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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of Pacific Gas and Electric Company for Approval of the Retirement of Diablo Canyon Power Plant, Implementation of the Joint Proposal, and Recovery of Associated Costs Through Proposed Ratemaking Mechanisms

A.16-08-006

**GREEN POWER INSTITUTE PROTEST OF JOINT PROPOSAL**

September 12, 2016

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## GREEN POWER INSTITUTE PROTEST OF JOINT PROPOSAL

The Green Power Institute respectfully submits this protest to the *PG&E Application for Approval of the DCPP Joint Proposal*, submitted August 11, 2016.

The Green Power Institute (GPI) is the renewable energy program of the Pacific Institute, a non-profit environmental and social advocacy group. Under the direction of Dr. Gregory Morris, the Green Power Institute performs research and provides advocacy on behalf of renewable energy systems and the contribution they make to reducing the environmental impacts of fossil-based energy systems. The Green Power Institute is located in Berkeley, California.

A summary of our comments follows:

- Diablo Canyon power plant (DCPP) produces more than 18,000 GWh of carbon-free power annually. This is approximately 25 percent of PG&E's bundled load, and only slightly less energy than PG&E's current level of procurement of RPS energy. GPI is supportive of the key point of the Joint Application, to shut down Diablo Canyon at the end of its currently-licensed period (2025) and to replace any required capacity with energy efficiency and other GHG-free sources, on one condition: that PG&E's total carbon emissions from generation after the shutdown be no greater than it would have been with full implementation of the state's RPS statutes and other clean-energy programs **and** DCPP in full operation. In other words, we can support the Joint Application if and only if all of the replacement measures for DCPP are **additional** to the utility's other program obligations, including RPS and efficiency goals. We do not believe that the Application, as filed, meets that criterion.
- We have a number of serious concerns with the details of the Joint Proposal, including the following:

- PG&E should clarify further to what degree reaching the proposed 55 percent RPS by 2031-2045 represents anything more than is currently required by the state RPS. Since it is very likely that the current 50 percent by 2030 RPS will be increased to 60, 70 or even 80 percent by 2040 or so, it is not clear that PG&E is proposing anything beyond the clear trajectory toward higher RPS requirements that the state of California is already pursuing. We repeat: unless all of the replacement for DCPD is additional to PG&E's other program obligations, the goals of the Application will not be fulfilled. Simply increasing PG&E's RPS obligation by five percent does not come close to replacing the large amount of carbon-free energy that will be lost if DCPD is shutdown.
- As framed, it seems that large hydro (whether from new or existing hydropower facilities) would qualify as a GHG-free resources for replacing DCPD's output. We request that PG&E explicitly exclude large hydro and large pumped storage from the list of eligible GHG-free resources for replacing DCPD. The state of California has long held the view, codified at Public Utilities Code section 399.12, that large hydro should be not considered an eligible renewable resource. Under the same rationale, large hydro and pumped storage should not be allowed replacements for DCPD. Additionally, California's drought and subsequent dramatic reduction in hydro power produced from existing dam's (hydro production is down 60 percent since 2011) weighs further against allowing large hydro to qualify. Please note that existing large hydro supplying the grid is not covered by this discussion, as it cannot serve as replacement power for DCPD.
- It is also the case that additional Community Choice Aggregations in PG&E territory will increase PG&E's RPS achievements because as CCA load leaves the system the RPS resources under contract or owned by PG&E comprise a larger percentage of PG&E's remaining load. Accordingly, we request that PG&E share their CCA modeling and impacts on PG&E's RPS

requirements as part of this proceeding in order to allow the parties to see the likely impacts of CCA departing load on PG&E's RPS requirements.

- We support the inclusion of energy efficiency in the first tranche to be procured in the 2018-2024 timeframe, but it is not clear why Demand Response isn't also included in this tranche. In addition, we remind the Commission that the development of new renewables entails a long lead time, so there is no reason to delay the initiation of the RPS procurement process for DCPD replacement.
  - The JP should not propose a settlement as a *fait accompli* because this ignores the due process rights of the many parties who are not part of the JP
  - We urge PG&E and the Commission to respect the DREAM initiative passed by an overwhelming majority of San Luis Obispo County residents, which would require PG&E to return the project site to open space upon decommissioning
  - We support PG&E's request for reimbursement of all licensing costs but request more information about PG&E's other requested reimbursements
- GPI also looks forward to seeing a detailed decommissioning plan that falls within the cost boundaries of the decommissioning fund.

