removed from the reactor vessel and placed in fuel pools or dry storage on-site. The NRC continues to inspect the site and provides regulatory oversight of maintenance and security appropriate to the low risk profile of the site. The plant is dismantled in a process similar to the DECON option once radioactivity has decayed to lower levels and the safety risk to workers is substantially reduced. Generally, sites must spend no longer than 50 years in SAFSTOR to allow up to 10 years for decontamination. The entire process must be completed within 60 years.

According to the NRC website, eighteen commercial reactors in the United States are in the decommissioning process. Twelve of these reactors are using the SAFSTOR option, six are using the DECON option.



### Decommissioning Funding

Before a nuclear power plant begins operations, the NRC requires that the licensee must establish or obtain a financial mechanism (such as a trust fund or a guarantee from its parent company) to ensure there will be sufficient money to pay for the ultimate decommissioning of the facility.

Each nuclear power plant licensee must report to the NRC every two years the status of its decommissioning funding for each reactor that it owns. The report must estimate the minimum amount needed for decommissioning by using predetermined formulas. Licensees may alternatively determine a site-specific funding estimate, provided that amount is greater than the generic decommissioning estimate determined through the formulas. Approximately 70 percent of licensees are authorized to accumulate decommissioning funds over the operating life of their plants. The NRC completes an independent analysis to determine whether licensees are providing reasonable "decommissioning funding assurance" for radiological decommissioning of the reactor at the permanent termination of operation.

In California, the CPUC also regulates and reviews nuclear decommissioning costs and projects, pursuant to the California Nuclear Facility Decommissioning Act. The California Nuclear Facility Decommissioning Act was passed by state legislation in 1985 to ensure that there is sufficient funding available to decommission nuclear facilities upon shutdown. As early as 1983, the CPUC ordered PG&E to begin forecasting its nuclear decommissioning costs to make sure that there is adequate funding and that those decommissioning costs would be distributed equitably over time among all customers who benefit from the operation of the DCP.

Under the 1985 Act, the CPUC established the Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) as a proceeding to examine nuclear decommissioning costs funding levels for the trust fund that each utility establishes to fund decommissioning, and the assumptions associated with that funding level. Specifically, the NDCTP application includes a decommissioning cost estimate that covers reasonable and prudent decommissioning costs and assumptions around how that cost estimate is developed. The application also includes a review of any decommissioning projects that were completed since the last application was filed, and any assumptions about the trust fund, the rate of return and funding requirements. The NDCTP application is filed every three years and the revenue requirement can and will be adjusted every three years with subsequent NDCTP applications as new information becomes available. PG&E filed a NDCTP application in March of 2016. The latest filing was on December 13, 2018.

### Ownership of Nuclear Power Plants During Decommissioning

Because the expertise needed to operate a nuclear power plant is different than the expertise needed to decommission a plant, some operators in the United States have elected to transfer the power plant after closure to a third party to complete the decommissioning process. The acquiring party accepts the responsibility for full decontamination and site restoration, and would have access to the trust funds established by the original operator and in the case of a regulated utility, funded by ratepayers.

Other power plants retain ownership of the plant itself, as well as the licenses, spent fuel and Nuclear Decommissioning Trust. They may elect however, to hire a contractor to perform the decommissioning activities, instead of performing the activities themselves. Both SONGS, located in San Onofre, California and the Fort Calhoun Nuclear Generating Station, located in Fort Calhoun, Nebraska are examples of this option. Both of these plants have entered into a contract

for EnergySolutions to be the General Decommissioning Contractor. EnergySolutions will perform all of the work and hire the subcontractors while the power plant operator (SCE and Omaha Public Power District) will perform the contract oversight (similar to a general contractor and property owner of a construction site).

The following nuclear power plants, located in other states, have been sold to companies that will complete the decommissioning activities.

**1. Indian Point (NY) Nuclear Power Plant, Buchanan, New York – Merchant Generator**

Entergy Corporation has agreed to sell the subsidiaries that own Indian Point Units 1, 2, and 3, to a Holtec International subsidiary for decommissioning. The sale includes the transfer of the licenses, spent fuel, decommissioning liabilities, and Nuclear Decommissioning Trusts for the three units. (2019)

<http://www.safesecurevital.com/entergy-agrees-to-post-shutdown-sale-of-indian-point-energy-center-to-holtec-international/>

**2. Vermont Yankee Nuclear Power Plant – Vernon, Vermont – Regulated Utility**

Entergy Corporation completed the sale of Entergy Nuclear Vermont Yankee to subsidiaries of NorthStar Group Services, which will decommission the Vermont Yankee Nuclear Power Station site. The sale is a first-of-its-kind in the nuclear power industry – a permanent ownership and license transfer to a company that is slated to perform timely and efficient decommissioning and site restoration. NorthStar will own, possess the licenses for, and decommission Vermont Yankee. (2018)

<http://vydecommissioning.com/entergy-completes-sale-of-vermont-yankee-to-northstar/>

**3. Zion Illinois Nuclear Power Plant – Zion, Illinois - Merchant Generator**

Exelon Corporation completed the sale of Zion Station to EnergySolutions, to dismantle the plant and remove material and parts to its Utah waste facility. The sale includes the transfer of the station license. Exelon retains ownership of the spent nuclear fuel. At the completion of the decommissioning, responsibility for the site will transfer back to Exelon. (2010)

[https://www.exeloncorp.com/newsroom/Documents/Press-Release-Starting%20with%20Zion%20Station%20Decommissioning,%20Exelon%20to%20Make%205-Year,%20\\$46%20Billion%20Investment%20in%20Illinois\\_2585.pdf#search=Zion](https://www.exeloncorp.com/newsroom/Documents/Press-Release-Starting%20with%20Zion%20Station%20Decommissioning,%20Exelon%20to%20Make%205-Year,%20$46%20Billion%20Investment%20in%20Illinois_2585.pdf#search=Zion)

**4. Pilgrim Nuclear Power Station – Plymouth, Massachusetts - Merchant Generator**

Entergy Corporation has agreed to sell the subsidiaries that own the Pilgrim Nuclear Power Station, after shutdown and reactor defueling, to a Holtec International subsidiary for decommissioning. The sale includes the transfer of the licenses, spent fuel and Nuclear Decommissioning Trust. (2019)

<http://www.pilgrimpower.com/entergy-agrees-to-post-shutdown-sale-of-pilgrim-palisades-nuclear-power-plants-to-holtec-international-for-decommissioning/>

**5. Palisades Nuclear Power Plant – Covert, Michigan – Merchant Generator**

Entergy Corporation has agreed to sell the subsidiaries that own the Palisades Nuclear Power Plant, after shutdown and reactor defueling, to a Holtec International subsidiary for decommissioning. The sale includes the transfer of the licenses, spent fuel and Nuclear Decommissioning Trust. (2019)

<http://www.palisadespower.com/entergy-agrees-to-post-shutdown-sale-of-pilgrim-palisades-nuclear-power-plants-to-holtec-international-for-decommissioning/>



**6. Oyster Creek Generating Station -Lacey Township, New Jersey - – Merchant Generator**

Exelon Generation has agreed to sell the Oyster Creek Generating Station to Holtec International for decommissioning. Under the terms of the agreement, Holtec will assume ownership of the site, real property and used nuclear fuel. As the site's owner, Holtec will manage all site decommissioning and restoration activities. (2019)

<https://www.exeloncorp.com/newsroom/holtec-international-to-purchase-oyster-creek>

**7. LaCrosse Boiling Water Reactor - Genoa, Wisconsin – Merchant Generator**

Dairyland Power Cooperative executed an agreement with EnergySolutions Incorporated for the decommissioning of the La Crosse Boiling Water Reactor (LACBWR) site located in owned by Dairyland. Under the agreement, Dairyland's Possession Only License will be transferred to an EnergySolutions company, LaCrosseSolutions, which will assume responsibility for completing the remaining decommissioning of the site except for the spent nuclear fuel storage facility. Dairyland will retain ownership of the site and the spent nuclear fuel. Upon completion of decommissioning, the License will be amended to cover the dry fuel storage facility only and transferred back to Dairyland.

<https://www.energysolutions.com/dairyland-power-and-energysolutions-sign-license-stewardship-agreement/>

The electric utility industry is partially unregulated. Although a few states don't regulate electricity generation, most of the sector is still regulated. Companies usually operate with a combination of regulated and unregulated activities.

Regulated markets feature vertically-integrated utilities that own or control the entire flow of electricity from generation to meter. Examples in the United States include Florida, Colorado, Idaho, and Kentucky. Conversely, utilities (Merchant Generators) in deregulated markets must divest all ownership in generation and transmission, and are only responsible for distribution, operations, and maintenance from the interconnection at the grid to the meter; billing the ratepayer; and acting as the Provider of Last Resort (POLR). Deregulated markets feature grid operators that administer wholesale markets to ensure reliability on the grid and prevent blackouts. Multiple retail suppliers (or load serving entities, known as LSEs) buy generation and sell electricity to end-users.

Several states have become deregulated markets over the last 20 years, largely in the Northeast, Mid-Atlantic, and Texas. Other states, such as California, are partially deregulated or have had deregulation suspended.

If PG&E, as a California regulated utility, were to pursue sale of the plant to another entity to accomplish decommissioning, that sale would require the approval of the CPUC, as well as the NRC.

*[Added May 2019]*

## **E. Diablo Canyon Decommissioning Engagement Panel (DCDEP)**

In 2016 when PG&E announced plans to close the DCP, a partnership with labor and leading environmental organizations was formed to create the “joint proposal.” The joint proposal included a plan to engage the community in a very transparent, robust and collaborative conversation about how DCP will be shutdown. In addition, in 2018, the CPUC directed that PG&E take no action with respect to any of the lands and facilities before completion of a public stakeholder process. The DCDEP was formed to create an avenue for this two-way communication. The meetings and workshops held by the DCDEP allow local community members to provide direct input to PG&E, and subject matter experts to provide information to the panel and the public about DCP decommissioning.

The DCDEP will help inform PG&E’s site-specific decommissioning plans including future land use and repurposing recommendations. PG&E will consider DCDEP input while ensuring that DCP decommissioning plans remain in compliance with regulatory guidelines and protection of PG&E assets. The DCDEP functions solely in an informational and advisory capacity. PG&E retains complete discretion to accept, modify or decline any recommendations made by the DCDEP, as PG&E is responsible for ensuring the health and safety of the public and is the financial and land steward of DCP assets. Final decisions regarding DCP decommissioning will be made by PG&E in conjunction with the appropriate regulatory agencies.

PG&E is seeking community input through the DCDEP as it prepares the DCP decommissioning plans and a cost estimate that will be the subject of an ongoing regulatory process that began with the filing of the Nuclear Decommissioning Cost Triennial Proceeding on December 13, 2018 with the CPUC. PG&E intends, pending CPUC approval, to continue to engage with the DCDEP and solicit input from the public during this multi-year review process.

### **Formation Process**

In early February 2018, PG&E announced its intention to form the DCDEP. PG&E employed a robust print, radio and social media advertising campaign to make the public aware of the opportunity to submit an application to become a member of the Engagement Panel. That effort generated 2.8 million digital impressions, over 150,000 print impressions and 240,000 radio impressions. Participants were selected by a formation committee comprised of representatives from the local community and PG&E.

After an in-depth review of 105 applicants, a formation committee assisted in the selection of the initial eleven community members of the DCDEP (the twelfth member is a PG&E representative). The formation committee was comprised of the following individuals:

- Dee Lacey, Co-Owner, Lacey Livestock; Gubernatorial appointee to the State Fair Board; Heritage Oaks Bank Board of Directors; former Paso Robles School Board Member; former Cuesta College Trustee
- Katcho Achadjian, Owner, local gas stations; former San Luis Obispo County Supervisor; former California Coastal Commissioner; former California State Assembly Member
- Ermina Karim, President and CEO, San Luis Obispo Chamber of Commerce
- Rochelle Becker, Executive Director, Alliance for Nuclear Responsibility
- Jeff Thomas, Business Manager, Plumbers & Steamfitters Local 403
- Ken Thompson, Diablo Canyon Liaison, Avila Valley Advisory Committee
- Tom Jones, Director of Strategic Initiatives, PG&E
- Stephanie Isaacson, Director of Community Relations, PG&E

In conjunction with PG&E, the formation committee developed panel selection criteria, reviewed applications and participated in a facilitated process to reach consensus on a slate of community panel-member recommendations for PG&E's final decision. The formation committee was looking for representatives from the local community who broadly reflect the diverse community stakeholder viewpoints in proximity to DCP. There are no designated seats for any organization or interest group on the panel. The community members of the DCDEP are unpaid volunteers who are highly engaged and well-informed leaders in the community. Elected officials, PG&E employees and their immediate family members were not eligible for the initial community panel membership.

#### *Composition of the Diablo Canyon Decommissioning Engagement Panel*

The Diablo Canyon Decommissioning Engagement Panel (DCDEP) is comprised of representatives from the local community. Each member of the DCDEP serves a two-year term (following the initial staggering of terms). The inaugural panel, formed in May 2018, has staggered terms as assigned by the membership at its first meeting through a facilitated process. Membership will be renewed or vacancies refilled through approval by a majority of the community members of the DCDEP and PG&E consistent with the DCDEP Charter.

The current member's complete profiles can be found by following this [link](#). 2018/2019 DCDEP members are as follows:

David M. Baldwin, Atascadero – David is a lifelong resident of San Luis Obispo County and currently works in Public Works Labor Compliance for the Labor Management Compliance Council and is a member of Plumbers and Steamfitters local 403.

Dena Bellman, Arroyo Grande - Dena has lived in San Luis Obispo County most of her life and is active in many community-building volunteer efforts. She currently works as a Senior Park and Recreation Specialist for California State Parks

Lauren Brown, San Luis Obispo – Lauren, retired since 2018, co-founded JBL Scientific (acquired by Promega), a specialty biochemical company and moved to San Luis Obispo in 1973. He was honored by the San Luis Obispo Chamber of Commerce as the 2014 Citizen of the Year.

Sherri Danoff, Avila Beach – Sherri, currently retired, has lived in Avila Beach for two decades. She was a land use planner with over 30 years of experience in California jurisdictions. Sherri has several and varied involvements in the local community.

Jon Franke, Pismo Beach (PG&E) – Jon served as Vice President of Safety and Health for PG&E. Jon worked at PG&E from January 2017 through June 2019. *[DCDEP Member: May 2018 through December 2018]*

Alex Karlin, San Luis Obispo – Alex, currently retired, served as an Administrative Judge with the Atomic Safety and Licensing Board Panel of the NRC for eleven years, presiding over, and deciding litigation at facilities such as Diablo Canyon and Yucca Mountain. Prior to that, he was an environmental attorney for 30+ years. Alex is a hiker, birder, and docent at Montana de Oro.

Trevor Keith, San Luis Obispo - Trevor has been a resident of the Central Coast for over two decades and brings a land use planning and renewable energy background to the DCDEP. Currently, Trevor is the Director of San Luis Obispo County Planning and Building Department.

Scott Lathrop, San Luis Obispo – Scott has lived in San Luis Obispo county for most of his life. As a Chumash Native American, he comes to the DCDEP with ancestral roots in and around Diablo Canyon. He currently serves as Assistant Superintendent, Business Services for a public school district.

Frank Mecham, Paso Robles – Frank, currently retired, is a fifth generation San Luis Obispo County resident and a ninth generation Californian. He worked as an electrical contractor for 20 years and as a financial advisor for seven. He also served as both mayor of Paso Robles and as the Supervisor for the First District of San Luis Obispo County.

Nancy O'Malley, Avila Beach - Nancy had been coming to the Central Coast all her life until she was able to permanently relocate here in 2015. She is an Internal Medicine physician with over 30 years of experience in a wide range of health care settings working with patients, their families and health care teams from many diverse backgrounds and cultures.

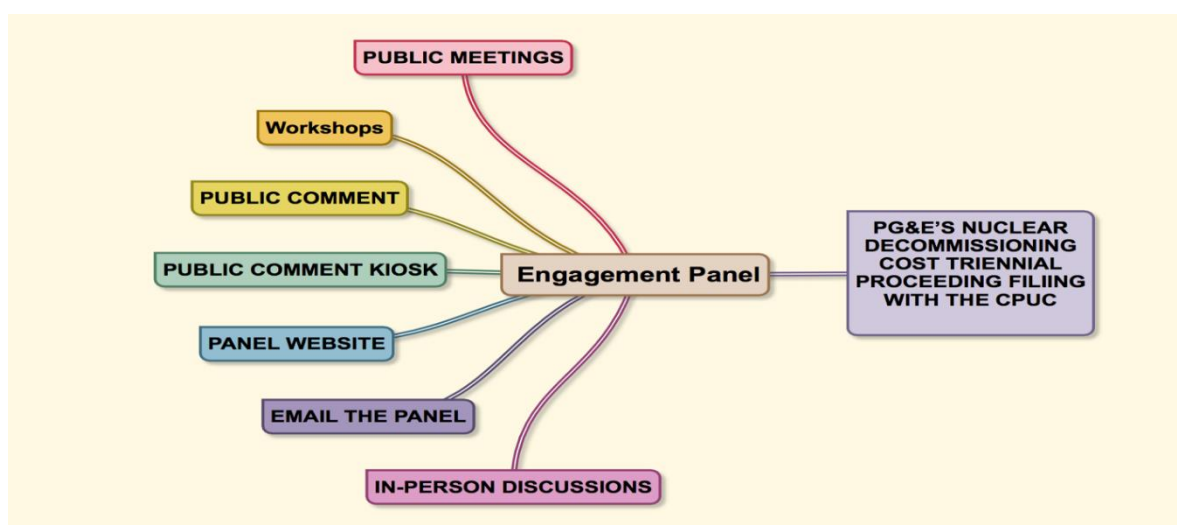
Linda Seeley, Los Osos - Linda, currently retired, has been a resident of San Luis Obispo County since 1982. She worked as a nurse-midwife and women's health nurse practitioner. She serves as a spokesperson for San Luis Obispo Mothers for Peace and is a member of a number of environmental interest groups.

Jim Welsch, Pacific Gas and Electric Company (PG&E) Representative - Jim is Vice President, Nuclear Generation and Chief Nuclear Officer for Pacific Gas and Electric Company. With nearly 40 years of nuclear and energy industry experience, he provides leadership over Diablo Canyon Power Plant operations as well as Nuclear Decommissioning for Diablo Canyon and Humboldt Bay Power Plants. *[Added January 2019]*

Kara Woodruff, San Luis Obispo - Kara has been a resident of San Luis Obispo for nearly three decades and is currently the VP/Chief Compliance Officer of Blakeslee & Blakeslee. As former project director for The Nature Conservancy and Board President of American Land Conservancy, Kara brings to the panel an interest in the conservation of the Diablo Canyon Lands.

## II. Engagement Panel Community Outreach Efforts

The DCDEP held its first public meeting on May 30, 2018. Since that time the DCDEP has conducted a total of eight public community meetings and six all-day public workshops to receive information and listen to the public's concerns and perspectives. The DCDEP members used numerous pathways to inform the public about the decommissioning process and receive feedback. Starting in May 2018, PG&E has supported the DCDEP efforts with targeted media announcements and social media advertising. These media campaigns within the first year of panel activities resulted in more than 3 million digital impressions and more than 200,000 print impressions. During the same time period, there were approximately 9,000 visits to the DCDEP website.



### A. Community Outreach Activities - 2018

The DCDEP conducted seven public meetings in 2018 addressing a range of decommissioning topics. Prior to the first meeting, the DCDEP requested that PG&E identify the decommissioning topics that required public input prior to filing the 2018 NDCTP. At the first meeting, the DCDEP members discussed PG&E's recommendations and then selected and scheduled the topics to be addressed through 2018.

Prior to each public meeting, PG&E and the DCDEP hosted an open house where the public could view information specific to the meeting topic and speak individually with PG&E technical experts and DCDEP members. Online kiosks were also available where members of the public could ask questions or provide comments. Time on the agenda was also allocated at each public meeting for public comments where members of the public or organizations could express their concerns and make recommendations. All of these comments are included in the DCDEP public comment record.

#### 2018 Public Meetings

All DCDEP public community meetings were live-streamed and video recordings are available to be viewed online. In addition, a written transcript of each meeting was compiled.



Meetings can be viewed by selecting the Meeting Video link in the table below. The transcript and the agenda and presentation materials for each meeting can also be viewed by selecting the appropriate link below.

Date	Decommissioning Topic	Meeting Details
May 30, 2018	Introduction and Selection of Meeting Topics	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
June 27, 2018	Regulatory Requirements for the NDCTP	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
July 25, 2018	Decommissioning Funding	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
August 29, 2018	Diablo Canyon Lands	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
September 26, 2018	Repurposing of DCPD Facilities	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
October 24, 2018	Emergency Planning	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>
November 13, 2018	Draft DCDEP Strategic Vision Report	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>

*Transcription materials provided for meetings only*

#### **DCDEP Workshops on Diablo Canyon Lands and Facility Repurposing - 2018**

In addition to the monthly public meetings held in 2018, the DCDEP held four full-day workshops on Diablo Canyon Lands and DCPD facility repurposing. The purpose of the workshops was to give interested organizations and the public more time than could be allocated at a monthly public meeting to present their ideas and engage in a dialogue with the DCDEP members. Approximately one hour was allocated to each presenter, which included a 20-minute presentation followed by a question and answer period. A total of twelve organizations made presentations on Diablo Canyon Lands and nine on Facility Repurposing. In addition to formal one-hour presentations, the general public was also invited to offer public comments.

The following is a list of the workshop dates and topics. The agendas are available by selecting Agenda and the recorded online video is available online by selecting "View Video."

Date	Topic	Workshop Details	
August 17, 2018	Diablo Canyon Lands	<a href="#">Agenda</a>	<a href="#">View Video</a>
August 18, 2018	Diablo Canyon Lands	<a href="#">Agenda</a>	<a href="#">View Video</a>
September 14, 2018	DCPD Facility Repurposing	<a href="#">Agenda</a>	<a href="#">View Video</a>
September 15, 2018	DCPD Facility Repurposing	<a href="#">Agenda</a>	<a href="#">View Video</a>

### Public Tours of Diablo Canyon Lands and Facilities - 2018

In concert with the DCDEP public meeting and workshops on Diablo Canyon lands and facility repurposing, PG&E hosted over 20 3-hour bus tours of the of the lands, coastline and DCP facilities for the general public during August and September. Over 500 community members viewed the lands and facilities under discussion by the DCDEP. The tours were narrated by PG&E representatives and supported with videos. In addition, approximately 2,500 people hiked the Pecho Coast and Point Buchon trails during the same time period

### DCDEP Field Trips and Facility Tours - 2018

In addition to monthly public meetings and full-day workshops, the DCDEP members also participated in numerous fact-finding tours and field trips to be more knowledgeable about the DCP, similar decommissioning projects, existing conservation activities and other community engagement panels. The following is a list of fact-finding tours and activities.

Date	Activity	Host
May 16, 2018	Tour of DCP facilities, lands and coastline	PG&E
July 9, 2018	Tour of Marine Mammal Center	Marine Mammal Center
August 15, 2018	Tour of Pacific Wildlife Care Center	Pacific Wildlife Care
September 7, 2018	Tour of CSU Monterey Bay	Cal Poly and CSU System
October 26, 2018	Tour of Pismo Beach Preserve	The Land Conservancy of SLO County
November 16, 2018	Tour of Wind Wolves Preserve	The Wildlands Conservancy
November 29, 2018	SONGS Community Engagement Panel (CEP) meeting	San Onofre Nuclear Generating Station (SONGS) CEP
November 30, 2018	Tour of SONGS and interim storage facility	Southern California Edison

### Presentations to Community Organizations - 2018

DCDEP members reached out to community organizations and service clubs to make presentations and discuss decommissioning activities. Approximately 300 people participated in these presentations which included a 15-20 minute talk illustrated with a PowerPoint presentation and a follow-up question and answer session. The presentations were well received and the questions and answer sessions were very energetic.

Date	Community Group	Approximate # of People
August 13, 2018	Monday Rotary, San Luis Obispo	75
August 30, 2018	United Methodist Men's Breakfast, San Luis Obispo	15
September 21, 2018	Exchange Club, San Luis Obispo Care Center	40
September 24, 2018	Lions Club, San Luis Obispo	25
October 17, 2018	Rotary de Tolosa, San Luis Obispo	75
November 1, 2018	Economic Committee, SLO Chamber of Commerce	30
December 13, 2018	Retired Active Men, San Luis Obispo	70
<b>Total</b>	<b>7 Community Groups</b>	<b>330</b>

[Amended April 2019]

## B. 2019 Public Meeting and Workshop Schedule

At the September 26, 2018 DCDEP meeting, PG&E announced its intention to continue the DCDEP through decommissioning activities in 2072. The DCDEP members revised the 2018 schedule and identified the following decommissioning topics for discussion in 2019. It is anticipated that there will be a strong interest in the 2019 topics.

Activity / Date / Time	Subject	Location	Details	
<b>Spent Fuel Workshops</b> February 22, 2019 February 23, 2019	Spent Fuel Storage	Embassy Suites SLO	<a href="#">Agenda</a> <a href="#">Agenda</a>	<a href="#">View Video</a> <a href="#">View Video</a>
<b>Quarterly Panel Meeting</b> March 13, 2019	Spent Fuel Storage	SLO Govt. Center	<a href="#">Meeting Video</a> <a href="#">Meeting Transcript</a> <a href="#">Agenda &amp; Presentation Slides</a>	
<b>Quarterly Panel Meeting</b> June 12, 2019 (6:30 PM - 9:30 PM)	Engagement Panel - Role, Function and Structure	SLO Govt. Center	Pending	
<b>Quarterly Panel Meeting</b> September 18, 2019 (6:30 PM - 9:30 PM)	Economic Impact of Decommissioning	SLO Govt. Center	Pending	
<b>Quarterly Panel Meeting</b> November 13, 2019 (6:30 PM - 9:30 PM)	Transportation	SLO Govt. Center	Pending	

[Amended April 2019]

## C. Public Comments Received on Decommissioning Topics

In response to the significant outreach efforts by the DCDEP and PG&E, more than 1,000 documented comments have been received. The majority of comments were received on the topics of Future Land Use, Repurposing of Facilities and the draft DCDEP Strategic Vision report. The comments were received through a variety of outreach efforts that included comments made at public meetings and workshops, online forms, emails and conversations with DCDEP members. [\[View Public Comments\]](#) [\[View Public Comments on DCDEP Draft Strategic Vision, Goals and Recommendations\]](#) [\[View Public Comments on Spent Nuclear Fuel\]](#)

Number of Comments by Topic	
Diablo Canyon Lands	350
Repurposing Facilities	73
Transportation	11
Initial Draft Vision Report	474
Environmental	14
Economic Impacts/Funding	10
Safety/Emergency Planning	20
Outreach	14
Spent Fuel	42
<b>Total</b>	<b>1,008</b>

[Amended April 2019] [Subsection "D" - Public Comments Received on Initial Draft Deleted April 2019]

# III. Strategic Vision and Goals

Contained in this section are the strategic Visions and Goals of the DCDEP representing the topics covered from May 2018 through May 2019. The Vision and Goals in this Strategic Vision are based on public input received by the DCDEP via public meetings and workshops and written correspondence and were prepared by the DCDEP using a facilitated process.

The DCDEP recognizes that not all subject areas are covered here. Only those topics that have been discussed to date are in this document. The DCDEP will continue to meet and study other critical issues. These matters, as well as refinements to the subject areas covered in this Strategic Vision, will be contained in future iterations of the Strategic Vision.

The following topics are included in this Strategic Vision as amended through May 2019:

- A. Decommissioning Process
- B. Decommissioning Funding
- C. Diablo Canyon Lands
- D. Repurposing of the Diablo Canyon Facilities
- E. Engagement Panel Structure and Function Review
- F. Emergency Planning
- G. Spent Fuel Management

The vision statements in this document are the framework around which the goals and recommendations are based. A goal is a description of a desired outcome and the recommendations are the activities needed to meet the goal. The recommendations are contained in Section IV – Recommendations/Implementation Plan. At least once each year, the DCDEP will report on the status of the recommendations.

*[Amended May 2019]*

## A. Decommissioning Process

The DCDEP recognizes that the decommissioning of the DCPD will be a lengthy and complicated process involving local, state, and federal regulatory agencies. Decommissioning, which includes the issues of the long-term storage and intended future removal from the DCPD site of spent nuclear fuel, could span several decades and will require the community and stakeholders to remain attentive and engaged for many years. (See Figure 2 - Example Timeline for Decommissioning)

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to make health and safety the first consideration throughout the decommissioning process and to establish and maintain working relationships that encourage information sharing and effective dialogue among all persons and entities with an interest in the decommissioning process.

Recommendations for Decommissioning Process can be found in Section IV of this document.

### **Vision Statements**

- The health, safety and well-being of the local community should be ensured before, during and after decommissioning
- The decommissioning (decontamination) process should begin immediately upon shutdown with a goal of 10 years for completion of radiological decommissioning and decontamination, thus avoiding SAFSTOR (which allows up to 60-year delay in decontamination)
- The decommissioning process should be safe, timely, cost effective and efficient
- The CPUC should continue the DCDEP at a minimum until cessation of operations of the DCP

### **Goals**

#### **1. Diablo Canyon Decommissioning Engagement Panel**

- a. The DCDEP should continue its role of interacting with the public to assure the public's perspectives are understood and considered by PG&E and regulatory agencies
- b. The DCDEP should continue to assist PG&E in seeking out new ideas/opportunities throughout the decommissioning process
- c. The DCDEP should assist the public in understanding what to expect during the decommissioning process
- d. The DCDEP's recommendations and guidance during the decommissioning process should be strongly considered by PG&E and regulatory agencies

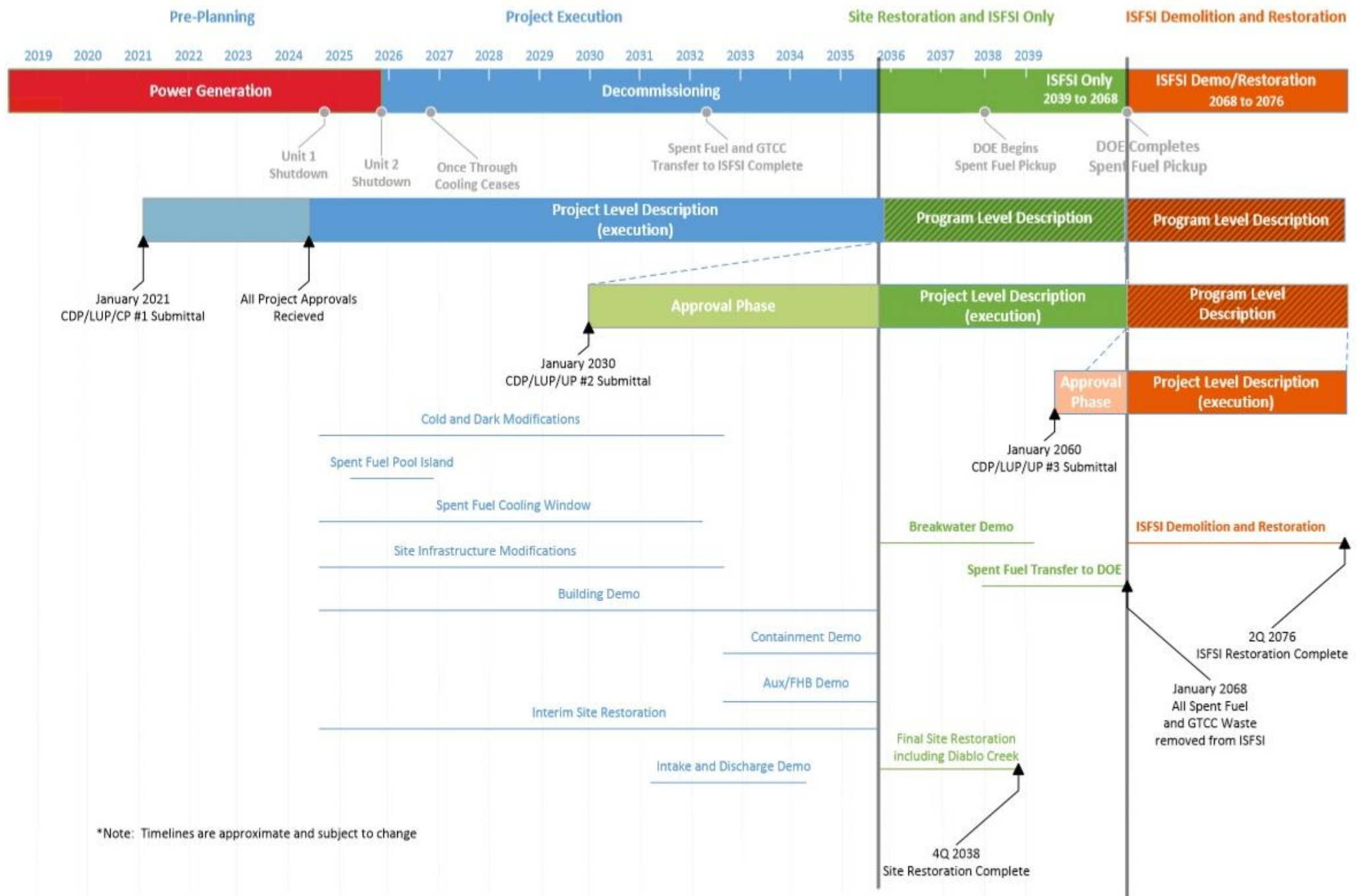
#### **2. Safety**

- a. The highest level of safety during the decommissioning process should be ensured
- b. The highly radioactive spent nuclear fuel should be stored onsite in the safest and most technologically advanced manner possible and be removed from the site as soon as feasible
- c. The highest level of safety regarding the transport of radioactive contaminated materials and eventual removal of spent fuel from the area should be ensured
- d. The traffic impacts associated with decommissioning activities should be minimized through surrounding communities

#### **3. Labor**

- a. The commitment to the use of a highly skilled and trained local workforce for all decommissioning activities should be continued by PG&E





## DIABLO CANYON Decommissioning Engagement Panel

Figure 2 - Example Timeline for Decommissioning

## **B. Decommissioning Funding**

Funding for the costs to decommission DCP are made available through the *Decommissioning Trust Fund*. The use of the Trust Fund for decommissioning is mandated by both Federal and State regulations (see Section I-D of this document for additional information). PG&E has collected monthly fees on customers' electric bills to fund the trust, which are further augmented over the life of the plant from returns on investment in fixed income (bonds) and equity (stocks). PG&E was required by the CPUC to collect and maintain the Trust Fund while the plant is in operation in preparation for DCP's eventual decommissioning.

The purpose of the Trust Fund is to ensure sufficient funding will be available to decommission DCP. The Trust Fund currently holds approximately \$2.8 billion, and PG&E has requested additional funding of \$1.6 billion in its Nuclear Decommissioning Cost Triennial Proceeding December 2018 report. The Triennial Report includes a more detailed estimate of costs associated with the decommissioning of DCP.

The safety of current and future generations is the paramount concern when decommissioning DCP. Although funding the costs for decommissioning should be guided by the principle of avoiding imposition of undue burdens on ratepayers, the safety of the community, both now and in the future, should never be discounted. The DCDEP recognizes that strategies for decommissioning (including the repurposing of facilities) have an influence on the costs of decommissioning.

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to ensure the health and safety of the community is not compromised and remains a primary consideration, while minimizing impacts to ratepayers.

Recommendations for Decommissioning Funding can be found in Section IV of this document.

### **Vision Statements**

- The health and safety of the community and the environmental quality of the area should be the primary consideration during decommissioning and adequate funding of the Decommissioning Trust Fund should be provided to meet these objectives
- The most cost-effective methods for decommissioning should be investigated by PG&E in order to save ratepayers money
- The formulation of all decommissioning costs and decisions should be transparent to ratepayers and the community
- The existing Decommissioning Trust Fund should be protected, preserved and augmented as appropriate to assure that it remains stable and sufficient in order to adequately finance decommissioning

### **Goals**

#### **1. Funding**

- a. The DCDEP, in conjunction with PG&E, should endeavor to assure that the public clearly understands the funding necessary to safely accomplish decommissioning

- b. The funding necessary for critical advance planning decommissioning activities needed to ensure immediate transition to DECON (decommissioning and decontamination) upon plant closure should be made available to PG&E
- c. The Decommissioning Trust Fund should be adequately funded to cover the reasonable cost of completing all the decommissioning activities, including removal, transportation, and disposal of materials in a way that minimizes risk, cost, and disruption to local communities

## C. Diablo Canyon Lands

The Diablo Canyon Lands are located along the California coast, in an area that has seen virtually no development, other than the power plant and ancillary facilities, which these lands surround. The Diablo Canyon Lands are located in the Irish Hills region of San Luis Obispo County, which has been the subject of significant conservation activity over the last two decades. The over 12,000 acres owned by PG&E (or its affiliates), including a 14-mile stretch of pristine coastline, contain relatively undisturbed grasslands, coastal sage, oak woodlands and bishop pine forests. These areas are currently managed by PG&E using innovative best management practices and a strong land stewardship program. (See Figure 3 – Diablo Canyon Lands)

In 2000, over 75 percent of county voters supported the [DREAM](#) (Diablo Resources Advisory Measure) Initiative. DREAM was an advisory ballot measure that called on county leaders and PG&E to set aside the Diablo Canyon Lands for habitat preservation, agriculture and public use upon closure of the plant. This initiative was unanimously supported by the San Luis Obispo County Board of Supervisors, PG&E and numerous community and environmental organizations.

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to promote the conservation of Diablo Canyon Lands consistent with recent public input at workshops and meetings and the passing of the DREAM Initiative.

Recommendations for Diablo Canyon Lands can be found in Section IV of this document.

### Vision Statements

- The 12,000 acres of Diablo Canyon Lands surrounding the DCP are a precious treasure and a spectacular natural resource that should be preserved in perpetuity for the public and future generations, in acknowledgement of its significant resources values
- The public should be ensured access to the Diablo Canyon Lands to the greatest extent possible, while protecting and preserving sensitive habitats, cultural sites and other resources
- The use of Diablo Canyon Lands should be consistent with the safe, secure and monitored storage of spent nuclear fuel, until such time as it is removed from the site
- The use of Diablo Canyon Lands should include activities that are consistent with wildlife and resource protection and visitor enjoyment including multi-use trails for hiking, mountain biking, and equestrian use and managed overnight camping
- The preservation of sacred Native American sites should be assured
- The request for land ownership by the local Native American community should be acknowledged and considered as a valid claim for historical reasons, while bearing in mind the overwhelming public testimony that the Diablo Canyon Lands be conserved and available to the public for managed use

- The conservation activities on Diablo Canyon Lands should be coordinated with owners of other protected properties in the Irish Hills region, including State Parks, the US Bureau of Land Management, the Nature Conservancy, the Land Conservancy of San Luis Obispo County, and the City of San Luis Obispo

## **Goals**

### **1. Land Stewardship**

- a. The excellent stewardship of PG&E in preserving and maintaining the Diablo Canyon Lands should be recognized
- b. The existing biological, geological and archeological data should be made available by PG&E to conservation entities who may be future stewards of the Diablo Canyon Lands
- c. The preparation of a plan for the ongoing management, preservation and managed public access of Diablo Canyon Lands should be developed through a collaborative process with appropriate governmental and non-governmental organizations to assure all available funding is pursued and ongoing stewardship is maintained
- d. The preparation of the management/public access plan should include public input and take into consideration the use of the Diablo Canyon Lands may have on local traffic and safety
- e. The management/public access plan should include a multi-use non-motorized trail system for hikers, mountain bikers and equestrian use, possible overnight camping consistent with public safety, restricted access in the sensitive intertidal zone, rotational grazing, habitat restoration and protection of cultural sites
- f. The 1,200 acres near Point San Luis (See Figure 3) should be deed restricted in perpetuity for conservation and public access

### **2. Land Transfer and Use**

- a. The transfer of the Diablo Canyon Lands to a conservation entity or entities should be promoted to ensure the protection of natural and cultural resources in perpetuity, public education and managed public access
- b. The Diablo Canyon Lands should be conserved prior to the completion of the decommissioning process, as appropriate
- c. The public announcement by PG&E of its intention to collaborate with interested parties to preserve the Diablo Canyon Lands should occur as soon as allowed by the CPUC
- d. The Diablo Canyon Lands should be owned and managed by a conservation entity or entities, such as State or National Parks, the Wildlands Conservancy, the San Luis Obispo Land Conservancy, a Native American non-profit or other governmental or non-profit conservation group experienced in land management, for resource protection and managed public use
- e. The long-term protection of ecological, scenic, and cultural resources and the well-being of local communities should be a primary consideration in determining the appropriate level of public access to the Diablo Canyon Lands
- f. The establishment of at least two multi-use trail extensions of the California Coastal Trail should be pursued which include both a trail along the coast and an interior trail through Wild Cherry Canyon and other protected Irish Hills properties
- g. The coastal section of the Diablo Canyon Lands should be protected to a higher degree, as needed to ensure the conservation of the more fragile marine, tidal, and coastal environment

- h. The interior sections of the Diablo Canyon Lands (including the lands associated with transmission lines) should allow for multiple compatible uses, including hiking, mountain biking, and equestrian use, and connections to the Irish Hills and Montana De Oro trail systems
- i. The use of Diablo Canyon Lands for motorized vehicles (other than in parking areas, access roads and for maintenance and management activities) and night-time recreational use (other than camping as may be allowed) should be prohibited as inconsistent with resource protection
- j. The use of Diablo Canyon Lands for camping should be permitted only to the extent it is consistent with the safety of the community and the protection of cultural and environmental resources
- k. The use of a small portion of the land north of the Harbor Terrace development should be considered for use by the Port San Luis Harbor District for boat storage
- l. The San Miguelito Mutual Water Company lease with HomeFed for waste water facilities should be evaluated for, at a minimum, screening, location and technology, as part of any land transfer of Wild Cherry Canyon
- m. The disposal of Diablo Canyon Lands should recognize PG&E's fiduciary responsibility to their ratepayers and shareholders
- n. The acquisition of Diablo Canyon Lands from PG&E should consider a variety of funding mechanisms including: state bond funds, private donations, decommission-related permit mitigation measures, and compensatory processes via regulatory agencies such as the CPUC

### **3. Cultural Heritage**

- a. The importance and legacy of the Native American community to the Diablo Canyon Lands, including methods to provide acquisition or access to those lands should be explored
- b. The preservation of cultural and archeological sites and artifacts, including burial grounds should be ensured
- c. The transfer, by easement or fee title, of a portion of the Diablo Canyon Lands for exclusive use by the Native American community should be considered, with protection by conservation easement or other such means that would allow limited development consistent with local zoning and the preservation of environmental and cultural resources in perpetuity



# Diablo Canyon Lands

## LAND OWNERSHIP, ZONING AND LAND USE INFORMATION



## DIABLO CANYON Decommissioning Engagement Panel

FIGURE 3 - DIABLO CANYON LANDS

## **D. Repurposing of Diablo Canyon Facilities**

The DCP site comprises more than just the containment structures for the reactors and the turbine building where electricity is generated. The site also has other structures including office buildings, warehouses, training facilities, maintenance shops, a marina and breakwaters, and a desalinization facility which could be maintained and repurposed (See Figure 4 – Existing Facilities). These facilities are all located on the approximate 700-acre “Parcel P,” which is shown on Figure 3 – Diablo Canyon Lands.

There may be benefits to the repurposing of certain non-contaminated facilities, if it can be done in a manner that it is sustainable and does not compromise public safety and the environmental quality of the region. The repurposing of these facilities could allow for the creation of new jobs to replace those lost through the closure of DCP, decrease the volume of dismantled facility debris transported thereby minimizing the potential traffic conflicts through Avila Beach and on other local streets and highways and create opportunities to minimize the costs of decommissioning by limiting the amount of dismantling and removal.

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to offer repurposing of Diablo Canyon facilities as an alternative to demolition.

Recommendations for Repurposing of Diablo Canyon Facilities can be found in Section IV of this document.