## **I. Protest**

Diablo Canyon power plant (DCPP) produces up to 18,000 GWh of carbon-free power annually. This is approximately 25 percent of PG&E's bundled load, and only slightly less energy than PG&E's current level of procurement of RPS energy. GPI is supportive of the key point of the Joint Proposal (JP): to shut down DCPD at the end of its currently-licensed period (2025), and to replace any required capacity with renewables, energy efficiency, and other GHG-free sources.

However, we can support the JP only if one condition is fully met: that PG&E's total carbon burden after the shutdown be no greater than it would have been with full implementation of the state's RPS statutes and other preferred-energy programs, and DCPD in full operation. In other words, we can support the JP if and only if all of the replacement measures for DCPD are additional to the utility's other program obligations, including RPS and efficiency. We do not believe that the Application, as filed, comes close to meeting that criterion.

We appreciate and agree with the Joint Proposal's statement of intent:

In the absence of orderly planning and up-front commitments to clean energy, the retirement of Diablo Canyon would likely result in increased use of natural-gas-fired, GHG-emitting generating resources. The Joint Proposal is intended to avoid such an outcome.

We are excited by the prospect of a major utility making a strong case that energy efficiency and renewables can and should replace the output of one of the country's largest nuclear power plants. While nuclear power is essentially GHG-free, there are numerous risks and downsides to nuclear power, as exemplified by the Fukushima disaster in Japan in 2011. It is also important to note that PG&E makes its case based in part on the fact that the EE and RE replacements for DCPD are projected to be cheaper than relicensing DCPD for an additional 20-year period after 2025.

While we are cautiously supportive of the Joint Proposal (JP), we do have a number of serious concerns about the Joint Proposal and some suggestions for improvements, which is why we are protesting the Joint Application. We describe these concerns below.

In sum, GPI is optimistic that an agreement can be reached between the parties to this proceeding that the Commission itself can support. And we feel that all Californians will benefit from this major shift. In turn, this precedent may well ripple outward to other states and other countries as the efficiency and renewable energy revolutions continue to make gains.

A. GHG impacts of shutting down DCPD

GPI can only support the JP if shutting down DCPD will not lead to an increase in GHG emissions, compared to the alternative of continuing to operate facility. We have long been a watchdog with respect to climate change and GHGs. While nuclear power has long been controversial based on a variety of issues, its production of essentially GHG-free energy is not in question.

PG&E states (Testimony, p. 2-2): “PG&E concluded that the most efficient and effective path forward for achieving California’s SB 350 policy goal for deep reductions of GHG emissions would be to retire Diablo Canyon at the expiration of its current NRC operating licenses and replace it with a portfolio of GHG-free resources, as provided in the Joint Proposal.” GPI supports this goal but we urge PG&E to share more of its reasoning and analysis for this conclusion just stated. The testimony does not describe other options that PG&E considered in meeting SB 350’s goals in the most efficient and effective manner, and it would be helpful for parties to know more about these considerations. For example, did PG&E also consider the feasibility, costs, and effectiveness of replacing all imported coal power before or alongside the shutdown of DCPD?

Table 3-2 on p. 3-11 appears to have some incorrect figures in the GHG emissions intensity column. For example, in the low load scenario, if the RPS and GHG-free resources figures go up (when compared to the Reference case) the GHG emissions intensity figure in the last column should go down. The Reference Case shows the lowest projected emissions intensity by 2030, of just 0.07 tons/MWh, which doesn’t seem to make sense when the GHG-free percent of generation would be 82 percent in that scenario, compared to >95 percent GHG-free generation and 0.09 tons/MWh emissions intensity in the Low Load Scenario. The text on p. 3-11 also states that emissions intensity in the Reference Case will be 0.08 tons/MWh by 2030, but the chart shows 0.07.

PG&E’s analysis shows that retiring DCPD will likely lead to a net decrease in GHGs because all required capacity, which would otherwise be shutdown with the closure of DCPD, will be replaced with EE or GHG-free generation resources, while also allowing

PG&E's remaining resources to be more flexible and better integrate higher penetrations of renewables (Test. p. 3-12). We describe in the next section, however, how the proposal should be clarified to ensure that it excludes large hydro. We also recognize that the JP calls for additional discussion of procurement for replacing DCPD in the Integrated Resources Plans proceeding (IRP), weighing against being able to describe in full detail at this time how exactly DCPD output will be replaced (Test. p. 3-7,8, 3-12).