### **Vision Statements**

- The repurposing of facilities should be consistent with the safety and security of the spent fuel storage until such time as it is removed from the site
- The preservation of on-site non-contaminated facilities for repurposing should be explored by PG&E
- The repurposing of facilities should include thorough removal of radiological contamination to comply with regulatory levels as defined by the appropriate agencies
- The repurposing of facilities should consider whether a use can be sustained over time, is consistent with public safety and the continued environmental quality of the region and addresses community traffic concerns
- The repurposing of facilities should consider the conservation of the breakwaters and associated harbor area and the intake and discharge coves and associated marine terraces, to assure the protection of the ecological resources of the area
- The repurposing of facilities should only include land associated with Parcel P that is developed and necessary for a buffer of ongoing decommissioning activities
- The repurposing of facilities should be explored as way to, at a minimum, create new local jobs and promote the establishment of clean, green renewable energy sources
- The repurposing of the transmission lines should be explored for the transmission of wind, wave, solar and/or other clean, green renewable energy
- The preservation of the existing desalinization plant should be explored

## **Goals**

### **1. Existing Facilities**

- a. The buildings and structures should be repurposed, provided a proposed use can be sustained over time, safety is not compromised and the environmental quality of the community is assured
- b. The development of a strategy for management of the facilities should be completed by PG&E at the earliest possible time so potential repurposing tenants can be appropriately determined and advance planning for transfer and reuse can occur
- c. The preparation of a detailed list of assets available for repurposing, including a description of the facility, the type of facility (e.g., office, warehouse, etc.), square footage of the facility, age of the facility, and when the facility would become available for repurposing should be prepared by PG&E
- d. The maintenance of existing facilities by PG&E should occur until such time as the facilities are repurposed or determined to not be viable for repurposing to ensure that the facilities do not degrade over time
- e. The construction of infill development on Parcel P should be allowed provided safety is not compromised and the environmental quality of the community is maintained
- f. The Diablo Canyon Lands associated with Parcel P that are not developed and are not necessary for a buffer of ongoing activities should be released for open space and conservation
- g. The future use of repurposed facilities should not generate a substantial increase in traffic through surrounding communities during times of peak traffic
- h. The continued use of the desalination plant beyond decommissioning should be explored by PG&E to allow for provision of on-site water to repurposing tenants
- i. The potential use of the desalination plant for provision of emergency water to local water purveyors should be evaluated

### **2. Marine Facilities**

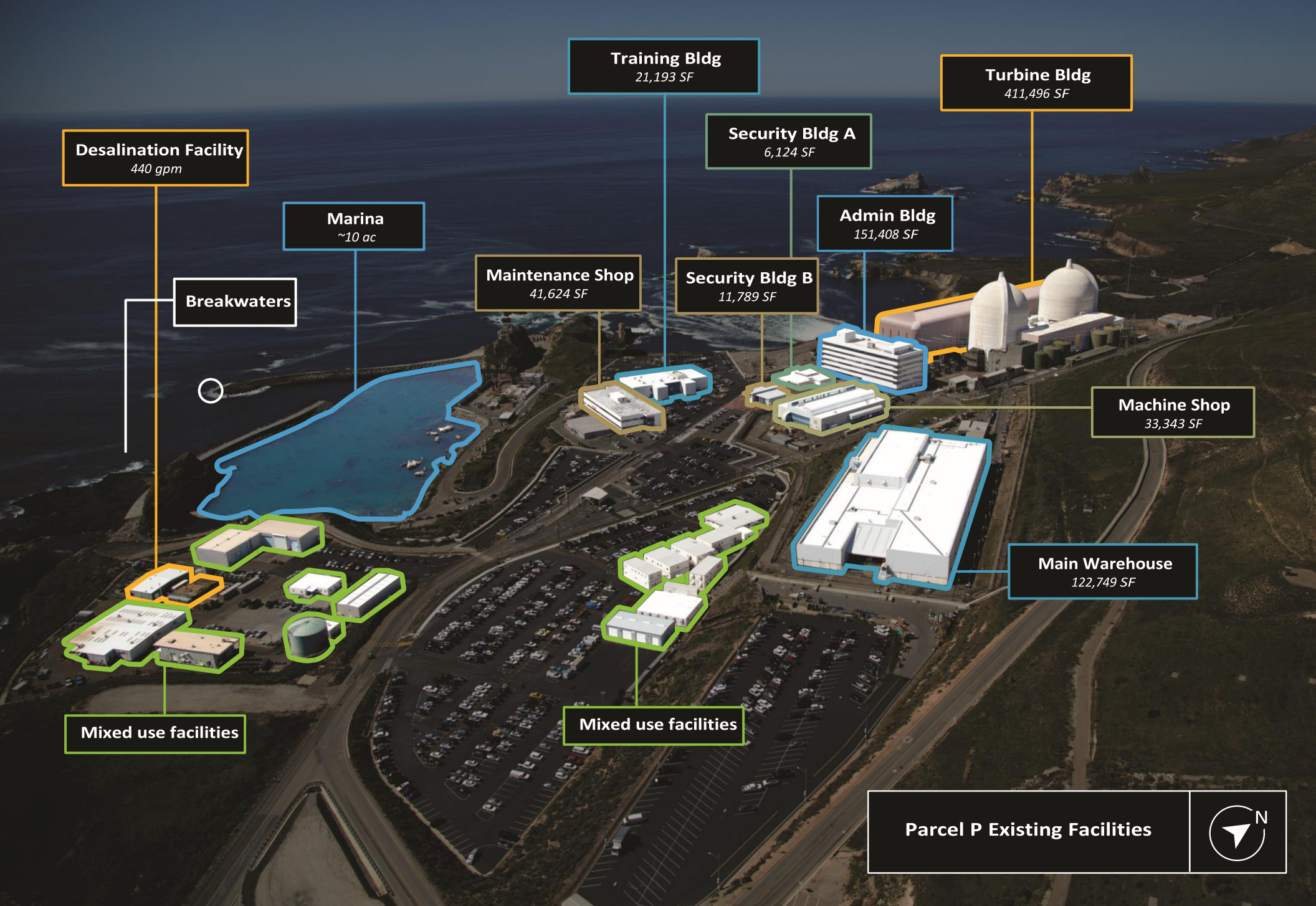
- a. The breakwaters and associated harbor should remain in place consistent with the environmental quality and safety of the area and region
- b. The harbor and breakwater areas should be managed and repurposed in a manner consistent with the protection of habitat and wildlife
- c. The harbor should be available as a “safe harbour” to boaters in distress
- d. The discharge cove should be studied by qualified individuals during and after decommissioning to fully understand and remove any radiological contamination to comply with regulatory levels as defined by the appropriate agencies
- e. The long-term health of the marine ecosystem and coastal areas should continue to be monitored by PG&E throughout the decommissioning process

### **3. Specific Uses**

- a. The potential for a public-private collaborative research and development facility (such as a “National Laboratory”) with emphasis on marine sciences, renewable energy development technologies, energy storage, optimum storage for irradiated waste, desalinization and other technology innovation should be further investigated by PG&E
- b. The granting of a long-term lease or purchase with favorable terms for Native American tribal use for office, storage and tribal meetings/gatherings should be considered

- c. The use of the Ontario Road facility and parking as a Visitor Education Center, which highlights local history including Chumash culture, energy education and natural history should be considered
- d. The use of the existing parking lot at the Ontario Road facility for shuttle or bus service to the Diablo Canyon Lands should be considered
- e. The possibility of repurposing of facilities for innovative uses including, but not limited to, wildlife rescue and rehabilitation, wind, wave, solar or other renewable energy, business incubators, clean technology startups, saltwater aquarium, transmission facility projects, energy storage, wastewater recycling, innovative mental health treatment center and California State University and/or University of California research facilities should be evaluated by PG&E





## **E. Engagement Panel Structure and Function Review**

The DCDEP was convened by PG&E as a volunteer, non-regulatory body created to foster and encourage open communication, public involvement and education on DCPD decommissioning plans and activities. In 2018, the DCDEP began a public outreach effort to both provide information and listen to the public, and to make recommendations to PG&E and the CPUC regarding various decommissioning activities. In order to be fully effective in conducting these responsibilities it is vital that the DCDEP have optimal structure and function. An internal assessment of strengths, weaknesses and opportunities for improvement and a review of outside resources for *best practices* will be conducted at the public meeting during the second quarter of 2019 (June 12, 2019) after one full year of operation. In addition, two proposals have been forwarded by members of the DCDEP (see links to these documents below). These proposals will also be reviewed at that meeting and decisions regarding possible changes and improvements will be made. These decisions will be forwarded to PG&E and the CPUC as an additional supplemental filing to the 2018 Triennial Report.

In October 2018, DCDEP member Alex Karlin presented a proposal recommending a restructuring of the DCDEP into a Community Advisory Panel created and managed directly under the auspices of the CPUC. His proposal, *“CPUC Should create an Independent Decommissioning Advisory Panel (DAP) in Lieu of the DCDEP,”* can be accessed at this [link](#).

In December 2018, DCDEP member Lauren Brown presented a proposal recommending that the current DCDEP be continued and strengthened. His proposal, *“Proposal to Continue and Strengthen DCDEP,”* can be accessed at this [link](#).

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to evaluate the existing panel structure, study other community engagement panels and make recommendations to be considered by the PG&E and the CPUC.

Recommendations for Engagement Panel Review can be found in Section IV of this document.

### **Vision Statement**

- The community engagement panel was established and should continue to operate to provide direct input on behalf of the local community to PG&E on decommissioning activities that are of concern to the surrounding communities
- The engagement panel should be in a form that would lead to the best possible recommendations on achieving a safe and effective decommissioning of the DCPD, including the management of Diablo Canyon Lands and the disposition of Facilities

### **Goals**

#### **1. Panel Review**

- a. The DCDEP should perform a self-evaluation, looking at strengths, weaknesses and opportunities for improvement in how the goals set in the guiding charter have been fulfilled



- b. The DCDEP should evaluate other community engagement panels created as part of decommissioning efforts in California and other states in order to better understand how those panels are formed, how they have worked and if they have provided improved public outreach to their respective communities
- c. The DCDEP should seek input from local sources such as governmental and regulatory entities, as well as the Diablo Independent Safety Committee, for input on improving the DCDEP
- d. The DCDEP should review the existing guiding charter to determine if changes, additions or amendments should be made based on the information acquired through the efforts outlined in these goals

## **F. Emergency Planning**

On October 24, 2018, the DCDEP held a public meeting covering the topic of emergency planning. At that meeting the DCDEP received information from the NRC on the decommissioning process and from PG&E and the County of San Luis Obispo Office of Emergency Services on the potential changes to emergency planning during decommissioning.

The current provisions for emergency planning for the DCP include, but are not limited to, on-site security personnel and facilities, on and off-site monitoring equipment, the County Emergency Operations Center, and an early warning siren system. The DCDEP recognizes that the decommissioning of the DCP will create the need for changing the existing emergency plans for the DCP and the community. As the risks related to the radioactive material changes, the Emergency Response Plan also changes. Throughout the decommissioning process, plant security controls remain in place. All the key security features including intrusion detection, response, assessment of alarms and when necessary, off-site assistance, remain in effect. The “security footprint” changes as the spent fuel is moved from the reactor to the spent fuel pool to dry cask storage as the primary purpose of the security is to protect the fuel. In addition, although the NRC involvement may change throughout decommissioning, as described below, the Federal Emergency Management Agency (FEMA) continues to require coordination between local, state and federal agencies relative to emergency planning.

The decommissioning process with the NRC requires two certifications from DCP. The first is a letter to the NRC stating that operations have permanently ceased. The second is a letter stating that the reactor has been permanently defueled. The plant is officially in decommissioning with these two certifications. The next key item that is submitted to the NRC is the post-shutdown decommissioning activities report (PSDAR). The PSDAR must be submitted prior to the plant shutting down or within two years after its shutdown. The PSDAR contains a description of, and a high level schedule for, the planned decommissioning activities and allows the NRC to outline the needed resources to inspect during decommissioning. The PSDAR is noticed in the federal register and public comments are requested. A meeting in the vicinity of the site is held in order to receive public comments. The comments are considered by the NRC in their review of the PSDAR. Decommissioning cannot begin until the PSDAR is approved by the NRC. There are also local land use permitting approvals and CPUC requirements that must occur before decommissioning can begin.

The PSDAR also looks at the needed changes for emergency response. The NRC employs a graded approach to emergency planning (see Figure 5 – NRC Decommissioning Emergency Planning Levels). Level one occurs when the plant permanently ceases operations and all the fuel has been moved to the spent fuel pool. During level two, the spent fuel is being moved to the dry cask storage from the pool. The third level occurs when all the fuel is in dry storage and under its own emergency plan. The fourth level is reached when there is no need for emergency planning because the plant is gone and the fuel is gone.

The post-shutdown emergency plan (PSEP) begins after the two certifications have been docketed by the NRC. The PSEP is a transition period and covers approximately 16 months, which is about the time it takes for the spent fuel in the pools to cool or radioactively decay to a point where it is no longer generating enough heat to cause a zirconium fire, which could lead to off-site release of radioactive material that would reach the Environmental Protection Agency's (EPA) protective action guidelines. During the PSEP, information is provided annually to the public regarding DCP's future status and required emergency drills still occur.

Approximately 3 to 5 years later, the permanently defueled emergency plan (PDEP) is in effect. It will allow the DCP to combine the technical support center, the operation support center and the emergency operations facility into one on-site organization. Drills occur every two years and an off-site radiological emergency response plan is no longer required.

Once all spent fuel has been moved to the dry cask storage, emergency planning consists of the Independent Spent Fuel Storage Installation (ISFSI) Only Emergency Plan (IOEP). At this point, the dry cask storage has its own stand-alone emergency plan and the rest of DCP is subject to a "hazards only" plan that contains emergency planning for fire protection, personal injury and contaminated personal injury.

Once the fuel is removed from the site, there's no longer any NRC involvement and no emergency planning is required by the NRC.

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to make emergency preparedness a primary consideration throughout the decommissioning process and to assure that the outstanding existing emergency planning readiness continues to be active and fully funded until there is no longer a potential threat to citizens and visitors.

Recommendations for Emergency Planning can be found in Section IV of this document.

### **Vision Statements**

- The highest levels of protection of the plant, the workers, and the public should be maintained both before plant closure and during decommissioning (including spent waste removal and management)
- The community should continue to be informed regarding emergency planning and the safety of the plant throughout the decommissioning process

- The future use of the Diablo Canyon Lands and any repurposed or retained facilities should ensure the continued safety of employees, residents and visitors, including emergency and evacuation planning and be consistent with reasonable and safe levels of traffic through neighboring communities, including Avila Beach and Los Osos
- The NRC should ensure the full oversight of the decommissioning process, with the primary concern being the safety of the DCP, workers, residents of neighboring communities and visitors to the area
- PG&E should assure the retention of qualified, experienced personnel to maintain emergency preparedness

## **Goals**

### **1. Funding**

- a. The CPUC and PG&E should ensure that adequate funding is available to plan, execute, oversee, and communicate a rigorous safety and emergency planning program during the full decommissioning process, until the plant site is fully cleared of all waste, facilities, and other structures that are not suitable for repurposing
- b. The CPUC and PG&E should ensure that adequate funding is available to fully fund and/or reimburse the County of San Luis Obispo and other relevant agencies for all emergency planning and safety activities associated with the decommissioning of the DCP

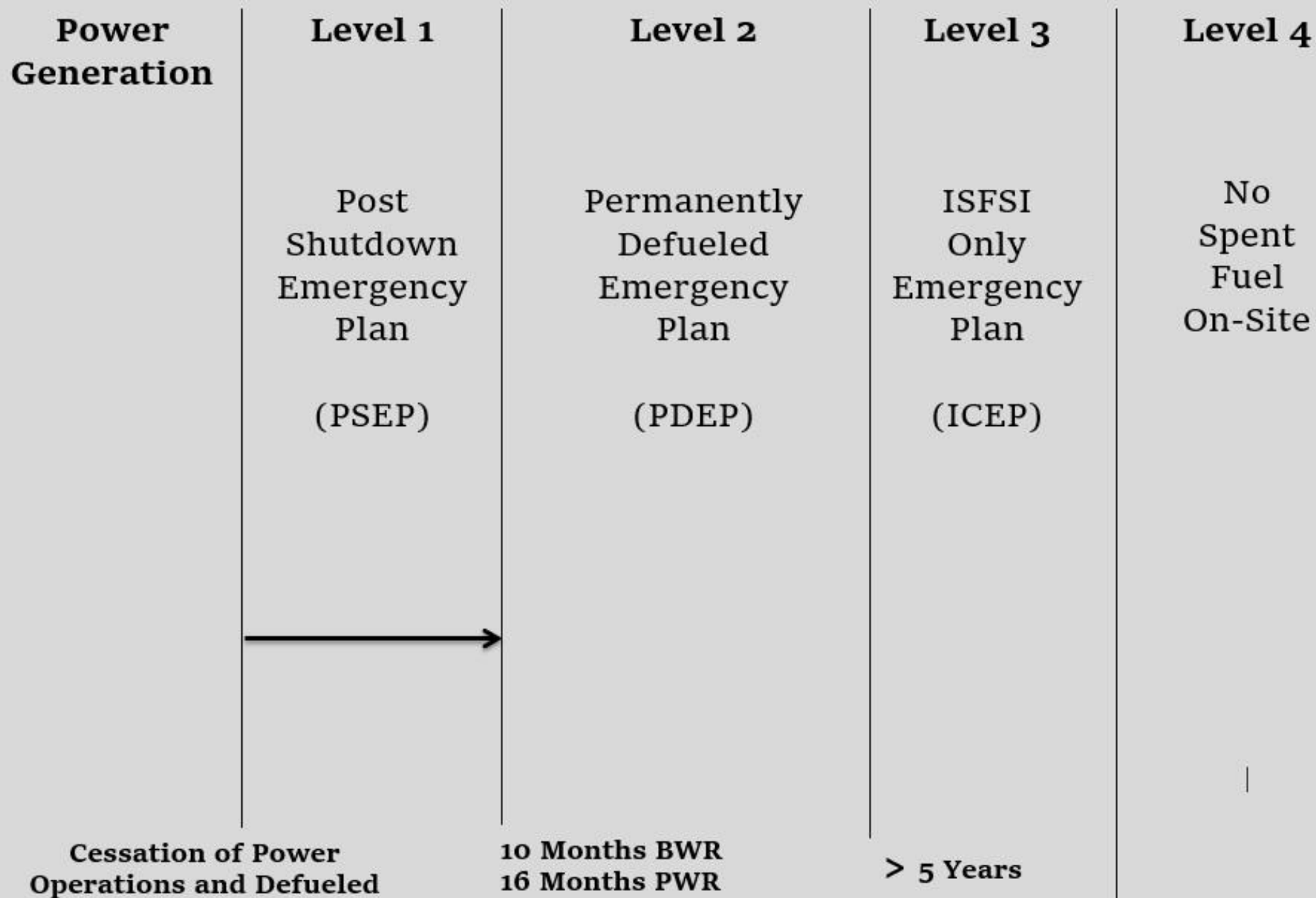
### **2. Emergency and Communications Plan**

- a. The completion of a broad-based, fully integrated safety and emergency plan for the complete decommissioning process should be coordinated by PG&E and the CPUC and should include the County of San Luis Obispo, neighboring communities, and relevant regulatory decommissioning agencies
- b. The workers, residents of neighboring communities and visitors should be kept continually apprised of issues concerning safety of the DCP and environment through a strong, extensive and broad based communications program provided through PG&E
- c. The future use of the Diablo Canyon Lands and any repurposed or retained facilities should include disaster planning for emergencies, including evacuation

### **3. Demolished Materials (contaminated and non-contaminated)**

- a. The transfer of contaminated and non-contaminated demolition waste materials should be completed with the highest levels of safety for workers, residents and visitors
- b. The transport of demolition waste materials should be overseen by CPUC and completed by PG&E using best practices and best technologies, so as to reduce the impact to local communities in terms of traffic, noise, dust, and other factors
- c. The exploration of alternative means of transport of demolition waste materials, such as by sea, should be explored and used to the extent the methods are determined to be safe, cost effective and support the safety of nearby residents and visitors

*[Added April 2019]*



**DIABLO CANYON**

## **Decommissioning Engagement Panel**

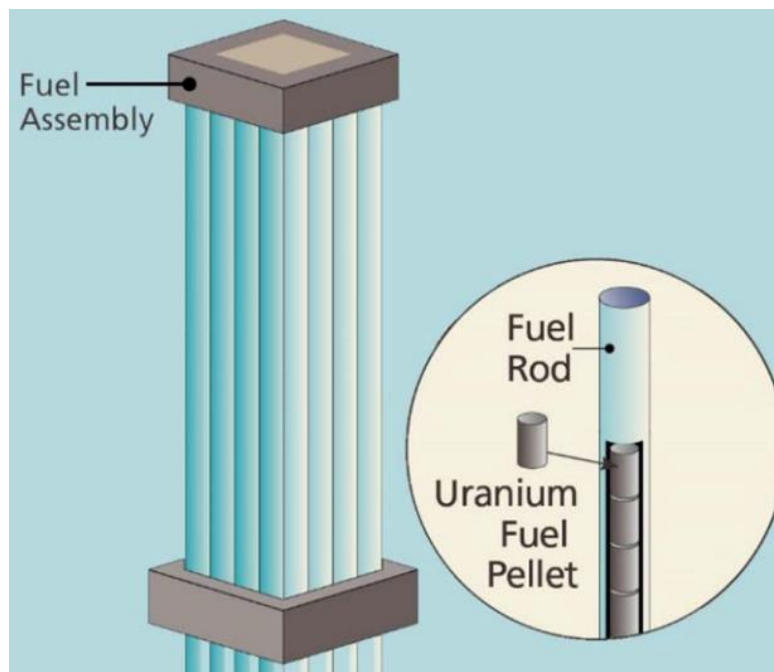
**Figure 5 – NRC Decommissioning Emergency Planning Levels**

## G. Spent Fuel Management

### **1. Introduction to Spent Nuclear Fuel and Greater Than Class C Waste (GTCC) at DCP**

#### **a. Creation of Radioactive Spent Nuclear Fuel**

The electricity produced at the DCP is fueled by uranium, a chemical element found all over the world. The uranium is mined from rock, enriched, and formed into ½ inch sized pellets. The pellets are placed into zirconium alloy-clad rods, which are then grouped together into fuel assemblies (See Figure 6). An 1100 MWe PWR core may contain 193 fuel assemblies composed of over 50,000 fuel rods and some 18 million fuel pellets. The fuel assemblies are then placed into the core of the nuclear reactor. Within the reactor, the nuclear fission (atom splitting) process is initiated. This process produces heat, which boils water to create steam. The steam then turns a turbine, creating electrical energy.



**Figure 6 – Typical Fuel Assembly with Fuel Pellets in Fuel Rods**

After about five years, the nuclear fuel assemblies in the reactor no longer produce sufficient energy and are removed. At that point it is deemed “spent nuclear fuel” and is replaced with new nuclear fuel assemblies. At DCP, about 88 of the 193 fuel assemblies placed in each reactor are replaced during a refueling outage that occurs approximately every 18 months. This refueling process will end before the two DCP nuclear reactors are shut down by 2025.

The unused uranium that is in original new fuel assemblies have only low levels of radiation and thus have low risk associated with its handling. However, once the fuel is used in the fission process (and becomes spent nuclear fuel), the radiation levels are dangerously high – and have the potential to kill an exposed human within minutes. This spent nuclear fuel requires highly specialized and careful handling, not only as it leaves the reactor, but for tens of thousands of years thereafter.

b. High Burnup Fuel

Before it is made into fuel, uranium is processed to increase the concentration of atoms that can split in a controlled chain reaction in the reactor. In general, the higher the concentration of those atoms, the longer the fuel can sustain a chain reaction. And the longer the fuel remains in the reactor, the higher the burnup.

In other words, burnup is a way to measure how much uranium is burned in the reactor. It is the amount of energy produced by the uranium. Burnup is expressed in Gigawatt-Days per Metric Ton of Uranium (GWd/MTU). Average burnup, around 35 GWd/MTU two decades ago, is over 45 GWd/MTU today. Utilities are now able to get more power out of their fuel before replacing it. This means they can operate longer between refueling outages. It also means they use less fuel. High burnup fuel is used at DCP.

High burnup fuel is hotter and more radioactive than low burnup fuel because more uranium was “burned” (that is, split during nuclear fission into smaller atomic fragments and the consequent conversion of some atomic mass of uranium into heat energy.) It is the extra high abundance of these atomic fragments (including isotopes of iodine, cesium, strontium, xenon and barium, plutonium, and many other radioactive isotopes) in high burnup fuel that causes such high levels of radioactivity and accompanying release of more heat energy as further fission processes occur. Because the fuel is very hot, both thermally and radioactively, it must be cooled for a longer period of time in the spent fuel pool before the spent nuclear fuel assemblies can be moved to dry cask storage.

c. Spent Fuel Pools

After being removed from the reactors, the spent nuclear fuel assemblies are shielded and moved to one of two DCP spent fuel pools (See Figure 7). The assemblies are placed within specialized racks in stainless-steel lined, concrete-walled pools filled with borated water, which is continuously circulated. The pools protect the workers and public from radiation exposure and cool the fuel assemblies. The zircaloy cladding (.5 mm. thick) on the hot fuel rods will spontaneously combust in the presence of oxygen and if the fuel rods reach a temperature of 900 degrees Celsius; therefore, the fuel assemblies must constantly be kept under water.

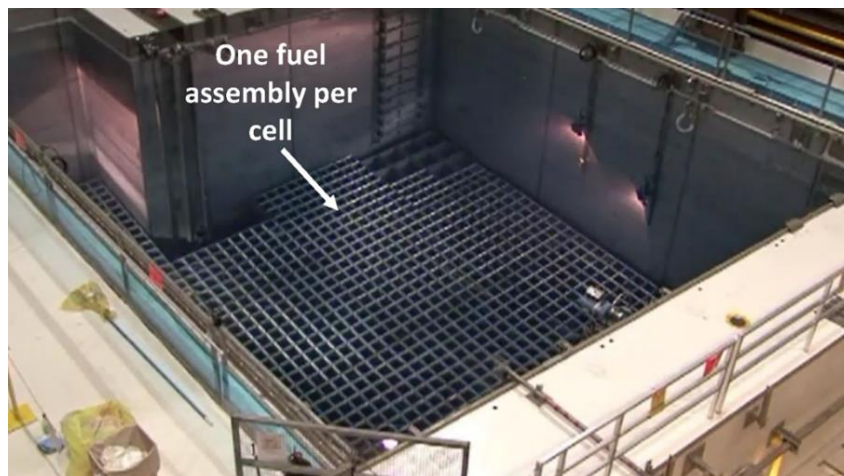


Figure 7 - DCP Spent Fuel Pools



When originally constructed, the spent fuel pools were expected to be used for a low-density configuration of 270 assemblies per pool. As of December 2018, however, there are 744 and 768 assemblies in pools 1 and 2, respectively. By the time DCP is shut down, there will be 1,261 in spent fuel pool 1 and 1,281 assemblies in spent fuel pool 2. The assemblies are held in a checkerboard pattern, where hotter assemblies are surrounded by cooler assemblies. This measure is intended to create additional emergency response time before a catastrophic fire could result in the event the pool water is unexpectedly drained.

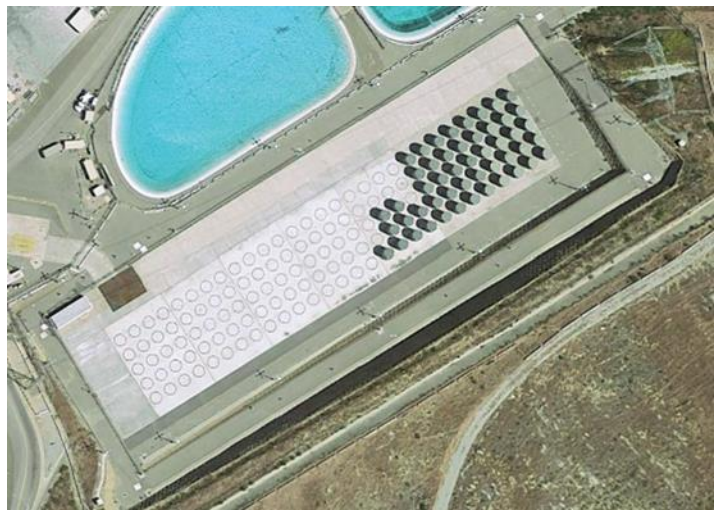
Historically, PG&E has removed spent nuclear fuel assemblies from the spent fuel pools after about ten years. As discussed later (Section 2e), this time frame is under analysis and either longer or short storage times for individual assemblies may be used in order to accelerate the total time during which the DCP spent fuel pools are in service.

d. Independent Spent Fuel Storage Installation (ISFSI)

After the spent nuclear fuel assemblies are removed from the spent fuel pools, they are placed in sealed, helium-filled canisters and set into an approximately 20-foot tall, concrete-filled storage cask made of steel. The storage casks are placed within the Independent Spent Fuel Storage Installation (ISFSI) area which is located on-site, inland from the reactors. The casks are bolted to a 7½ foot thick, steel-reinforced concrete pad to ensure seismic stability. This is known as “dry cask storage” (See Figures 8 and 9). DCP employs a cask system called Holtec HI-STORM 100 cask system, each of which holds 32 fuel assemblies. As of December 2018, a total of 1,856 assemblies are stored at the Diablo ISFSI, within 58 casks.



**Figure 8: HI-STORM 100SA System**



**Figure 9: DCP ISFSI Pad in 2017 with 49 Loaded Casks**

e. Future Spent Nuclear Fuel Storage Options

When DCP was constructed, there was an expectation that the federal government would create a federal repository for all spent nuclear fuel generated in the United States. As described in greater detail later in this section, plans for the completion of a federal repository at Yucca Mountain are at a standstill because Congress has not yet appropriated funding for the processing of the license application by the NRC. The Trump Administration did allocate

funding for the project in the 2019 proposed budget. The Nevada Governor, state Attorney General, and congressional delegation, as well as leaders from Clark County and the City of Las Vegas, and the vast majority of Nevada’s citizens oppose the Yucca project. In addition, there are numerous legal challenges to the site based on alleged unsuitability, including water seepage and seismic activity.

In 2016 and 2017, two separate companies applied to NRC for licenses to build interim consolidated facilities for the centralized storage of spent nuclear fuel until a federal repository such as Yucca Mountain is opened. In the meantime, spent nuclear fuel will remain at the DCPD ISFSI.

f. Greater Than Class C Waste (GTCC)

In addition to spent nuclear fuel assemblies, another category of highly radioactive materials will exist at DCPD. This waste is known as Greater Than Class C Waste (GTCC). GTCC includes all the materials that have been irradiated during the nuclear fission process, such as the reactor itself, which must be dismantled and removed when the plant is decommissioned. An estimated ten casks will be needed to store the GTCC, which is expected to be ultimately placed at the ISFSI. The existing ISFSI is not sized nor licensed for GTCC, and so PG&E would have to obtain an amended permit and licensing to either construct new storage pad space or reconfigure the existing dry cask placement.

## 2. *DCPD Spent Nuclear Fuel Storage Program*

a. Current DCPD Spent Nuclear Fuel Management Cycle - From Plant to Pools to ISFSI

A simple graphic helps to summarize the Spent Fuel Cycle at DCPD



Each of the two nuclear reactor vessels at DCPD holds 193 nuclear fuel assemblies. At the end of a cycle lasting approximately 18 months, one-third of the assemblies are replaced with new fuel assemblies. Assemblies that have been used for three cycles (approximately 54 months) are removed and placed in the spent fuel pools. Currently, PG&E keeps fuel assemblies in the spent fuel pools for approximately 10+ years during which time the spent fuel assemblies cool sufficiently to be removed from the pool and placed in specially designed casks to be stored in the ISFSI. In its 2018 Triennial NDCTP filing, PG&E proposes to shorten the time fuel assemblies remain in the spent fuel pools by using a new generation of casks capable of handling higher heat loads. This could allow removal to the ISFSI in seven years or less. The casks were expected to be removed from the ISFSI to a federal repository, such as the Yucca Mountain Nuclear Waste Repository. However, in 2010 the Administration attempted to withdraw the Department of Energy (DOE) application for the Yucca Mountain Nuclear Waste Repository. The U.S. Court of Appeals rejected this attempt, and ordered DOE and NRC to continue processing the Yucca application. This occurred, but the project has now been stymied due to lack of federal funds.

Although a private Consolidated Interim Storage Facility in Texas (discussed later in this section) could be open and available to start accepting DCPD spent nuclear fuel casks as early as 2027, it is likely that some (if not all) spent nuclear fuel casks will remain onsite for many years and perhaps even decades into the future.

b. Description of Spent Fuel Pools

The spent fuel pools at DCPD are built on solid bedrock and constructed with six-foot thick reinforced concrete walls. The pools are lined with stainless steel, are 40 feet deep and designed to withstand the most destructive projected earthquake on the nearby Hosgri fault. The pools are filled with very pure water mixed with boric acid (boron being a neutron-absorbing element). Boric acid is added to the water in order to prevent a self-sustaining nuclear chain reaction. The pools contain a system of racks capable of holding up to 1,324 fuel assemblies that are approximately 14 feet tall and are covered in a minimum of 23 feet of water (sufficiently deep to keep radiation risk to workers at low and acceptable levels). The fuel assemblies that have been removed from the reactor are very hot and continue to release heat for years as a result of radioactive decay of fission products from the original uranium, including:  $^{90}\text{Sr}$ ,  $^{137}\text{Cs}$ ,  $^{99}\text{Tc}$  and  $^{129}\text{I}$  among dozens of other radioactive isotopes. So much heat is produced that it is necessary to have very large compressors and pumps to continuously circulate and cool the water. This is an active cooling process and requires continuous electrical energy to power the compressors, pumps and supplies of water to replace any water lost by evaporation or even a leak caused by some extraordinary event such as earthquake or terrorist attack. Because of the critical nature of this system, DCPD maintains doubly redundant backup systems for compressors and pumps, plus backup diesel generators in event regular power is lost. Large reservoirs of water are maintained on-site to rapidly replace any water in the event of a leak from the spent fuel pools. Even if power is lost altogether, the pools can be filled using simple gravity through a system of pipes with mechanical, hand-operated valves. The emergency reservoirs could cool the spent fuel pools for several days.

An important aspect of the DCPD spent fuel pools operating license is that “hot” (cooled for less than 120 days) spent nuclear fuel assemblies when placed into the spent fuel pool racks must be surrounded on four sides by “cold” (cooled for greater than 1 year) spent nuclear fuel assemblies. This requirement is in place to provide a heat sink for the hot assemblies in the event of a catastrophic loss of water in the spent fuel pools. Having such heat sinks adjacent to the hot assemblies significantly lengthens the amount of time for emergency efforts to replace the water lost from the pool or otherwise address the risk of an uncontrollable spent fuel fire from the loss of water in the pool. This requirement of four adjacent cold assemblies becomes particularly important at the end of power generation when the full load of 193 fuel assemblies from the reactor have to be unloaded into the spent fuel pools all at once. That means that PG&E must have an inventory of at least 772 cold spent nuclear fuel assemblies still in the pool from previous unloading campaigns. The result is that an unusually large number of assemblies will be in the pool after the final unloading campaign. This is what has led to PG&E, in part, to halt the transfer of spent nuclear fuel assemblies to the ISFSI until after end of power generation. The projected number of spent nuclear fuel assemblies stored in pools 1 and 2 at time of Unit 2 shutdown in 2025 is 1,261 and 1,281 respectively, if there are no additional loading campaigns prior to final shutdown.

Once power generation in Units 1 and 2 ceases in 2024 and 2025 and all spent nuclear fuel assemblies have been transferred into the spent fuel pools, then the licenses for operating the pools and other plant equipment convert to possession-only licenses, which allow continuing operation for non-generation purposes. No license renewal is required for this transition.

Also relevant to operation of the spent fuel pools post-power generation is this statement from the DCPD 2018 Triennial NDCTP filing (Volume 1, Chapter 3, Section G.2):

*Several existing plant systems are used to ensure there is adequate cooling of the spent fuel pools. These existing systems could continue to be used for SFP cooling during decommissioning; however, to facilitate safe and efficient decommissioning, the nuclear industry has implemented the SFP Island (SFPI) concept. A SFPI is an independent cooling system for the SFPs that allows the licensee to abandon the in-place plant systems supporting SFP cooling. PG&E plans to develop and install an SFPI to reduce the risk of decommissioning activities impacting the SFPs.*

The NRC deems the spent fuel pools to be a safe storage system for spent nuclear fuel, both in the construction of the pools and in continuing operation. The operation of the pools is continuously monitored by PG&E staff, and reviewed by full-time on-site NRC representatives as well as by the staff of the Diablo Canyon Independent Safety Committee (DCISC) which operates under the auspices of the CPUC.

c. DCPD ISFSI System and Dry Cask Design

The DCPD ISFSI, where the spent nuclear fuel is placed after being cooled in the spent fuel pools, is located 310 feet above sea-level, thus assuring protection from the largest tsunami that would be expected along this section of the California coastline. The installation also is constructed on bedrock, consisting of seven reinforced concrete pads, each 7½ feet thick and approximately 105 feet by 68 feet in size. There are 140 cask locations, each marked by an embedment ring which is used to anchor each cask to the pad. This system is compliant with the seismic requirements of the ISFSI license. As of March 2019, there are 58 loaded casks at the ISFSI. Current projections forecast use of 138 cask locations with two locations being reserved to facilitate aging management activities such as allowing the PG&E transporter access to casks located on the interior of the ISFSI.

Casks for storing spent nuclear fuel assemblies use the concept of “passive” cooling, with ambient air drawn in through openings at the bottom of the casks, circulating upward along the sealed inner unit and discharging out at the top in a chimney effect (which steadily removes the heat that still is being produced as a result of continuing radioactive decay of the fission products from the spent nuclear fuel). Because this system of removing the continuing heat production from the spent fuel is passive and does not depend on any compressors, pumps and assured electrical supply, it is typically considered safer than keeping the spent nuclear fuel assemblies in the pools. There is some concern about possibilities of stress cracks developing in the casks over time. As a result, it is considered critical that PG&E continuously monitor the casks as part of an aging management plan.

The storage cask used by PG&E through 2018 is the Holtec Hi-STORM 100 model that holds 32 fuel assemblies per cask. There are specific guidelines required by the NRC for loading into these casks that require a knowledge of the heat being generated by each fuel assembly. Each relatively hot fuel assembly must be accompanied by a relatively cool assembly. The relative heat is basically a function of how long the assembly was cooled in the spent fuel pools and the degree to which the original uranium atoms have undergone fission to produce the array of highly radioactive fission by-products. A detailed knowledge of each fuel assembly is needed and careful calculations are required to assure that the total amount of heat being emitted does not exceed the capacity of the Holtec cask.

In 2019 PG&E plans to solicit bids from all qualified suppliers for a new generation of casks that have higher heat capacity ratings and could potentially reduce the amount of time required in the spent fuel pools from 10+ years to seven or fewer years.

The ISFSI at DCPD was constructed and is operating under a separate license from the NRC which provides for its use through March 2024. There are spaces for 140 casks to be stored on the ISFSI. PG&E intends to seek a license renewal for an additional 40 years, through March of 2064. If necessary, PG&E will seek a further renewal as 2064 nears. With the lack of a long-term solution to storage of highly radioactive spent nuclear fuel, the spent nuclear fuel will remain on site into the foreseeable future.

For more information about the spent nuclear fuel cycle and storage, please access PG&E's video at: [Diablo Canyon Used Fuel Management](#)

d. Existing Ten-Year Transfer Program of All Spent Nuclear Fuel to ISFSI

PG&E currently retains spent nuclear fuel assemblies in the spent fuel pools for 10+ years. After this time period, spent nuclear fuel assemblies are loaded into casks for dry storage, transferred to the ISFSI and secured there in a multi-step operation called a loading campaign. The history of these loading campaigns is as follows:

Year	Number of spent nuclear fuel casks loaded and moved to the dry storage pad
2009	8
2010	8
2012	7
2013	6
2015	8
2016	12
2018	9

A total of 58 casks have been loaded and transferred to the ISFSI. As of January 2019, all loading campaigns have been discontinued until the end of power generation. This step is being taken as part of a larger plan to empty the spent fuel pools of all spent nuclear fuel assemblies at an earlier end date than would otherwise be possible if the existing loading campaigns were continued.



e. Proposed Seven-Year Transfer Program of Spent Nuclear Fuel to ISFSI

As a result of the 2015 Triennial NDCTP Filing with the CPUC, PG&E was asked to consider shortening the residence time of the spent nuclear fuel assemblies in the spent fuel pools from 10 to seven years, thus matching standards that have been approved by the NRC and are being adopted more broadly in the industry. PG&E has proposed to do so in its 2018 Triennial NDCTP filing, however this requires use of a new generation of casks that have the capacity to handle higher heat. Any such casks would have to meet the demanding seismic requirements unique to DCP. PG&E is preparing to solicit bids for such new generation casks from all qualified suppliers. Obtaining qualifying bids may be complicated by the fact that any acceptable supplier would have to meet the additional seismic requirements at DCP. The outcome of this bidding process is one that the DCDEP will follow closely. Complicating this process is the need for NRC approvals of any modified cask design. If such approvals were needed, it could incur delays that may threaten the timing in the plans outlined in PG&E's 2018 NDCTP.

f. Alliance for Nuclear Responsibility (A4NR) Objection to the Proposed Seven-Year Transfer Program of Spent Nuclear Fuel to ISFSI

The A4NR has filed an objection to the 2018 NDCTP seven year campaign. The complaint alleges the following:

1. PG&E failed to adequately collaborate with the California Energy Commission in the preparation of the 2018 NDCTP;
2. The significant build-up spent fuel assemblies in the spent fuel pools is not acceptable; and
3. PG&E should return to the original open (lower density) racking in the spent fuel pools in order to reduce overall number of spent nuclear fuel assemblies in each pool and to improve water circulation, efficiency of cooling and safety.

A4NR's objection and PG&E's response will be considered by the CPUC as a part of its regulatory review of the 2018 NDCTP.

g. High Bridge Associates Finding Regarding Transfer of Spent Fuel

High Bridge Associates (HBA), an independent expert hired by PG&E to help in the preparation of its December 2018 NDCTP, had the following comment regarding PG&E's spent fuel pool transfer program (Volume 2, Attachment A, Page 9 - Findings):

*The most significant finding is the overall fourteen (14) year schedule duration for the decommissioning work from shutdown of Unit 1 to the end of site restoration is longer than the current industry norm. This duration is primarily due to a longer than expected period for fuel cool down and other activities that could be managed so they are off the schedule critical path.*

High Bridge Associates compared DCP against other similar nuclear reactors and stated the following (Volume 2, Attachment A, Page 12 – Overall Schedule Duration Section):

*The first major period examined, DCP's Fuel on Pad period is near the high end of all planned and executed decommissioning schedules. When compared against results from past plants, DCP is above average. Because of DCP's unique*

*seismic profile and operating history, HBA does not expect it to be as short as other plants in this comparison. However, decommissioning project in similar stages of planning to DCPD are several years shorter than DCPD.*

h. Comparison of Existing Spent Fuel Storage Programs in California

There are three existing ISFSIs in California, in addition to the DCPD ISFSI. These are located at Rancho Seco, San Onofre Nuclear Generating Station (SONGS), Humboldt Bay (HBPP). The spent nuclear fuel management at DCPD has more in common with the SONGS facility than that of Rancho Seco or HBPP.

Rancho Seco ISFSI

Rancho Seco is host to 228.8 metric tons of spent fuel (493 spent fuel assemblies) and 13.6 metric tons of GTCC waste from the reactors. Altogether, 22 canisters are stored horizontally at the ISFSI. None of the spent nuclear fuel is classified as high burnup, and so the challenges of spent nuclear fuel storage are less than those posed at the DCPD, where a significant portion of the spent nuclear fuel is classified as high burnup.

HBPP ISFSI

There are six dry casks stored at the HBPP. None of them contain high burnup fuel. The ISFSI at HBPP is an I-shaped, subterranean concrete vault with six cylindrical vault liners poured in place. Each liner with its surrounding concrete is considered a separate cell within the vault. The spent nuclear fuel is able to be stored in this manner because of the age of the HBPP fuel and the low decay heat associated with it. The ISFSI storage casks do not require the normal atmospheric cooling, therefore the casks may be stored underground without fear of overheating.

The concrete vault provides structural stability as well as lateral restraint to resist seismic forces. The concrete vault also provides radiation shielding to lower the potential dose to the public in close proximity to the vault (i.e. along the public trail between the ISFSI and Humboldt Bay.)

SONGS ISFSI

SONGS Unit 1 commenced operation in 1968, and was shut down in 1992. SONGS Units 2 and 3 were taken out of service in 2012 after a radioactive leak from a new steam generator whose design had been modified by the manufacturer, Mitsubishi, without obtaining a license amendment from the NRC. On June 7, 2013, Southern California Edison (SCE) announced its decision to permanently retire SONGS Units 2 and 3. SCE announced in a press release that the decision was driven by regulatory uncertainty concerning the restart of both units and the associated economic impacts. Dismantlement of Unit 1 is essentially complete.

There are two separate ISFSIs at SONGS. The older installation uses horizontally-oriented Areva casks, while the newer ISFSI is employing the Holtec HI-STORM UMAX design, which is vertically oriented but built below grade, just a few feet above the mean tide level. The loading of spent nuclear fuel into the Holtec UMAX casks was halted in August 2018 because of a near-miss during loading of a canister. The 5/8 inch thick Holtec canister became lodged on an interior rim of the transfer cask and could have fallen 18 feet into the storage cask. Loading has not yet resumed, though it is anticipated to begin again soon. The NRC issued a

violation against SCE and levied a fine of \$116,000. Blame for the near-miss was attributed to Holtec, whose employees were operating the machinery under contract with SCE.

The Areva and Holtec ISFSI installations hold 124 casks, and altogether the site hosts 1,773 tons of spent nuclear fuel. Much of the spent nuclear fuel still housed in the pools can be classified as high burnup, and so it must be cooled for a longer period of time.

The following chart outlines the dry cask storage programs for SONGS, HBPP and Rancho Seco:

	SONGS	HBPP	Rancho Seco
<b>Location</b>	San Diego County, California	Humboldt County, California	Sacramento County, California
<b>Dry Cask Storage System</b>	Areva NUHOMS canister-based system (consists of a dry shielded canister (DSC) and reinforced concrete horizontal storage module (HSM) Holtec UMAX (consists of Multi-Purpose Container (MPC) stored in below-grade reinforced concrete vault)	HI-STAR 100 HB system (consists of MPC-HB and HB overpack stored in below-grade reinforced concrete vault)	Areva NUHOMS canister-based system (consists of a DSC and reinforced concrete HSM)
<b>Canisters Stored</b>	Unit 1: 18 casks of spent fuel and GTCC waste Units 2&3: Projected 124 casks of spent fuel and GTCC waste	6 casks of spent fuel and GTCC waste	22 casks of spent fuel and GTCC waste
<b>NRC License-Type / Year</b>	General Year is N/A since it is a general license	Site-Specific Licensed in 2005	Site-Specific Licensed in 2000
<b>Plant Permanent Shutdown Year</b>	Unit 1: 1992 Units 2&3: 2013	1976	1989
<b>Reference(s)</b>	<ul style="list-style-type: none"> <li>• <a href="#">SONGS Website</a></li> <li>• <a href="#">NRC SONGS Decommissioning Webpage</a></li> <li>• <a href="#">Holtec UMAX Overview</a></li> <li>• <a href="#">SONGS Irradiated Fuel Management Plan</a></li> </ul>	<ul style="list-style-type: none"> <li>• HB ISFSI License Renewal <a href="#">Application</a> and <a href="#">Presentation</a> to NRC</li> <li>• <a href="#">Funding Report</a> to NRC</li> </ul>	Rancho Seco ISFSI License Renewal <a href="#">Application</a> and <a href="#">Presentation</a> to NRC

### 3. DCPD ISFSI Spent Nuclear Fuel Casks

#### a. Current DCPD Licensed Cask Design

The current dry cask storage system at Diablo Canyon uses the Holtec International HI-STORM 100SA overpack, HI-TRAC 125D transfer cask, and Multi-Purpose Canister (MPC) capable of holding 32 fuel assemblies (MPC-32). This system is approved for use by general licensees under NRC Docket Number 72-1014. The canisters are half-inch thick stainless steel nestled within a concrete “overpack” that is 27-1/2 inches thick and lined with a 1 inch thick stainless steel liner around both the inner and outer diameters. No mechanism for inspecting the canisters for cracking or loss of helium currently exists, though research is underway.

When the spent nuclear fuel is transferred to dry storage from the spent fuel pools, it must be shielded against radiation. The fuel assemblies are loaded into the MPC which is inside the transfer cask underwater in the spent fuel pools. The MPC, shielded by the transfer cask, is raised out of the water, dried, filled with helium, sealed, and then carefully moved to the ISFSI, where the transfer cask is removed while the canister is lowered into the concrete overpack. The canister and concrete overpack are moved into place on the ISFSI pad and bolted down. This transfer process is designed to protect workers and the environment from radiation exposure.

b. Upcoming Request for Proposal (RFP) for New Casks

In July 2019, PG&E plans to issue a Request for Proposal (RFP) to begin the process of selecting a new dry cask storage system at the DCPD ISFSI. Because of the high seismic threat at Diablo Canyon, a site-specific dry storage plan must be used. At the DCDEP's informational meeting held on February 22, 2019, three dry cask manufacturers (Orano, Holtec, and GNS) presented information regarding their products to the DCDEP. PG&E has noted that all manufacturers with dry cask storage systems are welcome to submit proposals.

c. Technical Variables Associated with New Cask Design

Relevant to dry cask storage systems is this statement from the PG&E 2018 Triennial NDCTP filing (Volume 1, Chapter 6, Section B.2):

*For a general license, the dry cask vendor performs the licensing to gain the NRC's approval for the dry cask design to be used. However, DCPD is not authorized as a general licensee, but rather uses the system under a site-specific ISFSI license (NRC Docket Number 72-26). PG&E chose to obtain a site-specific ISFSI license to adequately address DCPD site-specific conditions including seismic design basis requirements and the associated impacts to the system's thermal capacity.*

Because design requirements are exceptional for the Diablo Canyon site, dry cask vendors must modify their designs to meet additional safety parameters. Each canister and cask is manufactured to order, and so the process may take some time to complete. The DCDEP will review all of the proposed cask designs submitted to PG&E and will make its recommendation to PG&E based on design safety and longevity. Although the recommendations will be advisory only, the DCDEP feels there is a responsibility to do so.

d. Cask Housing Options

During the DCDEP workshops held on spent nuclear fuel storage, three options for dry spent fuel storage were discussed: open air unmonitored storage, Hardened On-Site Storage (HOSS), and Hardened Extended-life Local Monitored Surface Storage (HELMS).