B. Large hydro should be excluded from eligible replacements for DCPD

Rather than require all replacement generation resources to be RPS-eligible, the JP states that GHG-free resources are eligible to bid into Tranche #2, with some defined exceptions. The JP states:

Tranche #2 will be limited to: (1) EE resources; (2) generation resources that do not emit GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride) while generating electricity; or (3) generation resources that are eligible for the Renewables Portfolio Standard (RPS) under California's RPS statutes at the time when a Tranche #2 RFO is issued. An additional condition is that existing out-of-state nuclear generation resources are not eligible for Tranche #2 procurement. An unbundled Renewable Energy Credit (REC) is not a source of energy and therefore is not eligible for Tranche #2 procurement. Energy storage, by itself, is not a source of energy and therefore is not eligible for Tranche #2 procurement unless combined with another resource providing GHG-free energy or energy savings. Regarding geographic sourcing, to be eligible for Tranche #2 procurement a generation resource must have the ability to provide GHG-free energy to customers in PG&E's service territory.

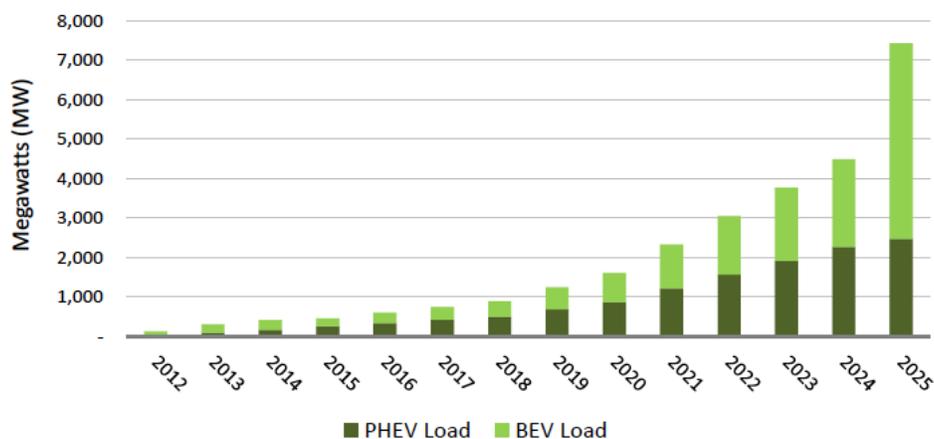
PG&E adds (Test. p. 3-13) that "additional large pumped hydro" may be required to meet PG&E's needs with the retirement of DCPD and to integrate future higher levels of renewables.

We urge the Commission to exclude large hydro and new pumped hydro storage facilities from the list of eligible GHG-free resources for DCPD replacement for all the reasons that large hydro is not an eligible RPS resource – primarily the land use and habitat impacts that large hydro entails. Moreover, large hydro power production has in recent years declined substantially with California's drought, demonstrating that in times of unpredictable

precipitation large hydro is not a resource that can be relied on. Hydropower production fell 60 percent from 2011 to 2014<sup>1</sup> and has fallen even further since. Given that large hydro is described generally as a reliable baseload power source, this lack of reliability also weighs strongly against allowing large hydro and pumped hydro storage to qualify as GHG-free in this context.

There is no reason in principle that other forms of storage can't be used to integrate renewables even at very high penetrations. For example, the Commission is already spearheading Vehicle-Grid Integration (VGI) efforts in R.13-11-007 that will, if successful, provide possibly over seven gigawatts of storage to mitigate renewable energy variability. The Energy Division staff white paper<sup>2</sup> released in 2014 provides the following chart showing the potential for energy storage from the up to 1.5 million low emission vehicles required under the Governor's 2025 goals. That same proceeding is currently determining how best to promote smart charging (either one-way or two-way) in order to utilize this growing and potentially very large storage resource.

Figure 1. *Energy Division white paper projections for potential EV storage availability by 2025.*



<sup>1</sup> Online at: <http://www.sacbee.com/news/local/environment/article16494344.html>.