The system currently used at the DCPD ISFSI is an open air unmonitored system. The dry casks are affixed to 7½ foot thick concrete pads in the open air. The spent nuclear fuel emits radiation (like light from a light bulb) and continues to cool using a passive system: that is, it relies upon a combination of heat conduction through solid materials and natural convection or thermal radiation through air to move decay heat from the spent fuel into the ambient environment. There is no real-time radiation monitoring at each cask. Four radiation monitors (Thermoluminescent Dosimeters or TLD's) are placed at the outer edges of the inner

perimeter of the ISFSI. Eight additional radiation monitors are placed around the exterior perimeter of the ISFSI. TLD's are replaced and the doses read quarterly. Resultant doses are reported in the Annual Radiological Environmental Operating Report. The most recent dose results are from 2017 and can be found in the Annual Radioactive Effluent Report (<https://www.nrc.gov/docs/ML1813/ML18130A025.pdf>. - page 83). Thus far, radiation levels at the ISFSI are as expected.

The HOSS concept is still under development. The principles are as follows:

- Irradiated fuel must be stored as safely as possible as close to the site of generation as possible;
- The facilities are not regarded as a permanent waste solution and should not be constructed underground rendering the waste irretrievable;
- The facility must have real-time radiation and heat monitoring for early detection of problems with containers;
- The amount of releases projected, in even severe attacks, should be low enough so that the storage system would be unattractive as a terrorist target; and
- Placement of individual dry casks in a manner that detection from outside the site boundary is difficult.
- Casks must be:
  - Retrievable
  - Capable of being re-containerized
  - Transportable

The HELMS concept is also under development and has been submitted to the NRC by *Citizens Oversight*, an activist organization based out of San Diego. The following is from the Citizens Oversight website ([citizenoversight.org](http://citizenoversight.org)):

*HELMS stands for Hardened, Extended-life, Local, Monitored Surface Storage. Hardened to deal with the reality of the terrorist and other unpredictable events, Extended-Life to embrace a 1,000 year DESIGN LIFE, 300 year PASSIVE LIFE, while still allowing a 40-year license term. Local, to imply that the waste will likely be moved to perhaps a half-dozen Consolidated Interim Storage (CIS) sites which are near the source of the waste but away from the coastal areas and other waterways. Monitored, by defining and included a standard monitoring electronics package that can provide 7/24 monitoring during the initial decades of storage. Surface, to embrace the fact that a) the waste is simply too hot to place in any geologic repository, b) no geologic repository actually exists, and c) if the SNF is emplaced in the repository, it would need to be actively ventilated for up to 200 years.*

In Germany, by comparison, dry casks are stored in passively cooled buildings in order to keep them out of sight of terrorists and to protect from potential environmental harm caused by excessive humidity and dust. A monolithic cask body is made of ductile cast iron with machined cooling fins to improve the heat removal. A bolted double lid system – the primary lid and the secondary lid – with metal seals and a permanent pressure monitoring of the interspace allows proof of leak tightness. Each cask has a pressure switch that sounds an alarm when a pressure limit is reached or if the switch doesn't function. That switch sits in the



secondary lid and surveys the helium pressure (higher than inside the cask, so that a leak would go to the inside of the cask and not to the environment) within the space between the primary and secondary lid. The radiation of any individual cask is measured during loading at the power plant and verified upon arrival at the ISFSI and then connected to the pressure switch, which surveys the leak tightness. Radiation is surveyed inside and outside the building, in particular at the fence. Beginning in 1998, Germany has required onsite storage at nuclear power plants to be located in buildings with reinforcement that are 1.2 to 1.4 meters-thick. Japan also stores its spent nuclear fuel casks inside buildings.

e. DCPP Greater than Class C Waste (GTCC) Storage Program

When the DCP is decommissioned, there will be waste generated from dismantling the reactor pressure vessel internals and appurtenances. This waste is classified as Greater-Than-Class-C (GTCC) Waste. GTCC Waste cannot be shipped off-site like lower class demolition wastes, but must be stored in a long-term repository, similar to spent nuclear fuel. The current ISFSI is not large enough to accommodate an additional approximately 10 casks of GTCC that will be stored onsite with the spent nuclear fuel. As part of the RFP process, PG&E will be evaluating dry cask storage systems for storage of GTCC waste at the DCP ISFSI until such time as transfer to an approved, off-site facility can occur.

The DCDEP is evaluating the storage of GTCC waste in a holistic manner. In addition to the 58 spent fuel casks already onsite at Diablo Canyon, PG&E plans to add an additional 80 casks after offloading all spent nuclear fuel from the spent fuel pools and adding the GTCC waste. The addition of GTCC waste and the need to contain it in the ISFSI presents an opportunity for a fresh look at spent nuclear fuel storage at Diablo Canyon.

#### **4. *DCPP Spent Nuclear Fuel Security Program***

a. Current Security Measures

Currently, NRC-regulated nuclear facilities, such as DCP, are considered among the most secure of the nation's critical infrastructure. This security is achieved through multiple approaches working concurrently. DCP is a strong structure, built to withstand adverse weather and earthquakes. It is also surrounded by open space that is controlled by the utility or its subsidiaries. DCP is not visible from public roads. Additional security measures include trained and armed security officers, physical barriers, intrusion detection and surveillance systems.

The NRC requires that DCP, as well as all nuclear power plants, be able to defend against a set of adversary characteristics called the Design Basis Threat (DBT). The details of the DBT are not public. But, in general, it outlines threats and adversary characteristics these facilities must demonstrate they can protect against. The DBT is based on realistic assessments of the tactics, techniques and procedures used by terrorist groups and organizations. The NRC is constantly re-evaluating the threat environment and considers changes to the DBT if necessary. The NRC's security baseline inspection program is the primary way the agency verifies nuclear power plants are operating according to security regulations. Force-on-force security inspections are part of this program. In these inspections, a specially trained mock adversary force "attacks" the facility.

b. Security Measures During Decommissioning

The NRC staff evaluates the overall security and emergency preparedness posture during decommissioning on a site-specific basis. The NRC requires a level of security commensurate with the potential consequences to public health and safety and common defense and security. Each decommissioning power reactor has unique characteristics, such as the age of the fuel, amount of fuel in the pool, pool construction/location, and spent fuel load pattern. Although some of the components of the DCPD security program during operation will remain during decommissioning, the NRC allows for changes based on reduced risks that exist after plant shut down.

c. Proposed Security Measures Beyond Decommissioning

After all the spent fuel has been moved from the pools to dry cask storage, the security program shifts to focus on the ISFSI. The NRC continues to regulate the required security programs through the license it issues for the ISFSI. This remains in place until all spent fuel is removed from the site.

Additional information about how the NRC regulates plant security can be found at <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/security-enhancements.html>

## **5. DCPD Inspection and Monitoring Program for ISFSI**

a. NRC Mandated ISFSI Monitoring

NRC-mandated radiation monitoring requirements are not specific. The following is excerpted from *Inspection Procedure 60855 – Operation of a Spent Fuel Storage Installation*:

*Review radiological records for the loading of several recent casks to confirm that radiation levels measured on the casks were within limits specified by the TS or CoC and consistent with values specified in the SAR. Contamination incidents since the last inspection should be reviewed to verify the licensee is continuing to maintain effective control of contamination during work activities.*

*Review the environmental dosimetry records since the last inspection for the areas around the ISFSI pad to verify that accumulation of casks on the ISFSI pad have not caused dose rates in the area to exceed 10 CFR Part 20 limits without posting the area. Verify that workers in nearby buildings are not experiencing elevated dose rates that would be inconsistent with the principles of ALARA (as low as reasonably achievable) and that areas accessible by the public are not exceeding doses to the public specified in 10 CFR Part 20.*

b. NRC Mandated ISFSI Inspection

Below is an excerpt from the NRC document NUREG-1927, Revision 1, Standard Review Plan for Renewal of NRC Specific Licenses and NRC Certificates of Compliance (CoC) for Dry Storage of Spent Nuclear Fuel:

*Both the specific-license and the CoC renewal applications must contain requirements and operating conditions (fuel storage, surveillance and maintenance, and other requirements) for the ISFSI or DSS that address aging mechanisms and aging effects that could affect structures, systems, and*

*components relied upon for the safe storage of spent fuel. Renewal applications must include (1) time-limited aging analyses, if applicable, that demonstrate that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation, and (2) aging management programs for management of issues associated with aging that could adversely affect structures, systems, and components important to safety. Licensees and applicants are encouraged to meet with the NRC staff at public pre-application meetings to discuss their proposed plans for the renewal application.*

c. PG&E Monitoring of the DCPD ISFSI

PG&E has chosen to use a “bounding” radiation dose measurement each year as a direct measurement of the amount of radiation exposure at the plant. For the eight Thermoluminescent Dosimeters (TLD) outside the perimeter of the ISFSI, PG&E has chosen to use this method of dose measurement:

*Direct Radiation (line-of-sight plus sky-shine)*

*Direct radiation to a member of the public has been evaluated per 40 CFR 190 to ensure members of the public did not receive more than 25 mrem per year to the whole body. The 2017 Land Use Census did not identify any members of the public that live in a location that can receive direct radiation from the DCPD site.*

*Instead of calculating dose to an hypothetical member of the public at the site boundary, direct radiation for 2017 was calculated for the operators of the makeup water treatment plant located near the site boundary and approximately 200 meters from the both the ISFSI and the centerline between the Unit 1 and Unit 2 plant vent exhausts. The makeup water operators have been estimated to spend a maximum of 2920 hours a year at their work location.*

*The makeup water plant is unique at Diablo Canyon because it is near the northern site boundary and receives direct radiation from multiple plant sources. The makeup water plant operators work to support plant operation within the owner-controlled area and outside the protected area, but inside the site boundary. Therefore, they are not evaluated to be members of the public not associated with the nuclear fuel cycle as defined in 40 CFR Part 190.*

*Because of these factors, dose received by makeup water plant operators is considered bounding – a maximum greater than the dose that could be received by any real member of the public in the unrestricted area. The 2017 dose calculated for the makeup water operator as a receptor was 4.7 millirem. This is approximately 1/5 of the 25 millirem limit from 40 CFR Part 190 that would apply to members of the public not associated with the nuclear fuel cycle due to activities inside the site boundary.” (Page 23 - 2017 Annual Radioactive Effluent Release Report)*

For the area within the ISFSI, the radiation monitoring is as follows:

- TLDs are placed inside body phantoms (a block of human tissue equivalent material. to represent the human body)
- Background radiation is subtracted using control TLDs.
- TLDs are exchanged and read out quarterly.
- Resultant doses are reported in the Annual Radioactive Effluent Release Report.
- Radiation to members of the public in 2017 are reported in the 2017 Annual Radioactive Effluent Release Report- DCL 18-028.

The most recent report on radiation releases from Diablo Canyon is available in the 2017 Annual Radioactive Effluent Report. <https://www.nrc.gov/docs/ML1813/ML18130A025.pdf>

d. PG&E Inspection of the DCPD ISFSI

Below is a summary of the current ISFSI inspections completed at the DCPD:

**Daily Inspection**

- PG&E's Operations Services conducts daily checks to see that cask inlets and outlets are clear and undamaged
- Radiation dosimeters are worn by staff during inspections and any changes in dosimetry readings are recorded

**Monthly Inspection**

Monthly inspection is performed by maintenance staff for:

- Cask fastener integrity
- Inlet and outlet screen integrity

**Annual Inspection**

Annual engineering inspection performed to assure:

- Painted surfaces are relatively free of corrosion, and chipped, cracked or blistered paint
- Nameplates are present, legible, and in good general condition
- Lid surfaces are relatively free of dents, scratches, gouges or other damage
- Lid lift hole plugs are installed
- Lid retention studs are installed
- Lid holes are in good condition
- Anchor hardware is installed, and visible portions are in good condition.

**Voluntary Electric Power Research Institute, Inc. (EPRI) Inspection.**

EPRI is an American independent, nonprofit organization that conducts research and development related to the generation, delivery, and use of electricity to help address challenges in electricity, including reliability, efficiency, affordability, health, safety, and the environment.

DCPD performed a voluntary EPRI inspection as a proof-of-technology verification in January of 2014 to help EPRI validate accessibility and inspection technologies for viewing canister exterior surfaces. The following is from the EPRI Report (3002002822):

- The inspection provided remote access to the canister surface to collect surface samples, take temperature measurements, and obtain visual evidence of the surface condition.
- The chemical analysis results confirmed very low chloride concentrations, less than 5 mg/m<sup>2</sup>, despite being located close to the ocean.
- Sea salt aerosols were identified in some of the dust samples, indicating that the chlorides from the ocean are being transported inside the overpack to the canister surface, although very slowly as indicated by the low concentration.
- The measured temperatures, ranging from about 120°F (49°C) near the bottom of the canister to well over 200°F (93°C) on the top, indicate that most of the canister is above the temperature where CISCC is expected to occur, yet the coolest areas near the bottom of the canister may already be below this threshold. One of the 2 year-old canisters tested was surprisingly cooler near the bottom than was expected, indicating vulnerability to deposition of salts from the sea air.
- Visual inspection found a small amount of dust on the top surface; however, the sides were free of visible dust and debris, and there was no sign of gross degradation.

## **6. *Permanent Federal Spent Nuclear Fuel Storage Facility Proposal***

### **a. History of Federal Nuclear Waste Repository**

When the nuclear industry was first developing, the National Academy of Sciences released a study in 1957 recommending that the best means of protecting the environment and public health and safety would be to dispose of the nuclear waste in rock deep underground.

In 1982 the federal government enacted the Nuclear Waste Policy Act (NWPA) which mandated the creation of a federal “repository” for spent nuclear fuel disposal. The NWPA calls for a “permanent deep geologic disposal of high-level radioactive waste and spent nuclear fuel.” The law specified that the disposal facility should begin accepting spent nuclear fuel in 1998. The NWPA law specifies that Environmental Protection Agency (EPA) would set the human health protection standards that such a repository must meet, the Department of Energy (DOE) would identify a site that it believes complied with EPA’s standards, and the NRC would decide, after a full adjudicatory proceeding, whether or not the site chosen by DOE actually satisfies EPA’s standards. If so, the facility would be built. If not, DOE would select an alternative site, and the process would begin again. The NWPA process specifies that public interest groups and State and local authorities could challenge and litigate the DOE and NRC decisions.

### **b. Yucca Mountain Nuclear Waste Repository**

After extensive research, DOE identified a site in Nevada called Yucca Mountain that it believed met the EPA health protection standards. In 2008, the DOE applied to the NRC for a license to construct the Yucca Mountain Nuclear Waste Repository. However, the project has been a hotly debated national topic. The majority of Nevadans, including the Governor and state Attorney General, as well as the state’s congressional delegation, leaders from Clark County, the City of Las Vegas, and the Western Shoshone Nation, continue to oppose the project. Only the local county in which Yucca Mountain site is located, Nye County, supports the development of the repository.



In 2010, the Obama Administration directed DOE to withdraw the Yucca Mountain application. This decision was challenged by states where spent nuclear fuel was accumulating. In 2013, the U. S. Court of Appeals for the District of Columbia rejected the DOE withdrawal and ordered DOE and NRC to resume processing the Yucca Mountain license application. DOE and NRC restarted the Yucca process, but soon ran out of money because the Obama Administration would not appropriate funding for the project. More recently, the budgets that were proposed by the Trump Administration for 2018 and now 2019 included approximately \$120 million to restart the Yucca Mountain licensing process. The 2018 Budget proposal did not pass. The 2019 Budget proposal is currently pending in Congress.

If the Yucca Mountain Nuclear Waste Repository licensing process at the NRC resumes, it will be litigated for several years. And even if the project were approved by NRC (and the federal courts), it is unlikely that Yucca Mountain would begin accepting spent nuclear fuel before 2050.

c. Prospects for Completion

This leaves all nuclear power plants in the US without any designated long-term federal disposal site. As a result, most nuclear power plants, including DCP, must store their spent nuclear fuel, indefinitely, on site in dry cask storage systems made of steel and concrete casks. The prospects for completion of Yucca Mountain Nuclear Waste Repository or any other such permanent repository in the near future are low and there is currently no approved funding for further development. However, there was a Bill in the last Congress (the Nuclear Waste Policy Amendment Act of 2017) that directs the DOE to develop a federal Consolidated Interim Storage Facility (CISF) to be used until the development, construction and operation of a permanent federal nuclear waste repository is developed. That bill (HR 3053), passed the House of Representatives by 370 – 72, but Senator Heller (R- NV) prevented it from coming to a vote in the Senate. Senator Heller has since lost his seat. A similar Bill could be introduced in the current Congress.

PG&E reached a settlement agreement with the DOE in 2012 for yearly reimbursement for the costs of on-site storage of spent nuclear fuel and yearly claims are submitted to the DOE. This means that, until Yucca Mountain Nuclear Waste Repository or another federal repository opens, the federal government (taxpayers), not PG&E nor its ratepayers, pays the costs of storing spent nuclear fuel on the DCP site.

## **7. Consolidated Interim Private Spent Nuclear Fuel Storage Facility (CISF) Proposals**

a. Texas and New Mexico CISF Proposals

As an interim measure until the federal government opens a permanent federal spent nuclear fuel repository, two private entities have submitted applications to the NRC for Consolidated Interim Storage Facilities (CISF). These CISFs would be large ISFSIs, located either above or below grade. Holtec International submitted an application for a CISF in Lea County, New Mexico in 2017 which may be approved as early as 2021. Holtec stated to the DCDEP that, once the license is issued, the facility could be constructed and open to accept spent nuclear fuel within 2 or 3 years. In 2016 another company, Interim Storage Partners, LLC submitted an application for a CISF in Andrews County, Texas with an estimated approval date of 2022.

Legal challenges to building CISF's in both New Mexico and Texas are currently on appeal at the NRC. The Governor of New Mexico, both U.S. Senators, and two of three New Mexico Congressional representatives have expressed their opposition to building a CISF in their state, whereas local elected officials are supportive of the project. In Texas, local government officials have expressed their opposition to the proposed CISF, whereas Federal officials support it

b. Timeframe for Readiness

Both of these pending CISF proposals are seeking a specific license from the NRC under 10 CFR Part 72 and are not co-located with a power reactor. The NRC is currently performing a technical review of all the safety and environmental protection aspects of the proposed CISFs. If approved, the license could be valid for up to 40 years.

Once these privately owned and operated CISFs are licensed and constructed, the decision as to which commercial nuclear power plants get to send their spent nuclear fuel to the CISF first has not yet been decided. The DOE has an informal Acceptance Policy Ranking for a federal repository, which states that the oldest fuel from a particular location should be transported first. However, it is not known if this approach would apply to the CISFs.

At the federal level, Representative Mike Levin (D- San Juan Capistrano) has introduced HR 2699 – the Nuclear Waste Policy Amendments Act of 2019, which would give priority to waste from: (1) decommissioned plants or those in the process of being decommissioned, (2) sites located near dense population centers and (3) locations where an earthquake hazard is present. Levin's legislation would supersede the "oldest first" principle, which is not codified under any law or regulation but has been accepted by some in the industry. If Levin's bill becomes law, the old standards would be replaced and new criteria would be established to determine which sites would move to the front of the queue for transporting used spent nuclear fuel to a CISF or permanent federal repository. This new standard may accelerate the transfer of spent nuclear fuel from DCPD due to its location near fault lines.

c. DCDEP Position on CISF

Although the recommendations put forward in the Vision Statement include support of CISF and the desire to transfer spent nuclear fuel to these facilities if available, DCDEP member Linda Seeley has presented an opposition paper entitled "*Opposition to Consolidated Interim Storage*" recommending the spent nuclear fuel remain at the DCPD site until such time as a permanent federal repository exists. Her paper can be accessed at this [link](#).

## **8. Transportation of GTCC Waste / Spent Nuclear Fuel**

a. Transportation Impacts of Spent Nuclear Fuel

The transportation related impacts of decommissioning which could include moving both radiologically contaminated and non-contaminated demolition materials (and GTCC waste and spent nuclear fuel in the future) over the local highway and rail systems are of critical importance to the county and in particular, the community of Avila Beach. It is imperative that the movement of demolition materials, GTCC waste and spent nuclear fuel be done safely and with limited impacts to surrounding communities.

b. Transportation Casks and Canisters

At the DCP, the existing dry casks overpacks in use for spent nuclear fuel storage do not meet the NRC's transportation cask specifications. Transporting spent nuclear fuel from DCP to either a CISF or a federal repository must be preceded by transferring the multi-purpose spent fuel canisters from existing overpacks to transportation casks

As part of the RFP process being used to select a new dry storage system at the DCP ISFSI, PG&E is not requiring that future casks that are evaluated be designed and licensed for both storage and transportation, but is not opposed to assessing casks that meet this criteria. As part of the RFP, PG&E is looking at canisters that meet the transportation requirements for eventual transfer to a transportation cask, if they are not already in a licensed transportation cask.

In order to learn more about the potential transportation issues, the DCDEP has scheduled a public meeting on **November 13, 2019** dedicated to the topic of transportation. After hearing from the public at that meeting, and from pertinent agencies before, at or following the meeting, the DCDEP will develop a background section and formulate Visions, Goals and Recommendations specific to transportation.

Through these vision statements, goals and recommendations, it is the intent of the DCDEP to assure that the management of DCP spent nuclear fuel is done in a safe and secure manner for the community, workers and the environment.

Recommendations for Spent Nuclear Fuel Management can be found in Section IV of this document.

**Vision Statements**

- The protection of human health and safeguarding the community, workers and the environment should be the primary considerations in the management of spent nuclear fuel at DCP
- The amount of spent nuclear fuel kept in the spent fuel pools at any one time is recognized as a complex issue, but should always be the amount that would create the lowest possible threat to the community
- The primary consideration in choosing a dry cask storage system should be the health and safety of workers and the community and the ongoing protection of the environmental quality of the area
- The constant changes to the site and use of contractors creates potential security exposure, thus a highly trained security force should be a continued focus during decommissioning
- The creation of a permanent, deep, geological repository for spent nuclear fuel by the federal government should be completed as set forth in the Nuclear Waste Policy Act of 1982

- The spent nuclear fuel should be moved away from Diablo Canyon as soon as safely feasible, in a manner that minimizes impacts to the adjacent communities and any other impacted communities
- The current ISFSI site should be either repurposed for another use or converted to open space after regulatory approvals are met
- The ownership of the DCPD should stay with PG&E throughout the decommissioning process to preserve the existing connection with the community and the local workforce

## **Goals**

### **1. Risk Analysis**

- a. The range of alternatives for offloading spent nuclear should be evaluated through an independent risk assessment to determine potential risks to workers, the community and the environment

### **2. Dry Cask Storage System**

- a. The next generation of dry cask storage systems for the ISFSI should be chosen using the Request for Proposal (RFP) process and should take into consideration industry advancements in dry cask storage technology
- b. The ISFSI should use a site specific dry cask storage system that takes into consideration the seismic risks at DCPD
- c. The dry cask storage system chosen for the ISFSI should take into consideration the health and safety of the workers, as well as the continued protection of neighboring communities and the regional environment
- d. The evaluation of a next generation dry cask storage system should consider the benefits and costs of a system that is suitable for both storage and transportation

### **3. Dry Cask Loading**

- a. The loading and movement of any new dry cask storage system should involve extensive worker training and leverage the experiences of other ISFSI operators

### **4. Aging Management Program**

- a. The development of an Aging Management Program for the ISFSI should be completed by PG&E as soon as possible and should incorporate the best available technology as it evolves in the industry
- b. The Aging Management Program should include special consideration for the management and inspection of the older canisters that have been in use since 2009
- c. The ISFSI should be regularly inspected and continually monitored in order to protect the workers, community and the environmental quality of the area

### **5. Security**

- a. The NDTCP should include an accurate budget for comprehensive security measures during all phases of decommissioning

## **6. Offsite Repository for Spent Nuclear Fuel**

- a. The spent nuclear fuel and GTCC waste stored in the DCPD ISFSI should be safely transported to either a Consolidated Interim Storage Facility or permanent repository located offsite as soon as possible
- b. The spent nuclear fuel and GTCC waste, if transported by truck, should not generate a substantial increase in traffic through surrounding communities during times of peak traffic

## **7. DCPD Ownership**

- a. The DCPD should continue to be owned and operated by PG&E in order to preserve the relationships that are present today with local workers and contractors, neighboring communities and local governments and remain the overseer of the on-site spent fuel management process

*[Added May 2019]*

## **H. Potential Economic Impacts/Possible Economic Development Opportunities**

In the third quarter of 2019, the DCDEP will hold a public meeting covering the topic of potential economic impacts of decommissioning and possible economic development opportunities. It is recognized that the closure of DCPD will have economic impacts to San Luis Obispo County. Diablo Canyon has been a major economic engine in the region for more than 30 years and the closure of the plant will create economics impacts, but may also provide opportunities for economic development. Legislation passed by the State of California required the preparation of economic report(s) in order to better understand the potential impacts and opportunities surrounding the closure of the DCPD. At a meeting held during the third quarter of 2019, those report(s) will be presented to the DCDEP. A list of recommendations to PG&E and the CPUC regarding economic impacts/development will be prepared and included in the 2019 Vision Document and be forwarded to the CPUC for inclusion as an additional supplemental filing to the 2018 Triennial Report.