<sup>2</sup> Online at: [http://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/Utilities\\_and\\_Industries/Energy/Energy\\_Programs/Demand\\_Side\\_Management/EE\\_and\\_Energy\\_Savings\\_Assist/CPUCEnergyDivisionVehicleGridIntegrationZEVSummit.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Demand_Side_Management/EE_and_Energy_Savings_Assist/CPUCEnergyDivisionVehicleGridIntegrationZEVSummit.pdf).

In sum, we believe that there is no good reason to be discussing new large hydro or large pumped storage in this proceeding.

C. Costs of replacing DCCP capacity

We are encouraged by the JP's conclusions that the proposed GHG-free replacements will be cheaper than the projected costs of a re-licensed DCCP. This may be the first time in history that a major utility has argued that shutting down a nuclear power plant and replacing its output with energy efficiency, renewables and other types of GHG-free resources will likely lead to net ratepayer savings.

D. Clean Energy Charge

GPI appreciates the simplicity of the Clean Energy Charge (CEC) proposal (Test., pp. 5-13-15). We urge, however, PG&E to provide more details and examples on how the various potential revenue streams would factor into calculating the net costs to LSE customers from Tranche #2 resources.

GPI also agrees with PG&E's proposal to allow CCAs and DA providers to procure their own GHG-free resources and thus avoid having to pay their share of the proposed Clean Energy Charge (Test., p. 5-13, 5-15). We don't agree, however, with the JP's suggestion that CCAs/DAs must agree to meet a 55 percent RPS from 2031-2045 if they select the Self-Provision Option (Test., p. 5-15). It is not for PG&E to impose additional RPS requirements on CCAs or DAs.

E. CCA impacts on PG&E RPS requirements

CCA growth could have a large impact on PG&E's required RPS procurement, and thus amount of replacement procurement for DCCP. PG&E states (Test., p. 2-10): "For CCA, the level of projected load reflects departure from PG&E's utility bundled portfolio based on departure probabilities." We urge PG&E to show more information about and more detailed projections of the effect of CCAs on its RPS requirements. As is, no information about assumptions of CCA growth are provided; rather, they are simply stated. If there is a

background report on CCA growth and its impact on PG&E’s RPS procurement requirements, we urge PG&E to share this report with stakeholders in this proceeding.

F. PG&E should clarify its additional RPS commitments in light of current and future RPS trajectories

GPI generally supports higher RPS goals. PG&E commits, as part of the JP, to achieve a 55 percent RPS from 2031-2045 (Test., p. 6-1). However, it is not clear to GPI that this ostensibly additional commitment will actually achieve any more than is already in PG&E’s future under current trajectories. For example, Table 2-2, reproduced below (Test., p. 2-10), shows in a 2030 Low Load Scenario that only 42% of PG&E territory sales will come from bundled sales. The rest will come from CCA and DA providers, which will generally be responsible for procuring their own RPS requirements, as well as behind-the-meter DG; the end result of such bundled sales diminution is a far higher RPS percentage for PG&E’s remaining bundled customers. Under such a scenario, PG&E’s RPS portfolio will very likely constitute more than 50 percent of its load. This suggests strongly that PG&E’s promise to achieve a 55 percent RPS by 2031 through 2045 may not constitute any additional commitment under either the High Load (62% of bundled sales), Reference (54%), or Low Load (42%) scenarios.

**TABLE 2-2  
EE, DG AND CCA PROJECTIONS**

	2017	2025		2030			
	Reference Case	High Load Scenario	Reference Case	Low Load Scenario	High Load Scenario	Reference Case	Low Load Scenario
Gross Service Territory Sales	96,131	117,665	117,665	117,665	131,153	131,153	131,153
Energy Efficiency	(6,482)	(18,870)	(20,676)	(24,797)	(24,056)	(27,461)	(35,225)
Distributed Generation	(7,610)	(16,663)	(18,862)	(20,848)	(20,120)	(23,011)	(25,646)
Service Territory Sales	82,039	82,132	78,127	72,019	86,977	80,681	70,282
CCA / DA*	(14,437)	(30,568)	(34,273)	(38,112)	(33,130)	(37,068)	(41,019)
Utility Bundled Sales	67,602	51,564	43,854	33,907	53,847	43,613	29,263
<b>Bundled Sales % of Territory</b>	<b>82%</b>	<b>63%</b>	<b>56%</b>	<b>47%</b>	<b>62%</b>	<b>54%</b>	<b>42%</b>