The public meeting is scheduled for September 18, 2019.

## **I. Transportation**

In the fourth quarter of 2019, the DCDEP will hold a public meeting covering transportation related topics including the transport of demolished materials from the site as part of the decommissioning process. The DCDEP notes that this topic is of special concern to those communities that surround the DCPD that could be impacted by the additional traffic created. The meeting will provide an opportunity for PG&E to describe the potential options for transportation of demolished materials and for the public to present concerns they have regarding safety issues and increased traffic. This section of the document will be prepared before the end of 2019 and will be forwarded to the CPUC for inclusion as an additional supplemental filing to the 2018 Triennial Report.

The public meeting is scheduled for November 13, 2019.



# VI. DCDEP Recommendations and Implementation Plan

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Contained in the section are the recommendations of the DCDEP. The recommendations in this section will become activities as part of an implementation plan that will be tracked by the DCDEP. A report that provides the status of each of the recommendations will be produced yearly, or as needed.

## A. Decommissioning Process Recommendations

### 1. **Diablo Canyon Decommissioning Engagement Panel**

- a. Recommend to the CPUC that public meetings and workshops continue to be held and public input received by the DCDEP throughout the decommissioning process
- b. Recommend to the CPUC that a report be prepared each year by the DCDEP reflecting the public input received over that time frame
- c. Recommend that the CPUC consider formally expanding the charter of the Diablo Canyon Independent Safety Committee to include any technical support that may be requested of them by the DCDEP
- d. Recommend that the CPUC consider extending the existence of the Diablo Canyon Independent Safety Committee beyond conclusion of power generation at the DCCP so that their independent and valuable technical and safety expertise would continue to be available to the DCDEP and to the communities in San Luis Obispo County during the decades of decommissioning

### 2. **Safety**

- a. Recommend to PG&E that decommissioning (decontamination) begin immediately upon plant shutdown with a goal of 10 years for completion of radiological decommissioning and decontamination and that SAFSTOR not be considered
- b. Recommend to the CPUC that the spent fuel stored on-site be monitored at all times by PG&E or other entity as appropriate (before and during DECON) using real-time radiation monitoring
- c. Recommend to the CPUC that the implementation of technologically advanced storage methods for spent fuel occur as soon as such methods are identified and determined to be feasible
- d. Recommend to the CPUC that PG&E thoroughly research and investigate the potential for both ship and truck transport of dismantled facilities from the site and the data communicated to the DCDEP
- e. Recommend to PG&E that the transport of demolished facilities (including radiological demolished materials) through surrounding communities be avoided during times of peak traffic
- f. Recommend to PG&E that the possible future transport of spent fuel to an off-site storage facility through surrounding communities be avoided during times of peak traffic
- g. Recommend that PG&E research the safest method of transport and consider any new technological innovation in compliance with all applicable regulations

### **3. Labor**

- a. Recommend the use of non-discriminatory project labor agreements that incentivize local contractors hire from the local workforce for decommissioning activities, be implemented by PG&E at the earliest possible time
- b. Recommend to PG&E that non-discriminatory project labor agreements incorporate a continued commitment to supporting the local workforce and maintain programs that support the highest level of safety and training

## **B. Decommissioning Funding Recommendations**

### **1. Funding**

- a. Recommend that the CPUC assure that the Decommissioning Trust Fund will provide adequate funding to ensure the protection of the health and safety of the community throughout the decommissioning process
- b. Recommend that the CPUC assure that the Decommissioning Trust Fund will provide adequate funding to allow for critical advance planning decommissioning activities needed to continue in order to allow immediate transition to decommissioning when the plant ceases power generation
- c. Recommend that the CPUC ascertain if PG&E has adequately researched and considered costs and community impacts of both land and sea transport of facility components from the site
- d. Recommend that the CPUC assure that the Decommissioning Trust Fund will cover the reasonable cost of completing all the decommissioning activities, including removal, transportation and disposal in a way that minimizes risk and disruption to local communities and cost to ratepayers

## **C. Diablo Canyon Lands Recommendations**

### **1. Diablo Canyon Decommissioning Engagement Panel**

- a. Recommend that a letter to the CPUC be prepared seeking its permission for PG&E to proceed with conservation discussions (including property appraisals and Memorandum of Understanding) for the Diablo Canyon Lands, including Wild Cherry Canyon, with conservation entities, notwithstanding its “no action” order contained in Section 13 of Decision 18-01-022 dated January 11, 2018

### **2. Land Stewardship**

- a. Recommend that the CPUC direct PG&E to ensure that a management/access plan for the Diablo Canyon Lands is developed when transferring land that at a minimum includes, a multi-use non-motorized trail system for hikers, mountain bikers and equestrian use, restricted access in the sensitive intertidal zone, rotational grazing, habitat restoration, protection of cultural sites and consideration of minimizing traffic through surrounding communities times of peak traffic

- b. Recommend that PG&E make all existing biological, geological and archeological data available to conservation entities upon land transfer
- c. Recommend that PG&E complete the deed restriction for the 1,200 acres near Point San Luis (see Figure 3) that would preserve the property in perpetuity for conservation and public access

### **3. Land Transfer and Use**

- a. Recommend that the CPUC ensure that transfer of Diablo Canyon Lands that are subject to their authority is to a governmental, Native American non-profit and/or land conservancy entity or entities that are experienced in land management for the purposes of resource conservation and managed public access
- b. Recommend that PG&E publicly announce its intention to collaborate with interested parties to conserve the Diablo Canyon Lands as soon as allowed by the CPUC
- c. Recommend that a conservation entity or entities reinstate negotiations with PG&E/Eureka Energy and HomeFed and sign an option agreement or Memorandum of Understanding for the acquisition of land interests on Wild Cherry Canyon for public or non-profit conservation ownership and management
- d. Recommend that a conservation entity or entities begin the appraisal process of Wild Cherry Canyon, so that funding sources can be identified and pursued
- e. Recommend that a conservation entity or entities coordinate with the Land Conservancy of San Luis Obispo County, the Nature Conservancy, State Parks, Bureau of Land Management, the Andre Ranch owners, and PG&E on the design and creation of at least two multi-use trails that would include an interior trail and a coastal trail (including an extension of the California Coastal Trail)
- f. Recommend a conservation entity or entities begin negotiations with PG&E/Eureka Energy on the acquisition of the Diablo Canyon Lands (outside of Wild Cherry Canyon), for public or non-profit conservation ownership and management
- g. Recommend that PG&E evaluate the use of a small portion of the land north of the Harbor Terrace development for use by the Port San Luis Harbor District for boat storage

### **4. Cultural Heritage**

- a. Recommend that the CPUC ensure any future owners of Diablo Canyon Lands develop management/access plans that ensure the protection, preservation of, and education about, cultural heritage and sacred Native American sites
- b. Recommend that the CPUC ensure that any land transfer to Native Americans be subject to a conservation easement that would allow limited development consistent with local zoning and the preservation of ecological, environmental and cultural resources
- c. Recommend that PG&E and the Native American community explore ways that both the goals of conservation and managed public use of the Diablo Canyon Lands and the needs of the local Native Americans can be achieved

## **D. Repurposing of Diablo Canyon Facilities Recommendations**

### **1. Existing Facilities**

- a. Recommend that the CPUC encourage PG&E to repurpose as many buildings and assets as is sustainably viable without compromising public safety, and considering community traffic concerns and the continued environmental quality of the region
- b. Recommend that PG&E, in conjunction with possible future tenants or owners, and with the assistance of County Planning and Building, undertake a coordinated scoping effort to determine allowable uses, carrying capacity of existing infrastructure and potential improvements that could support repurposing
- c. Recommend that PG&E develop a strategy for management of the facilities at the earliest possible time and set up a process for receiving proposals and negotiating terms for repurposing specific parts of that infrastructure so potential repurposing tenants can be appropriately determined and advance planning for transfer and reuse can occur
- d. Recommend that PG&E prepare a list of all buildings and assets available for repurposing, including detailed descriptions of the facility, the type of facility (e.g., office, warehouse, etc), square footage of the facility, age of the facility, and when the facility would become available for repurposing
- e. Recommend that PG&E maintain remaining facilities not needed to facilitate decommissioning until such time as the facilities are repurposed or determined to not be achievable for a sustainable repurposing tenant, to ensure that the facilities do not degrade over time
- f. Recommend that construction of infill development on Parcel P be allowed provided safety is not compromised and the environmental quality of the community is maintained
- g. Recommend that PG&E identify undeveloped lands on Parcel P which could be released for open space and conservation, and release those lands as soon as feasible
- h. Recommend that the CPUC require PG&E or a successor interest incorporate into leases the requirement that new uses not generate substantial additional traffic through surrounding communities during times of peak traffic
- i. Recommend that PG&E evaluate maintaining the existing desalination plant while not compromising environmental quality

### **2. Marine Facilities**

- a. Recommend that PG&E retain the breakwaters and associated harbor and explore opportunities for repurposing the harbor consistent with the environmental quality and safety of the area and region
- b. Recommend that PG&E require management of the harbor be accomplished in a manner that preserves the natural habitat, allows for long term maintenance and creates a safe harbour for boaters in distress
- c. Recommend that PG&E continue to monitor and study the harbor throughout the decommissioning process to ensure the sensitive marine habitat is preserved and radiological contamination complies with regulatory levels as defined by the appropriate agencies

### **3. Specific Uses**

- a. Recommend that PG&E investigate the potential for a public-private collaborative research and development facility (such as a National Laboratory) with emphasis on marine sciences, renewable energy development technologies, energy storage, optimum storage for irradiated waste, desalinization and other technology innovation as soon as possible
- b. Recommend that PG&E consider granting a long-term lease or purchase with favorable terms for Native American tribal use of existing facilities for, at a minimum, an office, storage and tribal meetings/gatherings
- c. Recommend that PG&E consider use of the Ontario Road facility and parking as a Visitor Education Center, which highlights local history including local Native American culture, energy education and natural history
- d. Recommend that the existing parking area at the Ontario Road facility be maintained for shuttle or bus service to the Diablo Canyon Lands
- e. Recommend that PG&E investigate the possibility of repurposing of facilities for innovative uses including, but not limited to, wildlife rescue and rehabilitation, low impact water-based recreation uses, wind, wave, solar or other renewable energy, energy storage, business incubators, clean technology startups, saltwater aquarium, transmission facility projects, wastewater recycling, innovative mental health treatment center and California State University and/or University of California research facilities

## **E. Engagement Panel Structure and Function Review Recommendations**

### **1. Engagement Panel Review**

- a. Recommend that the DCDEP hold a public meeting in the second quarter of 2019 (June 12, 2019) to complete: (1) a self-evaluation of strengths, weaknesses and opportunities for improvement relative to fulfilling the goals outlined in the guiding Charter; (2) a review of the charter itself, taking into consideration community input; (3) an examination of examples of other community engagement panels established for decommissioning efforts; (4) a discussion with governmental, regulatory agencies and others about their role in the decommissioning process for DCP; and (5) a review of the Karlin and Brown proposals that have already been received
- b. Recommend that the DCDEP forward the conclusions and recommendations of the self-evaluation to the CPUC for inclusion as an additional supplemental filing to the 2018 Triennial Report
- c. Recommend that the DCDEP commit to a process of continuous improvement, with similar reviews scheduled regularly



## **F. Emergency Planning Recommendations**

### **1. Funding**

- a. Recommend that the CPUC and PG&E ensure that adequate funding is available to plan, execute, oversee, and communicate a rigorous safety and emergency planning program until such time as the plant site is fully cleared of all waste, facilities, and other structures that are not suitable for repurposing
- b. Recommend to the CPUC that PG&E, the County of San Luis Obispo, neighboring communities, and relevant regulatory decommissioning agencies receive adequate funding to enable a coordinated, broad-based, fully integrated safety and emergency plan for the complete decommissioning process
- c. Recommend that the CPUC and PG&E ensure that adequate funding is available to fully fund and/or reimburse the County of San Luis Obispo for all emergency planning and safety activities associated with the decommissioning of the DCP
- d. Recommend that the CPUC and PG&E ensure that adequate funding is available for continued protection and security of the dry cask storage system until such time as it is removed from the site
- e. Recommend that the CPUC ensure that funding is available to provide 24-hour real time monitoring of radiation levels at each dry cask as long as spent waste remains on site
- f. Recommend to the CPUC that PG&E be provided the funding to at a minimum maintain the early warning siren system until all spent fuel is moved into a robust dry cask storage system and potentially until the spent fuel is removed from the site

### **2. Emergency and Communications Plan**

- a. Recommend that a broad-based, fully integrated safety and emergency plan for the entire decommissioning process be completed by PG&E which includes coordination with the CPUC, the County of San Luis Obispo, neighboring communities, and relevant regulatory decommissioning agencies
- b. Recommend that a robust communications program be provided by PG&E, including the preparation and completion of the PSDAR and the PSEP, to keep the workers, residents of neighboring communities and visitors continually apprised of issues concerning safety of the DCP and environment
- c. Recommend that CPUC and PG&E prepare emergency plans that include disaster planning, potential evacuation procedures and emergency measures for the future use of the Diablo Canyon Lands and any repurposed or retained facilities

### **3. Demolished Materials (contaminated and non-contaminated)**

- a. Recommend that the CPUC require that PG&E evaluate the safety and cost effectiveness of various demolition waste material transport alternatives, including by road, rail and sea
- b. Recommend that the CPUC and other regulatory agencies ensure that transportation of demolition waste material by road/truck be completed consistent with the safety and well-being of neighboring communities, taking into consideration dates and times to avoid peak traffic and to reduce the burden of noise and dust
- c. Recommend that emergency plans be prepared to address potential issues arising from vehicle accidents during the transport of demolition waste material

*[Added April 2019]*

## **G. Spent Fuel Management Recommendations**

### **1. Risk Analysis**

- a. Recommend that PG&E, after consultation with the California Energy Commission (CEC) regarding the scope, hire a risk assessment consultant before the end of 2019 to complete an independent risk assessment of a range of alternatives for offloading spent nuclear fuel
- b. Recommend that PG&E be transparent in any decision-making regarding the offloading of spent nuclear fuel and any new dry cask storage system, including collaboration with the CEC, DCISC, risk analysis consultants and stakeholders, in addition to the NRC

### **2. Dry Cask Storage System**

- a. Recommend that PG&E begin the RFP process before the end of 2019 for a new dry cask storage system which could support a more rapid offload of spent nuclear fuel from the spent fuel pools to dry cask storage, if an independent risk assessment deems this to be feasible and safe
- b. Recommend that PG&E thoroughly investigate and research all potential dry cask storage system designs in order to determine the best site specific system that takes into consideration the unique seismic risks at DCPD and the fact that the length of time the spent nuclear fuel and GTCC waste will be stored on site cannot be estimated at this date
- c. Recommend that PG&E select a dry cask fuel storage system that uses advances in the materials, manufacturing and engineering of dry cask storage systems in order to improve the shielding and confinement of spent nuclear fuel and the heat capacity of the canisters
- d. Recommend that PG&E select a dry cask storage system that would allow for 24 hour radiation monitoring, full inspection capability, be fully retrievable, have the capability to either repack or repair a damaged cask and be licensed for transportation
- e. Recommend that the new dry cask system minimize dose rates to workers to the greatest extent achievable

### **3. Dry Cask Loading**

- a. Recommend that all PG&E staff and any outside contractors involved with cask loading receive ample pre-operational training and testing, based on lessons learned in other ISFSIs, prior to implementation of any new dry cask storage system
- b. Recommend that any outside contractors involved with cask loading have experience with the system and be fully trained, vetted and adequately supervised

### **4. Aging Management Program**

- a. Recommend that PG&E develop an Aging Management Program for the ISFSI as soon as practicable, possibly before such program is required to be prepared
- b. Recommend that PG&E conduct a future feasibility assessment of the benefits and costs of enclosing the existing ISFSI, including a climate controlled environment alternative
- c. Recommend that if stress corrosion cracks or other degradation is found, this should be identified early and appropriate corrective actions taken immediately, which may include enclosing the ISFSI in a structure, and any such experience and information be shared transparently with regulators, other ISFSI operators and the community

- d. Recommend that PG&E continue to participate in research and collect data on the potential degradation of canisters used in the dry cask storage system and make any results available to regulators, other ISFSI operators and the public
- e. Recommend that PG&E have an onsite facility or other means in place to deal with potential leaks from spent fuel canisters and the ability to repackage the spent fuel if necessary

#### **5. Security**

- a. Recommend that PG&E accurately budget for, and the CPUC support the funding of, comprehensive security measures for all phases of decommissioning
- b. Recommend that ongoing training of the security force, security drills and coordination with local law enforcement continue to exceed the minimum required by the NRC in order to maintain a highly trained, site specific security force
- c. Recommend that PG&E transfer spent nuclear fuel from DCPD as soon as either a CISF or permanent repository is developed in order to save ratepayers the cost of indefinite security

#### **6. Offsite Repository for Spent Nuclear Fuel**

- a. Recommend that the spent nuclear fuel and GTCC waste stored in the DCPD ISFSI be transported to a permanent government repository located offsite as soon as possible, presuming a safe transportation method for such movement is developed and followed
- b. Recommend that PG&E move the spent nuclear fuel and GTCC waste stored in the DCPD ISFSI to a Consolidated Interim Storage Facility (if a permanent federal repository is not available) as soon as such site becomes operational, presuming a safe transportation method for movement is developed and followed
- c. Recommend the spent nuclear fuel and GTCC waste, if transported by truck, avoid times of peak traffic through Avila Beach and other impacted communities
- d. Recommend that transfer of ownership of spent nuclear fuel be formalized prior to any shipment from the DCPD to an off-site storage facility
- e. Recommend that PG&E advocate for the establishment of an offsite storage solution, either a Consolidated Interim Storage Facility or a Permanent Federal Repository

#### **7. DCPD Ownership**

- a. Recommend that PG&E continues to own the DCPD and manage the decommissioning process, including the on-site management of spent fuel, in order to ensure continuity, avoid SAFSTOR, preserve local jobs, and allow for continued robust community involvement

*[Added May 2019]*

## **H. Potential Economic Impacts/Possible Economic Development Opportunities Recommendations**

On September 18, 2019, the DCDEP will hold a public meeting covering the topic of potential economic impacts of decommissioning and possible economic development opportunities. This section of the document will be prepared before the end of 2019 and will be forwarded to the CPUC for inclusion as an additional supplemental filing to the 2018 Triennial Report.

## I. Transportation Recommendations

On November 13, 2019, the DCDEP will hold a public meeting covering the topic of transport of demolished materials (both radiological and non-radiological). This section of the document will be prepared before the end of 2019 and will be forwarded to the CPUC for inclusion as an additional supplemental filing to the 2018 Triennial Report.

# Glossary

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## A

A4NR - Alliance for Nuclear Responsibility *[Added May 2019]*

## C

CEC – California Energy Commission *[Added May 2019]*

CoC – Certificates of Compliance *[Added May 2019]*

CISF - Consolidated Interim Storage Facility *[Added May 2019]*

CPUC - California Public Utilities Commission *[Added May 2019]*

## D

DCDEP - Diablo Canyon Decommissioning Engagement Panel

DCPP - Diablo Canyon Power Plant

DCISC – Diablo Canyon Independent Safety Committee

DOE - Department of Energy *[Added May 2019]*

DREAM - Diablo Resources Advisory Measure (also known as Measure A)

## E

EPA - Environmental Protection Agency *[Added April 2019]*

EPRI – Electric Power Research Institute, Inc. *[Added May 2019]*

## F

FEMA - Federal Emergency Management Agency *[Added April 2019]*

## G

GTCC - Greater Than Class C Waste *[Added May 2019]*

GWd/MTU - Gigawatt-Days Per Metric Ton of Uranium *[Added May 2019]*

## H

HOSS - Hardened On-Site Storage *[Added May 2019]*

HELMS - Hardened Extended-life Local Monitored Surface Storage *[Added May 2019]*

HBA - High Bridge Associates *[Added May 2019]*

HBPP - Humboldt Bay Power Plant *[Added May 2019]*

## I

ISFSI - Independent Spent Fuel Storage Installation *[Added April 2019]*

IOEP - ISFSI Only Emergency Plan *[Added April 2019]*

## M

MPC - Multi-Purpose Canister *[Added May 2019]*



## **N**

NRC - Nuclear Regulatory Commission

NDCTP - Nuclear Decommissioning Cost Triennial Proceeding (also known as the Triennial Report)

NWPA - Nuclear Waste Policy Act *[Added May 2019]*

## **P**

PDEF - Permanently Defueled Emergency Plan *[Added April 2019]*

PG&E - Pacific Gas and Electric

PSDAR - Post-Shutdown Decommissioning Activities Report *[Added April 2019]*

PSEP - Post-Shutdown Emergency Plan *[Added April 2019]*

## **R**

RFP - Request for Proposal *[Added May 2019]*

## **S**

SAR – Safety Analysis Report *[Added May 2019]*

SFP – Spent Fuel Pool *[Added May 2019]*

SFPI – Spent Fuel Pool Island *[Added May 2019]*

SONGS - San Onofre Nuclear Generating Station

SONGS CEP – San Onofre Nuclear Generating Station Community Engagement Panel

## **T**

TLD – Thermoluminescent Dosimeters *[Added May 2019]*

TS – Technical Specifications *[Added May 2019]*

# Amendments

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## **Diablo Canyon Power Plant Decommissioning - Vision Document Amendments, Additions, Corrections**

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Initial Document - December 31, 2018

Amended - April 22, 2019

Amended - May 17, 2019

# Signature Page

The undersigned members of the Diablo Canyon Decommissioning Engagement Panel respectfully submit this document to PG&E with the understanding that it will be forwarded to the California Public Utilities Commission as a supplemental filing to the 2018 Nuclear Decommissioning Cost Triennial Proceedings.

Kara Woodruff

Dina Bellman

Chett L. Lathrop

Shirley Donoff

Tom

Lauren Brown

Ch. M. G.

David M. Baldwin

Frank M. Meacham

Nancy Malley

# Diablo Resources Advisory Measure (DREAM) – Election Results

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Election held in San Luis Obispo County, California on March 7, 2000

Advisory vote only on Diablo Canyon Lands – *Passed 74.66%*

## ***Measure A-ADVISORY DIABLO CANYON LANDS***

Shall the County Board of Supervisors recognize the Diablo Canyon Lands as an exceptionally precious coastal resource by adopting policies that promote habitat preservation, sustainable agricultural activities, and public use and enjoyment consistent with public safety and property rights once the lands are no longer needed as an emergency buffer for the Diablo Canyon Nuclear Plant after its remaining operating life?

Precincts Reporting: 195/195 - 100.00%

Ballots Cast/Reg. Voters: 84,425/130,828 - 64.53%

Total Votes: 78,042

Times Blank Voted: 6,321

Times Over Voted: 62

Number Of Under Votes: 0

**YES: 58,264 - 74.66%**

**NO: 19,778 - 25.34%**

[\[return\]](#) to introduction section]

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# Appendices

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Appendix A, Appendix B and Appendix C begin on the following page.

Appendix A: California Public Utilities Commission (CPUC) Should Create an Independent Decommissioning Advisory Panel (DAP) in Lieu of the DCDEP - by Alex S. Karlin – DCDEP Panelist

Appendix B: Maintain and Strengthen the Current DCDEP: A Response to “California Public Utilities Commission (CPUC) Should Create an Independent Decommissioning Advisory Panel (DAP) in Lieu of the DCDEP” by Alex Karlin - by Lauren R. Brown – DCDEP Panelist<sup>1</sup>

Appendix C: “Opposition to Consolidated Interim Storage” - by Linda Seeley – DCDEP Panelist

**Appendix A**  
***California Public Utilities Commission (CPUC) Should Create an Independent Decommissioning Advisory Panel (DAP) in Lieu of the DCDEP***

**October 2018**

**by Alex S. Karlin – DCDEP Panelist<sup>1</sup>**

Decommissioning the Diablo Canyon Nuclear Power Plant is a Long-Term and Multi-Billion Dollar Project That Requires an Independent, Resourced, and Sustainable Decommissioning Advisory Panel (DAP). CPUC Should Charter Such a DAP in Lieu of PG&E's DCDEP.

## **I. INTRODUCTION**

Decommissioning DCPN will be a complex, multi-billion dollar enterprise that will take 20 to 60 years and that will have huge impact on the State and on the San Luis Obispo and Santa Barbara communities. The process will be subject to the authority and approval of numerous State and local regulatory agencies, as well as the U.S. Nuclear Regulatory Commission. Meanwhile, State and local elected officials and other important stakeholders (such as Labor, Native American, and Environmental groups) will be involved in the decommissioning process. Lack of coordination between these numerous entities will arise

In this context, California should emulate States such as Vermont, Massachusetts and New York and should establish an independent Decommissioning Advisory Panel (DAP) to provide a forum for centralized and coordinated oversight of the decommissioning of the DCPN nuclear power plant. The DAP would bring all of the relevant agencies, governmental entities and private and public stakeholders together. A major advantage would be that designees of these agencies and entities could tap into the resources and technical knowledge of their respective organization and bring these strengths to bear on the process, rather than relying primarily on the technical input of PG&E. In addition, such members would be truly accountable to the major relevant constituencies, rather than individual interest and advocacy groups. The members of the DAP would bring long-term institutional knowledge, experience and stability to the DAP, would be nominated and selected in a public process, would be subject to conflict of interest requirements, and would be required to conduct open meetings in accordance with California law. The current DCDEP does not meet these criteria.

The primary function of the DAP would be to conduct regular public meetings where each member could to report on the activities and progress of their respective agencies and organizations, could discuss and resolve difficulties. More importantly, the DAP would provide the public with a single, coordinated forum for raising issues and seeking answers to legitimate concerns. While the DAP would be advisory only (a new regulatory entity is decidedly not needed), its meetings would include representatives from all relevant State and local agencies (USNRC could also be invited). This would facilitate communication and coordination among the many regulators and thereby promote a more efficient decommissioning process that is better understood by the public.

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<sup>1</sup> From 2004 to 2015 Alex Karlin served as an Administrative Judge with the U.S. Nuclear Regulatory Commission's Atomic Safety and Licensing Board. He presided over and decided litigation at nuclear facilities including Diablo Canyon, Vermont Yankee, San Onofre, and Yucca Mountain. Prior to that, he was the Associate General Counsel of at British Nuclear Fuels Ltd, Inc. a major international nuclear remediation company that performed radiological cleanup and decommissioning work at commercial nuclear power plants and at US Department of Energy nuclear sites such as Oak Ridge, Hanford, Idaho Falls, and Los Alamos. Prior to that he was Of Counsel at Morgan Lewis and Bockius, a law firm that represents over a third of the U.S. nuclear power companies. From 1978 to 1981 Mr. Karlin served as an Enforcement Attorney at US EPA in Washington D.C.



Accordingly, I urge that the California Public Utilities Commission (CPUC) NOT accede to PG&E's request simply to endorse and fund PG&E's DCDEP as is. Instead, I urge CPUC to charter a more robust, sustainable, and independent Decommissioning Advisory Panel (DAP) that will serve the public interest during the long, difficult, and crucial decommissioning process that lies ahead. The CPUC should create the new DAP as part of the 2018 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP).

The attached chart COMPARISON OF CURRENT NUCLEAR DECOMMISSIONING ENTITIES reflects the current best practices for DAPs, as shown by the Indian Point (NY), Vermont Yankee (VT) and Pilgrim (Mass) DAPs. The CPUC should consider those best practices.

## **I. DCDEP IS NOT SUFFICIENT**

### **A. DCDEP LACKS ADEQUATE RESOURCES AND INDEPENDENCE.**

PG&E created the DCDEP to "provide direct input on behalf of the local community" to PG&E. More specifically, PG&E created the DCDEP as one way of responding to a part of a CPUC order, which stated that PG&E could "take no action with respect to any of the [DCNPP] lands and facilities before the completion of a future process, including a public stakeholder process, where there will be local input and further Commission review prior to the disposition of Diablo Canyon facilities and surrounding lands." CPUC Decision - D.18-01-022. The order focused on land and facility reuse, not decommissioning.

When it created the DCDEP, PG&E decided that it should be composed of eleven citizen-volunteers (plus one PG&E member). Original members were selected by a committee appointed by PG&E. PG&E barred elected officials from serving on the DCDEP. PG&E hired a facilitator to run the DCDEP and its meetings. PG&E wrote the DCDEP charter and only PG&E can amend it. Under the charter the DCDEP has no chair, no management committee, and no formal motions or voting. Only the facilitator, not the Panel, can create subcommittees. The charter specifies that PG&E decides whether the DCDEP can hold additional workshops or meetings. PG&E picks all DCDEP replacement members.

As to DCDEP's actual meetings - they are not run by the Panel but are instead, plainly, PG&E meetings. They are run by the facilitator appointed by PG&E. The meetings commence with a PG&E safety moment. PG&E representatives make the opening remarks and closing remarks. PG&E and the facilitator draft the agenda, the timetable for the meetings, and develop the power-point slides that are presented to the public at the meeting.

At the outset, PG&E stated that it created the DCDEP to help PG&E prepare for its December 2018 NDCTP submission to CPUC. PG&E's charter for the DCDEP states that "the continuation of the panel beyond that initial term [e.g. after December 2018] shall be determined by PG&E." Now, in the NDCTP, PG&E says that wants the DCDEP to continue until decommissioning is complete (approximately 2072) provided that CPUC requires ratepayers to pay for the DCDEP.

### **B. DCDEP HAS ELICITED VALUABLE INITIAL PUBLIC INPUT ON LANDS AND FACILITY REUSE ISSUES – BUT THESE ARE NOT REALLY DECOMMISSIONING ISSUES.**

During the 8 months of its existence the DCDEP has served PG&E as a useful forum for eliciting public comment on the two topics specified in D.18-01-022 – (1) what should happen to the 12,000+ acres of land at DCP, and (2) whether the structures and facilities at DCP should be re-used after the decommissioning is completed. With PG&E's authorization, the DCDEP held public workshops on these topics. Not surprisingly, the workshops confirmed that everyone wants PG&E to preserve and protect the 12,000+ acres in perpetuity, and everyone hopes that the facilities can be re-used to in a way that saves money, protects the environment,

promote jobs, and reduces traffic (not always compatible goals). No one is quite sure how to pay for it. The DCDEP Vision Statement articulates these uncontroversial findings and recommendations. I agree with my colleagues on most of these points.

### **C. BUT THE DCDEP HAS NOT YET FOCUSED ON THE HARD PART - DECOMMISSIONING**

Although disposition of the 12,000 acres of DCP land has consumed much of DCDEP's energy it is crucial to recognize that land use is NOT really central to the task of decommissioning. It has nothing to do with the 10 CFR Part 50 decommissioning process and most of these lands are not even owned by PG&E. But D.18-01-022 focused on land and reuse and thus PG&E has asked DCDEP to do so. The DCDEP has not yet tackled the radiological decommissioning of the 770 acres that are the footprint of the NRC regulated nuclear power reactors. Alliance for Nuclear Responsibility has legitimately criticized the DCDEP on this count.<sup>2</sup>

### **D. DCDEP CITIZEN-VOLUNTEERS HAVE SERVED DILIGENTLY AND IN GOOD FAITH – BUT DO NOT HAVE THE NEEDED KNOWLEDGE OR INSTITUTIONAL RESOURCES, ARE NOT ACCOUNTABLE TO, NOR BROADLY REPRESENTATIVE OF MAJOR CONSTITUENCIES, AND LACK THE LONG TERM INSTITUTIONAL HORSEPOWER OR PERSPECTIVE.**

The members of the DCDEP are all outstanding citizen activists – volunteers who bring a variety of perspectives to the DCDEP and who have served diligently and in good faith. They have worked hard and volunteered their time and effort. But virtually none of them have any knowledge, background, or skills related to the huge and crucial DCP decommissioning project that lies ahead and that will have major impact on San Luis Obispo and the State of California.<sup>3</sup> Nor do the DCDEP members even have access to decommissioning technical expertise or resources (other than PG&E) to help them (1) identify important issues, (2) formulate questions, and (3) evaluate the answers to such questions when PG&E and/or some advocacy group provides an answer. PG&E is the source of the DCDEP's understanding of decommissioning and how it works.

Meanwhile, the panelists are part time volunteers who probably cannot sustain attention or membership for the long haul. Some are busy with full-time jobs elsewhere. Some are activists advocates concerned about the agendas of their particular groups. The members are not formally accountable to the public and do not formally represent any governmental or regulatory agency or NGO. They are not subject to the normal conflict of interest rules applicable to public entities under California law.

### **E. DCDEP CANNOT FARM-OUT DECOMMISSIONING ISSUES TO THE DCISC<sup>4</sup>**

My friend and colleague on the DCDEP - Lauren Brown, an outstanding member of the SLO community, - rejects my vision because, among other things he says, Diablo Canyon is unique and, if the DCDEP needs any help we can rely on the DCISC for decommissioning advice. I respectfully disagree. At the outset, I note that the decommissioning of Diablo Canyon is not so unique that it does not need an independent DAP. Many communities in the US are grappling with the same situation. Some get advance notice of the plant shut-down, some do not. Many of them have very active local environmental groups who have been monitoring plant safety issues for decades. As an environmental lawyer in the nuclear decommissioning field for 20+ years I

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<sup>2</sup> October 24, 2018 letter from Rochelle Becker, Executive Director of A4NR to the DCDEP.

<sup>3</sup> Linda Seeley and Alex Karlin are the only exceptions.

<sup>4</sup> Diablo Canyon Independent Safety Committee (DCISC).

have seen decommissioning happen numerous times. While no two decommissioning projects are the same, most of them follow very similar paths. And all of them need an independent, knowledgeable, and publicly accountable DAP.

Next, the DCDEP cannot and should not rely on the Diablo Canyon Independent Safety Committee (DCISC) for technical advice on decommissioning. First and foremost, the members of the DCISC were selected for their knowledge, skills and background in the safe operation of a nuclear power plant. Decommissioning is very different than operating one. It is a different skill set. The members of the DCISC are not experts in decommissioning.

Second, the CPUC charter to the DCISC prohibits it from working on decommissioning issues. The first substantive sentence of the charter of the DCISC limits its mission to providing safety advice relating to operations.

“The Committee shall review Diablo Canyon operations for the purpose of assessing the safety of operations and suggesting and recommendations for safe operations.” CPUC D.88-12-083, App. C, Att. A, Section 1.1.

The law states that “decommissioning” starts when “operations” cease. See 10 C.F.R. Section 50.82(a) (3) (“Permanent Cessation of Operations”). Thus, by its own CPUC charter, the DCISC expires in 2025. Even before that, DCISC has no authority to deal with decommissioning.

Third, the DCISC does not have the budget to serve as a decommissioning subcontractor to the DCDEP. The DCISC was created by the CPUC which provides it with an annual budget, paid for by ratepayers. The DCISC is not free to wander off and give technical support to issues outside of its expertise, authority and budget

The DCISC has neither the legal authority, expertise, nor budget to address decommissioning, even if it had the time to do so. Any such change would require a public ratemaking case and affirmative decision by the CPUC.

Fourth, as a regular observer and attendee at DCISC meetings, it is my opinion that, as a practical matter, the DCISC, despite its good will and best intentions, is not well situated to provide the DCDEP with prompt and responsive technical help. The DCISC is busy with its own agenda. Its three members come to town briefly three times a year and hold 2 days of public meetings. The DCISC cannot even legally meet with the DCDEP or anyone else without giving the public advance notice and opportunity to participate. So how and when is the DCISC going to meet in public to decide to help us with a particular decommissioning issue? And how long will it take for them to deal with the issue? Must we wait for their next public meeting? Since the DCISC farms out many of its own technical questions to its own outside consultants and subcontractors, is that what they will do? Why not have a DAP with its own decommissioning expertise and/or the authority to obtain its own outside technical help from paid consultants who will be immediately responsive to the DAP’s. In short, I believe that we are misguided if we think that the DCISC can provide us with timely and sufficient technical support on a regular basis.

## **II. KEY STAKEHOLDERS SUPPORT A STRONGER AND MORE ROBUST DECOMMISSIONING ADVISORY PANEL**

Several important voices and stakeholders have asserted that a stronger DAP is needed.

On October 24, 2018, Alliance for Nuclear Responsibility (A4NR), a knowledgeable and constructive participant in numerous CPUC proceedings concerning Diablo Canyon, sent a letter to the DCDEP asserting that it has failed to focus on decommissioning, and that the composition, organization, and independence of the DCDEP are inadequate.

Meanwhile, on October 10, 2018, David Victor, the Chair of the San Onofre Nuclear Generating Station Community Engagement Panel sent an email stating that elected officials and technically knowledgeable members (something lacking on the DCDEP) are vitally necessary:

“Elected officials are a vital resource [on the SONGS CEP] – perhaps the most important, because they are immersed into local politics, which gives them special insight into what is feasible and also judgment about where/how to focus.”<sup>5</sup>

Dr. Victor added that having technically knowledgeable experts on the SONG CEP has been invaluable:

“These experts are invaluable – not just in meetings but also outside the meetings, for two reasons. First, they can help organize and understand the range of stakeholder opinion. . . . Second, at times topics arise that have high technical content and it is really important for the CEP to be able to rely on its own members to wade through the details and help it formulate an opinion.”<sup>6</sup>

During the public comment period on the DCDEP vision, over 140 stakeholders, including the Surfriders Alliance and Edward Halpin, former Senior Vice President and Chief Nuclear Officer for PG&E, expressed support for a stronger DAP.

### **III. CPUC IMPLEMENTATION: CHARTER AN INDEPENDENT AND ROBUST DAP**

CPUC should charter and implement the new/modified decommissioning entity via a PG&E ratemaking process, preferably the Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) that PG&E will initiate in December 2018. PG&E has advised us that it plans to ask CPUC to approve ratepayer funding for the current DCDEP. Before CPUC approves any such amount, members of the public and the CPUC Office of Ratepayer Advocacy need to evaluate whether the existing DCDEP is the appropriate vehicle. For reasons set forth above, I believe that rather than automatically approving PG&E’s DCDEP, the CPUC should allow the DCDEP to sunset, AND instead charter a more robust, sustainable, and independent DAP. More specifically, I recommend that the CPUC use the NDCTP ratemaking as the basis:

1. To create a robust and sustainable DAP in lieu of the DCDEP;
2. To develop a new and independent charter for the DAP;
3. To have CPUC conduct the nomination and appointment of DAP members,
4. To apply conflict of interest and public governmental procedures to the DAP;
5. To allow State and local agencies to designate members of the DAP to serve in their official capacities and to bring their perspectives and constituencies to the table;
6. To provide that Labor should have at least one designated seat on the DAP;
7. To provide the Native American community at least one designated seat on the DAP;
8. To assure that the DAP should include at least some members with knowledge and experience relevant to the decommissioning tasks,
9. To assure that the DAP include appropriate citizen and interest group representation,
10. To specify that the DAP be directly funded (not via PG&E) by ratepayer funding; and
11. To assure that the DAP access to needed administrative, scientific, legal and technical support, either by tapping resources of member governmental entities or by retaining part-time consultants who will provide independent help.

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<sup>5</sup> October 10, 2018 email from David G. Victor to Rochelle Becker attached to the October 24, 2018 A4NR letter.

<sup>6</sup> October 19, 2018 email from David G. Victor to Rochelle Becker attached to the October 24, 2018 A4NR letter.

Lauren Brown has said that creating a DAP in lieu of the DCDAP could cause harm by the loss of experience and knowledge of the DCDEP, by the loss of momentum, by the problem of getting the new DAP members up to speed, and the loss of credibility. I disagree.

I reject the proposition that the DCDEP, which has existed for a mere 8 months for a decommissioning process that could take 60 years, cannot be changed because we might lose momentum! While the DCDEP has certainly served PG&E well with regard to the land and facility reuse issues, as I have stated above, it does not bring much knowledge, skills or experience to any real decommissioning issues. And cosmetic improvements to the DCDEP charter are not going to solve the deficiencies I have enumerated above. Given that PG&E does not plan to close DCPP until 2025, CPUC has plenty of time to “get it right” at the outset by chartering a robust and independent panel as part of the NDCTP.

#### **IV. CONCLUSION**

Although I agree with most of the recommendations and ideas in the DCDEP Vision Statement, and commend my colleagues on the panel them for their hard work and good faith efforts, and I have been honored to serve with them, I must respectfully disagree them regarding one key point: The need for a stronger and more independent DAP to tackle the giant and long-term decommissioning task ahead. This task requires a better resourced, more representative, more accountable, more sustainable, and much more independent decommissioning panel.

Accordingly, I urge the California Public Utilities Commission (CPUC) NOT to fund the current DCDEP (an entity entirely of PG&E’s making). The CPUC should instead charter a more robust, sustainable, and independent Decommissioning Advisory Panel (DAP) that will serve the public\_interest during the long, difficult, and crucial decommissioning process that lies ahead. The CPUC should create the new DAP as part of the 2018 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP).

***COMPARISON CHART OF CURRENT NUCLEAR DECOMMISSIONING ENTITIES  
FOLLOWS ON THE NEXT PAGE***

**COMPARISON OF PUBLIC OVERSIGHT COMMITTEES FOR  
DECOMMISSIONING OF NUCLEAR POWER PLANTS (12-11-2018)**

Name	Membership	Organization	Legal Status	Website
Diablo Canyon Decommissioning Engagement Panel  California	11 members Citizens No Govt Officials <sup>7</sup> . No Experts.  Appointed by committee appointed by PG&E.	Chair.  No voting  Facilitated by Utility appointed individual	None.  Created by PG&E  Can be closed by PG&E at any time.	<a href="https://www.pge.com/en_US/safety/how-the-system-works/diablo-canyon-power-plant/diablo-canyon-power-plant/engagement-panel.page?WT.mc_id=Vanity_engagementpanel">https://www.pge.com/en_US/safety/how-the-system-works/diablo-canyon-power-plant/diablo-canyon-power-plant/engagement-panel.page?WT.mc_id=Vanity_engagementpanel</a>
Diablo Canyon Independent Safety Committee <sup>8</sup>  California	3 members  All Experts  Appointed by Agencies	Chair  Voting  State funding. Outside consultants.	Created by State agency (CPUC).  Permanent	<a href="http://www.dcisc.org/index.php">http://www.dcisc.org/index.php</a>
Vermont Yankee Nuclear Decommissioning Citizens Advisory Panel  Vermont	19 members Govt officials Labor Rep. Citizens.  Appointed by Agency/union	Chair  Voting  Supported by State agency	Created by State law  Permanent	<a href="https://publicservice.vermont.gov/electric/ndcap">https://publicservice.vermont.gov/electric/ndcap</a>

<sup>7</sup> Although the DCDEP has one member who is employed by the County and one employed by the State, both are serving in their individual capacity and not as representatives designated by those agencies.

<sup>8</sup> The DCISC mission does NOT include decommissioning. It focuses on the operation of the plant. The DCISC does not include representatives or stakeholders from the SLO community. DCISC is only included here because it is an advisory committee related to Diablo Canyon.



Name	Membership	Organization	Legal Status	Website
Indian Point Closure Task Force  New York	20 members  Govt officials Labor Rep Citizens  Appointed by Agency/Union	Chair  Voting  Supported by State Agency	Created by State law.  Permanent	Too long for chart. See footnote <sup>9</sup>
San Onofre Nuclear Generating Station Community Engagement Panel  California	18 members  Govt officials Labor reps Citizens. Experts  Appointed by Agencies, Union & Utility	Elected Chair  Executive Committee  Voting  Supported by Utility and Agencies  Retains outside consultants	None.  Created by Utility.  Can be closed at any time.	<a href="https://www.songscommunity.com/community-engagement/community-engagement-panel">https://www.songscommunity.com/community-engagement/community-engagement-panel</a>

<sup>9</sup> <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=17-00994&submit=Search>

Name	Membership	Organization	Legal Status	Website
<p>Pilgrim Nuclear Decommissioning Citizens Advisory Panel</p> <p>Massachusetts</p>	<p>21 members</p> <p>Govt officials Labor rep Citizen</p> <p>Appointed by Agencies.</p>	<p>Elected chair</p> <p>Voting</p> <p>Supported by State Agency</p>	<p>Created by State law.</p> <p>Permanent</p>	<p><a href="https://www.mass.gov/orgs/nuclear-decommissioning-citizens-advisory-panel">https://www.mass.gov/orgs/nuclear-decommissioning-citizens-advisory-panel</a></p>
<p>Zion Community Advisory Panel</p> <p>Illinois</p>	<p>12 members</p> <p>Govt officials Expert, Citizens</p> <p>Appointed by Agencies</p>	<p>Chair</p> <p>Voting</p> <p>Supported by Utility and Agencies</p>	<p>None.</p> <p>Created by Utility.</p> <p>Can be closed at any time.</p>	<p><a href="http://www.zionsolutionscompany.com/community/zcap-charter/">http://www.zionsolutionscompany.com/community/zcap-charter/</a></p>
<p>Oyster Creek Safety Advisory Panel</p> <p>New Jersey</p> <p>Moribund?</p>	<p>3 members</p> <p>State agencies and one outside expert.</p> <p>Appointed by Governor</p>	<p>Chair</p> <p>Voting</p> <p>Supported by Agencies</p>	<p>Created by State law.</p> <p>Permanent</p>	<p><a href="https://njedl.rutgers.edu/news/oyster-creek-safety-advisory-panel-established">https://njedl.rutgers.edu/news/oyster-creek-safety-advisory-panel-established</a>  <a href="#">Vermont Yankee Nuclear Decommissioning Citizens Advisory Panel</a></p>

**Appendix B**  
***Maintain and Strengthen the Current DCDEP:***  
***A Response to “California Public Utilities Commission (CPUC) Should Create an Independent Decommissioning Advisory Panel (DAP) in Lieu of the DCDEP” by Alex Karlin***

**December 2018**

**by Lauren R. Brown – DCDEP Panelist<sup>1</sup>**

**Summary:** The Diablo Canyon Decommissioning Engagement Panel (DCDEP) has been in existence for nearly a year as a non-regulatory and advisory entity. During this time the DCDEP has proven to be very effective in reviewing information and providing direct input on behalf of the local community to Pacific Gas and Electric regarding decommissioning plans and activities. Given its positive accomplishments, funding for this Panel through PG&E’s decommissioning funds should continue through conclusion of the Diablo Canyon Power Plant (DCPP) decommissioning. The Panel is committed to continuous improvement and plans on an annual review of its Charter and an assessment of strengths, weaknesses and opportunities for improvement as part of its intention to play a constructive role through the decades of decommissioning at the DCPP.