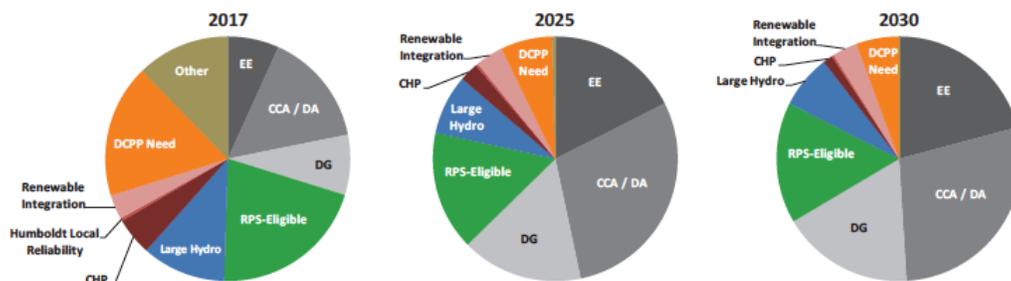
**Notes**

\*Includes 360 GWh of other sales

Figure 2-1 (Test., p. 2-12), also reproduced below, shows visually but without percentage numbers, how these scenarios may impact PG&E’s bundled sales in the Reference Case. It

appears that in 2030, PG&E is projecting a smaller RPS portfolio than in 2017, which may reflect expiring RPS contracts that aren't replaced. If PG&E's portfolio does evolve in this manner by 2030, it is possible that achieving a 55 percent RPS would represent additional procurement by PG&E but it would first require a fairly sharp reduction in RPS procurement in next decade for the 55 percent RPS commitment to constitute any significant additional achievement, and a diminution in the next decade would seem to be highly out of step with California's recent focus on increased RPS procurement and aggressive GHG mitigation.

**FIGURE 2-1  
EE, DG CCA AND GENERATION RESOURCE TYPE IN 2017, 2025 AND 2030  
REFERENCE CASE**



More generally and with respect to the future of California's RPS laws, it is almost certain that California will, before 2030, enact a new RPS requirement going beyond the currently required 50 percent by 2030 RPS under SB 350. As such, PG&E's proposal to achieve a 50 percent RPS from 2031-2045 may not require anything more than laws will already require at that time.

We request that PG&E clarify its resulting RPS percentages in each scenario in Table 2-2.

G. PG&E should provide more information on its EE, DG and RE projections

Similarly, we urge PG&E to provide more information on its projections for EE, DG and RE growth more generally. What is the basis for these projections? What are the uncertainties behind these projections? Have they been vetted by other parties or by Energy Division?

H. We anticipate problems with the planned settlement approach

The JP's summary report of stakeholder input (Attachment A, p. A-10) describes the intention of the parties to the JP to submit an associated settlement agreement as part of this new proceeding.<sup>3</sup> We urge the Commission to provide instead sufficient opportunities to present comments, briefs, and to request hearings before commencing any settlement process. Settlements are not meant to be decided as a *fait accompli* by a limited set of interested parties – and in fact such a settlement cannot under Commission rules be approved as a settlement. Rather, settlements are encouraged by the Commission as truly arms-length agreements to settle on major contested issues between a sizeable number of the parties in any given proceeding. It is not for the JP's signatories, as a small subset of interested parties to this proceeding, to attempt to pre-determine a settlement process before all other parties have been afforded due process in this proceeding.

I. Future use of the DCPD site

A number of parties at the stakeholder meetings expressed concerns about the future use of the DCPD site on the coast of San Luis Obispo County (Test., Att. A, A-11, 12). GPI shares these concerns and we urge PG&E and the Commission to abide by the local DREAM initiative (Measure A) that urges that the project site, once decommissioned, be returned to open space for the enjoyment of the surrounding communities. Nearly ¾ of voters approved of this measure and it would be profoundly bad policy to ignore the will of such a clear majority of voters in this area most vitally affected by the DCPD.

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<sup>3</sup> “[T]he Parties have agreed in the Joint Proposal to, after submitting the Joint Proposal Application to the Commission, complete the process for execution and submission of an associated settlement agreement as specified in Commission Rule 12.”

## II. Conclusion

We are happy to see the nuclear power era in California come to an end and we look forward to an accounting of the costs of nuclear power to California ratepayers – with lessons learned accordingly.

We urge the Commission to adopt our recommendations above.

Dated: September 12, 2016, at Berkeley, California.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Gregory Morris". The signature is written in a cursive style and is positioned above a horizontal line.

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