**Unique conditions**

The circumstances of the decommissioning of the Diablo Canyon Power Plant are unusual in a number of ways in comparison with other nuclear power plants across the country undergoing decommissioning:

- Closure plans by PG&E were approved by the CPUC in January 2018, leaving 6 to 7 years of preparation before end of the operating licenses for Units 1 and 2, thus enabling the company plan thoroughly and to proceed directly to DECON instead of SAFSTOR.
- In December 1988 the CPUC established the Diablo Canyon Independent Safety Committee, consisting of three nuclear experts and a supporting staff in order to monitor the safety of operations at DCPP. They have been conducting quarterly assessments and issuing annual reports ever since. They have a well-known responsibility in the community to be fully aware of any potential or real safety issues at DCPP, to hold hearings on such matters and in this way serve as a voice of the community to PG&E.
- The DCISC has informally offered to be a source of safety and technical information to the DCDEP and within the body of our Vision Statement we are requesting a modification of their Charter to formalize that offer. We are also requesting that their Charter be modified to extend the existence of the DCISC past the end of power generation and through the end of decommissioning activities. San Luis Obispo has a history of activism on many issues, including groups that have closely monitored DCPP and played a part in strengthening the facility itself and safety programs at the Power Plant. Every single member of the DCDEP has a history of being active in community affairs and is highly committed to serve the public on the DCDEP.

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1. Lauren Brown is a member of the DCDEP. Following 3 years of service with the Peace Corps in India, he earned a Ph.D. in Organic Chemistry from University of California, Riverside. While still in graduate school in 1973 he co-founded JBL Scientific, a specialty biochemical company and moved to San Luis Obispo. He served as President/CEO of this company and its successor, Promega Biosciences until 2006. From 2006-2008 he served as President/CEO of Terso Corporation, another subsidiary of Promega located in Madison WI. Following retirement, he served as a part-time adjunct professor teaching Chemistry at Cerro Coso Community College in Mammoth Lakes CA for 3 years. Brown has served on boards of multiple non-profits in San Luis Obispo, including the YMCA and Chamber of Commerce. In 2013 he was honored as Citizen of the Year by the San Luis Obispo Chamber of Commerce.

- San Luis Obispo County already has a Council of Governments consisting of representatives of all the Cities plus the County and serves as a forum for the study and resolution of regional issues and thus should be equipped to deal with regional issues related to DCPD decommissioning.

As a result of these and other factors, I submit that Best Practices among Community Advisory Panels in examples of other decommissioning nuclear power plants may not translate into Best Practices for a Community Panel in the case of DCPD and San Luis Obispo. I will offer some conclusions on this issue at the end of this document.

### **DCDEP Make-up and Operation**

Major concerns expressed by Mr. Karlin in his paper include a lack of independence from PG&E, as well as lack of representation from elected officials and nuclear experts. It is, therefore, important to examine the make-up and operation of the DCDEP in order to fairly evaluate if these are serious flaws in the concept underlying the current Panel. I would offer these points of reference:

- PG&E asked a group of distinguished community leaders to recommend 11 public members from a total of 105 applicants to serve on the DCDEP, along with one PG&E representative. PG&E accepted their recommendations so PG&E did not play a direct role in who ended up on the Panel.
- The 11 public members were deliberately selected to be broadly representative of the County, both geographically as well as in terms of backgrounds and interests. Thus we have members who bring their experiences as a labor leader, a CA State Parks official, a business leader and scientist, a land-use planner, a retired administrative judge with the NRC, a County planner and CEQA expert, a Business Services expert for a public school system and member of the Northern Chumash Native American tribe, a retired city mayor and County Supervisor, a retired nurse-midwife and activist with Mothers for Peace and the Sierra Club, a lawyer and conservation activist, an Internal Medicine physician and community activist. This team of people thus are very broadly representative of the larger community, all of whom applied to serve as volunteers on the Panel and all seem to place a high priority on community service through their participation in the DCDEP.
- The DCDEP is set up for long-term viability. There are three over-lapping staggered terms with up to 1/3 of the members potentially retiring and needing to be replaced each year. As stated in our Charter, selection of replacement members should be done by PG&E, in consultation with the facilitator and the Panel. The staggered term element helps assure continuity of knowledge.
- Meetings of the DCDEP are facilitated by Chuck Anders, a well-known resource in our community who has helped many non-profits and organizations conduct their planning meetings. Chuck is retained by PG&E to assist the Panel in multiple ways. Typically, the topics for meetings are driven by members of the Panel, in consultation with PG&E. Mr. Anders then helps organize and conduct the meetings. But, strictly as a facilitator, not as a participant in the discussions. He is scrupulous in observing the limits of his role.
- The operation of DCDEP is supported extensively by PG&E, starting with Vice-President Jon Franke who fills the company position on the Panel. Another key individual is Tom Jones, Director of Strategic Initiatives. Behind them, are a couple dozen other PG&E employees who in one way or another provide support to the Panel. Now that sounds like a lot of PG&E involvement and could be perceived as overly controlling of the Panel. But, from my viewpoint, I strongly assert that PG&E's involvement is really restricted to support, not in any way to intervening and trying to influence outcomes. In my experience every PG&E employee is exemplary in understanding their role is support only. At no time have I felt manipulated or managed by PG&E. They project sincerely valuing our roles in serving as a conduit for collecting input from the public and in making recommendations to matters related to the decommissioning.

- Clearly, our Panel lacks technical experts who can help us (and the community we are in touch with) understand safety and technical issues, such as spent-fuel storage. However, thanks to the formation of the Independent Safety Committee in 1988 we have access to an extensive set of relevant information on any given technical and safety subject. The DCISC has informally offered to serve as support to our committee and we have already begun discussions with them how that offer might be implemented. We request the CPUC formalize their role in supporting the DCDEP through revising their Charter to include that component. We also request that the CPUC extend the Charter of the DCISC to cover the many decades of decommissioning.
- There was a deliberate decision by PG&E to exclude elected officials from the Panel. I agree with that decision. Having politicians as members risks over-politicizing the whole process of decommissioning, with the potential that individual politicians might care primarily for impacts in their particular electoral area and being less committed to finding solutions for the overall best outcome for the whole community.
- There is also a problem with including representatives of Regulatory Agencies because those individuals may hesitate to fully participate in the Panel decisions out of concern for conflict of interest should that particular issue come before them at the Agency they represent.

### **Scope of Work for the DCDEP**

The role of the DCDEP as outlined in our charter is straight-forward and limited:

*The Diablo Canyon Decommissioning Engagement Panel will review information and provide direct input on behalf of the local community to Pacific Gas and Electric Company on Diablo Canyon Power Plant decommissioning plans and activities.*

In terms of achieving progress in this responsibility I would point to one particularly important area. Prior to the work of the DCDEP, PG&E did not know for certain that the community would welcome both conservation of lands AND repurposing of some of the infrastructure remaining at the plant site after removal of a radiologically-contaminated materials. It could have been that the community at large would have preferred returning everything at the DCP as nearly as possible to the original conditions. However, if the community showed support for repurposing as a means of promoting economic activities to offset the anticipated losses resulting from Diablo closure, then potentially the decommissioning costs could be reduced to the extent that infrastructure was retained and not demolished. Our panel undertook to gauge the public interest on this score by conducting two days of public workshops on land conservation and two days of public workshops on repurposing of infrastructure, plus a public Panel meeting following each of the two sets of workshops to review the information thus received. In fact, the DCDEP established strong support for both activities to run in parallel. We are conveying this important information to PG&E through the main Vision Document being submitted December 2018. The recommendations almost certainly will help PG&E with their specific plans for decommissioning and repurposing and thus reduce overall decommissioning costs. It is our expectation that the CPUC will also pay close attention to these findings and support PG&E's specific plans.

Mr. Karlin also recommends that a re-constituted Community Advisory Panel should have nuclear experts included in its membership. I disagree with that assessment. As Mr. Karlin himself emphasizes, the NRC controls all decisions regarding matters of removal of radiological contamination during decommissioning. They have set protocols and will not be paying any attention to any community advisory panel, no matter how constituted.

So, does the DCDEP have a role to play in this matter? Yes, indeed. Potentially a very important role as a forum for the public to express concerns over the decommissioning process and as a vehicle to ensure that those concerns are properly addressed in a dialogue with PG&E. A likely concern, for example, might be public anxiety about the removal of radiologically-contaminated materials from the plant site and their transport through adjacent communities. How could we assist in this matter if we lack technical experts? One way is to conduct community workshops specifically addressing relevant issues with invited experts to make presentations on the issues. In this regard, an alliance with the Independent Safety Committee could be exceedingly helpful if they make presentations at the workshops, educate the Panel AND the public as to levels of risk and ways to minimize such risk. We can also tap into experts at PG&E to participate in those discussions. The experts do NOT have to be serving as members of the Panel for this process to be effective. But by attending, the experts can hear the concerns expressed by the public (and Panel members) and respond directly. It could be a very healthy, productive process if done properly.

Mr. Karlin also advocates that members of the various regulatory agencies (in addition to the NRC) should be members of a reconstituted Panel. Again, I disagree. It should not be the role of the DCDEP to facilitate the various regulatory agencies working together. That is their responsibility to find ways to proceed when there might be overlapping or even contradictory stances on particular decision. Each of these agencies have established procedures that include public hearings, such as required by San Luis Obispo County when reviewing an Environmental Impact Report (prepared pursuant to CEQA).

So, does the DCDEP have a role to play in the way the various regulatory agencies are handling their responsibilities in the decommissioning process? Again, yes. And our role could be realized in the same way through public workshops with presentations being given by the various agencies to help educate the Panel and the public on particular issues of concern. For example, we could enhance the awareness of the community on the need to participate in a standard public hearing on an EIR report. There are a variety of ways in which our Panel could play a constructive role, all without having membership representation on the Panel from regulatory agencies.

One area of activity that seems to be embraced by the San Onofre Community Advisory Panel and its chairman, Dr. David Victor and that is advocacy for a national repository for nuclear spent fuel. While that is a worthy objective, I see that advocacy as essentially political in nature and we, as a Panel, should avoid undertaking such a role.

### **Potential Harm from Implementing Mr. Karlin's Community Advisory Panel Proposal**

There are several ways in which this proposal could have serious adverse consequences.

- Potential loss of momentum and commitment if members of the panel anticipated the DCDEP was going to be phased out.
- Potential loss of experience and knowledge resulting should current DCDEP members decline to transition to a new panel.
- Delay of one to two years because of time required for the CPUC to consider, recruit and implement its own community panel.
- More costly delays as a new panel attempts to come up to speed and has to recover ground already addressed by the current Panel.
- Loss of creditability with the community if they see splintering among the current Panel members and may tend to discount a second effort by a new Panel.
- Potential reduction in local representation if a new panel is organized under CPUC auspices. This happened with the DCISC which has no local representative among the three appointed experts.



### **One Significant Benefits from Mr. Karlin Advancing His Proposal**

I am very appreciative of Mr. Karlin advancing his proposal for this reason: He has raised the consciousness of each of our panel members as to whether or not the DCDEP could and should be improved. Of course, the answer is that any organization which desires to remain relevant and effective needs constantly to look for ways to improve. Our Panel was not focused on that concern as we were consumed with compiling a Vision Document that constituted our best wisdom to PG&E on the topics we have covered thus far. But we are only just beginning what will be a decades-long process and will involve the efforts of many classes of future Panel members. It would be extremely helpful if we were to embrace a culture of continuous improvement. Toward that end, our Panel has resolved to step back after one year of operation and assess how we are doing, consider our strengths, weaknesses and opportunities for improvements. The scope of our assessment should be broad, including the organizing Charter, our make-up and operations and procedures. We will emerge with a stronger foundation for the work of decades ahead. For that focus on improvement, I am sincerely appreciative of Mr. Karlin.

### **Conclusions**

Based on the considerations outlined above, I assess that the Diablo Canyon Decommissioning Panel has proved itself effective thus far. I further conclude that because of the special circumstances that exist here that the DCDEP represents Best Practices for our circumstances in San Luis Obispo. And Best Practices, of course, includes a strong element of continuous improvement. The DCDEP is so committed. It is a robust entity, set up for the long haul as PG&E undertakes the decommissioning of DCPD and the DCDEP is prepared to play an effective role in interaction between PG&E and the community of San Luis Obispo County. I urge the CPUC to continue supporting the functioning of the DCDEP.

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Appendix C  
*Opposition to Consolidated Interim Storage*

May 2019

by Linda Seeley – DCDEP Panelist

**“The existence of large quantities of high level radioactive wastes, such as would be produced in a major atomic power industry, would create a very special problem in that the amounts of long-lived materials at any one time would be sufficient to seriously contaminate very large regions of the earth for centuries to come.**

**This statement is made simply to emphasize the fact that if we were to go on for 50 years in the atomic power industry, and find that we had reached an impasse, that we had been doing the wrong thing with the wastes and we would like to reconsider the disposal methods, it would be entirely too late, because the problem would exist and nothing could be done to change that fact, for the next, say 600 or a thousand years.”**

L. P. Hatch, Brookhaven National Laboratory, testimony before the  
U.S. Joint Congressional Committee on Atomic Energy, January 30, 1959

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The nation’s nuclear power plants are in a difficult situation. Many years ago, when the nuclear industry was in its infancy, the U.S. Department of Energy (DOE) reassured operators of nuclear plants that their radioactive waste would be taken to a permanent geological repository for safe storage for millennia into the future. This promise was made without the DOE’s having identified or developed a location for the repository. Now, nearly a half century later, there is still no permanent repository for nuclear waste, and the waste is piling up at power plants across the nation. With all of the spent fuel pools full, the industry developed dry cask storage, in which radioactive fuel that has cooled in spent fuel pools for a specified number of years can be more safely stored in casks at the plant sites.

In 1998, nuclear plant owners sued the DOE for reneging on its promise to take responsibility for fuel removal, and the DOE was found liable. Since that ruling, nuclear operators have been paid by the DOE to store radioactive fuel onsite in dry casks.

Now, great effort is being made to develop Consolidated Interim Storage (CIS), interim storage that will allow nuclear plants to ship their dry casks to storage sites in both Southwestern Texas and Southeastern New Mexico, where private companies are proposing to store the waste until a permanent repository is identified, permitted, and built.

Both sites proposed for interim storage are in sparsely populated, economically stressed locations with very poor, mostly non-White populations. In both Texas and New Mexico, local citizens have organized to prevent the facilities from being built. Local politicians generally support the idea because of the income that will be generated for the areas during the construction phase of the storage sites.

On May 8, 2019, the Atomic Safety and Licensing Board (ASLB), the judicial branch of the Nuclear Regulatory Commission (NRC), dismissed all contentions made by environmental and social justice groups objecting to the Holtec International CIS proposal in New Mexico, leaving the groups with no recourse except to appeal the ASLB decision.

## ETHICAL REASONS FOR OPPOSING CIS

With the splitting of the atom, scientists created radioactive elements that do not appear in the atomic table, and those elements can cause DNA mutations resulting in numerous health problems, including but not limited to cancer, immune system problems, heart defects, developmental disabilities, and glandular problems. Scientists created, and the United States used, nuclear bombs that, in the opinion of many, ended World War II while sacrificing the lives of hundreds of thousands of innocent people. Post-war, the government instituted the “Atoms for Peace” initiative to develop atomic energy from nuclear power plants that would be “too cheap to meter.” The Department of Defense also had a need for plutonium for nuclear weapons, and nuclear power plants generated that plutonium for the defense industry.

Now, a half-century later, nuclear plants are closing around the nation. Nuclear power is not cost competitive with renewable energy and conservation practices, and it produces tons of nuclear waste each year.

This nuclear waste will be with us long after institutions have collapsed, after humans have witnessed the ravages of climate chaos, and after our modern languages have disappeared.

Sending the nation’s nuclear waste to economically depressed and sparsely populated areas of the United States is inherently unfair. The proposal not only violates the sovereignty of the local populations who oppose interim storage, but goes against the U.S. Government’s own recommendations for a consent-based interim storage siting process. Responsibility for the waste produced at Diablo Canyon lies with the people of California, who benefitted from the power it generated, not the people of New Mexico. It was the corporation in California that made the guaranteed profit from producing the power, not a corporation in New Mexico. And California is politically strong, as opposed to New Mexico. California has 53 Congressional representatives; New Mexico has 3. New Mexico simply doesn’t wield power in Congress, and therefore it is all too easy to sacrifice its lands and people.

Transportation of highly irradiated nuclear waste is dangerous, and the proposed shipping routes transect almost every major population center in the U.S. This puts many millions of Americans at risk. Why would we choose to potentially expose so many to the risk of radiation exposure?

I ask members of the Panel to consider this: What if the tables were turned? What would you think if San Luis Obispo County – the Carrizo Plain – were chosen to host the nuclear waste from the whole nation’s nuclear power plants? Would you think it to be a fair choice of location? And if not, why not?

Moneyed interests of the few sway the decisions made in this country. But for once, we have an opportunity to do the right thing. We know that it is possible to improve the safety of the storage system on site at Diablo Canyon. Strong dry casks are available for use right here, and PG&E can make the choice to use those strong casks. Keeping the waste on site at the point of production creates far better incentives for the ultimate selection, permitting and construction of a permanent geological repository. If the waste is allowed to be moved “away,” it will be forgotten. That’s human nature.

As a Decommissioning Engagement Panel, we have an opportunity to think outside of our own personal interests and test our moral integrity with respect to the future generations. I urge you to join me in opposing Consolidated Interim Storage of highly radioactive nuclear waste. The decommissioning planning process at Diablo Canyon is being watched all across the nation. Our panel can set a precedent for other nuclear sites, embodying a sense of fair play and environmental justice.

Keep it here. Keep it safe.

Other reasons for opposing CIS are as follows:

- A. The process of siting, licensing and constructing a permanent nuclear waste repository in the United States has been underway for decades. That process is fundamentally broken and prospects for resolving it are bleak. As a result, these “interim” sites are likely to become *de facto* permanent sites.
- B. The interim storage proposal violates The Nuclear Waste Policy Act of 1982, as amended (the “NWPAA”). The NWPAA states that no interim storage of nuclear waste may be permitted unless and until a permanent repository has been identified and approved by Congress. No permanent repository has yet been identified and approved. Thus, the proposal for CIS violates the NWPAA and would require Congressional legislation authorizing such a facility to be lawful.
- C. The Holtec site in New Mexico is an unsuitable location for nuclear waste storage of any duration. Storing 174,000 metric tons of highly radioactive nuclear fuel above ground in an area that has become plagued by earthquakes since the fracking boom has moved into the area is highly inadvisable. Earthquakes dramatically increase the risk of accidental releases of radiation and create an unacceptable threat to the health and wellbeing of local populations and the environment.
- D. The energy industry in general, and nuclear industry in particular, has all too often prioritized corporate profits over broader safety, security, health, and environmental concerns. Because the profit motive trumps all in business practices, these two dump sites in the desert have the potential to be neglected, poorly maintained, and forgotten until there is an accidental or intentional release of radiation into the atmosphere, groundwater, or soil.
- E. As detailed in the environmental coalition filings against CIS, the dozens of contentions filed on September 14, 2018 include the following categories (some of the contentions were raised by multiple intervenors; the total number of contentions filed adds up to 40+)<sup>10</sup>

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<sup>10</sup> (1) impacts on Native American and other historic and pre-historic properties on the site;  
(2) insufficient assurances of financing for construction, operation, and decommissioning;  
(3) underestimation of so-called “low-level” radioactive waste volumes that would be generated;  
(4) improper reliance on NRC Generic Environmental Impact Statement presumptions;  
(5) natural gas fracking and potash mining beneath the site;  
(6) the public health threat from the “Start Clean/Stay Clean” philosophy’s risks of shipping, and inadequate analyses of the substantial risks of these shipments through most states, over decades;  
(7) inconsistent predicted lengths for “interim storage” period, from 40 to 100, 120, or even 300 years, timeframes that could dangerously exceed the design and surface life of the containers;  
(8) unmet safety and security risk analyses for the scale of transport and storage proposed;  
(9) troubling geological formations and conditions beneath the site;  
(10) no compelling purpose and need for the CISF;  
(11) impacts on endangered and threatened species;  
(12) thermal concerns associated with corrosion of the containers;  
(13) groundwater and brine concerns at the site, including threats of radioactive contamination reaching area drinking and irrigation water aquifers downstream;  
(14) risks of high burnup irradiated nuclear fuel degradation and failure.

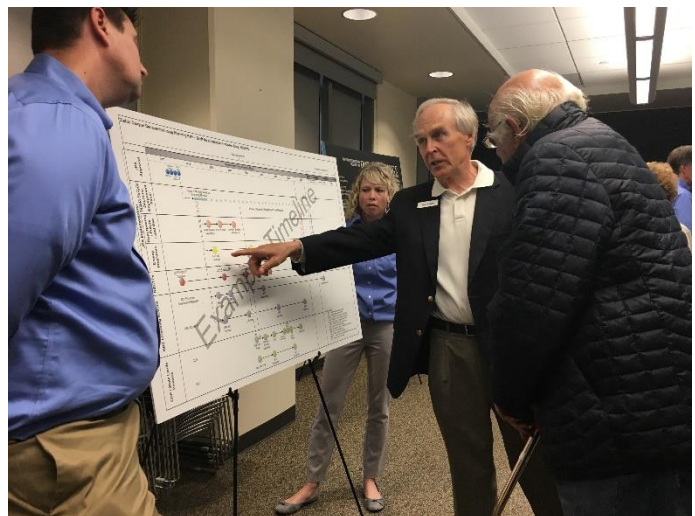
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April 22, 2019 / May 17, 2019

To: Interested Parties

From: Diablo Canyon Decommissioning Engagement Panel

Subject: Revisions/Updates/Additions to the Strategic Vision Document

The following is a summary of the revisions to the Strategic Vision Document (as of May 2019):

- The Vision Document was amended by the DCDEP at their Administrative Meetings of April 22, 2019 and May 17, 2019. The revisions were based on comments received from the public.
- Two Sections were added in Sections III and IV entitled “Emergency Planning” and “Spent Fuel Management”. These sections include Visions, Goals and Recommendations, in addition to introductory/educational language about these subjects.
- A new subsection was added in Section I under Decommissioning entitled “Ownership of Nuclear Power Plants During Decommissioning”. This subsection provides information about how other nuclear power plants in the U.S. are completing decommissioning activities.
- The DCDEP panel membership was updated to reflect Jim Welsch replacing Jon Franke as the PG&E representative.
- The Public Outreach section was updated to reflect up to date numbers of comments and links to meetings workshops held since the Vision Report’s release in January 2019 through May 2019 and to delete Subsection “D” - Public Comments Received on Draft Vision, Goals and Recommendations.
- The Glossary was updated to reflect the new terminology used in the Emergency Planning and Spent Fuel Management Sections.
- An Appendix C was added to reflect a dissenting opinion from a DCDEP member regarding transport of Spent Nuclear Fuel to an Interim Storage Facility.

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