FILED
04/08/19
04:59 PM

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements	Rulemaking R-16-02-007

COMMENTS OF THE GREEN POWER INSTITUTE ON THE PROPOSED DECISION OF ALJ FITCH

April 8, 2019

Gregory Morris, Director
The Green Power Institute
a program of the Pacific Institute
2039 Shattuck Ave., Suite 402
Berkeley, CA 94704
ph: (510) 644-2700
fax: (510) 644-1117
gmorris@emf.net

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Pursuant to Rules 14.3 and 14.6 of the Commission's Rules of Practice and Procedure, in Proceeding R-16-02-007, the **Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements**, the Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the Proposed Decision of ALJ Fitch*. We believe that the Proposed Decision (PD) is fundamentally sound and should be enacted, with the adjustments we discuss below.

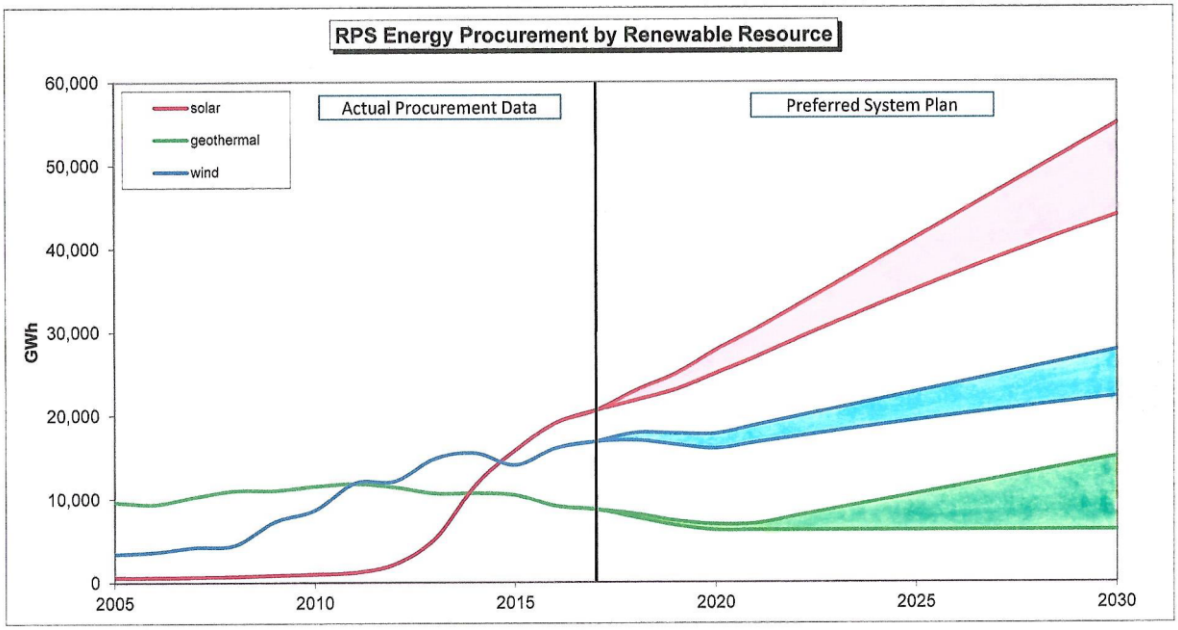
Determination and Specification of the Preferred System Plan

One of the key steps in the final phase of the two-year IRP cycle is the adoption of a Preferred System Plan (PSP). Initial expectation was that the PSP would largely represent the composite future portfolios of the jurisdictional LSEs, as described in their individual IRPs. ED staff constructed a feasible composite plan, which is called the hybrid conforming plan (HCP), which they analyzed and proposed for adoption as the PSP. Many parties, including the GPI, objected to the adopting the HCP as the PSP, for a variety of reasons. The PD endorses our position and arguments, and rejects the proposal to adopt the HCP as the PSP. We applaud this decision, for the reasons articulated in the PD.

In place of the HCP, the PD adopts the previously approved Resource System Plan (RSP), updated with the latest IEPR load forecast. Given the timeframe we are working under, we support this choice. It is clearly preferable to the HCP. However, for the next IRP cycle we repeat our longstanding recommendation that both the RPS and PSP should be represented as ranges of future values, not as precise future trajectories that provide no indication about the uncertainties in the analysis, or any of the information that has been gleaned from the various sensitivity analyses that have been conducted. The bottom line is this – neither the

RSP nor the PSP should not be the result of a single run of the RESOLVE model, or any subsequent model that might be employed.

In order to better describe what we mean by defining the RSP and PSP as ranges of values, we offer the following illustrative chart. The chart shows the RPS energy contribution for three selected renewable resources, solar, wind and geothermal. Actual historical values for the three resources are shown to the left of the vertical line (2017), while projected values are shown to the right. The projected values shown in the chart, which are based in part on projections through 2020 made by the IOUs in their annual RPS procurement reports, are offered here as purely representational. Nevertheless, we believe that they are reasonably consistent with the PD's proposed PSP, while also expressing information from the HCP and some of the sensitivities that have been performed during the 2017-2018 IRP. The use of ranges also provides an indication of the uncertainties in the projections.



Although we have not done so in the figure, we note that when using the paradigm of expressing the RSP and the PSP as ranges of values, it is still possible to designate a singular trajectory within the range as the optimal trajectory. While we are hesitant to recommend doing so at this point in time, we acknowledge that it might be necessary for the purposes of

the CAISO in performance of the TPP, as well as for other purposes. It is important to note that if an optimal trajectory is delineated within the range of values selected for the RSP or the PSP, there is no necessity for the optimal trajectory to be the midpoint of the range. Indeed, in some cases the optimal trajectory might be determined to lie close to the upper or lower boundary of the range, depending on results of the analyses underlying the determination of the RSP or the PSP.

Procurement in the New World of CCAs

The modeling conducted for the 2017-2018 IRP has not taken into account the effect that the CCA explosion currently underway in the state will have on the future procurement of grid supply resources. The formation of CCAs shifts the responsibility for the procurement of new energy resources from the IOUs to the CCAs, but the loads served by the IOUs' distribution systems are not affected by the formation of CCAs. In other words, while the modeling for the initial round of the IRP has been conducted using the best available information on future electricity loads, the modeling of procurement to meet future loads remains rooted in the traditional IOU-procurement paradigm, and CCA procurement practices may be very different than traditional IOU procurement.

In declining to adopt the HCP as the PSP, the PD acknowledges that many of the CCA IRPs are more aspirational than rooted in real contracts or solicitations for resources. The GPI pointed this out in our Sept. 12, 2018, comments on the individual IRPs. With time, and as the major rule change requiring long-term procurement contracts for RPS resources goes into effect in 2020, the energy marketplace will adapt to the new market structure and reach a new equilibrium. At that point the aggregate portfolios of the LSEs should have a better chance of becoming the PSP than was the case in the inaugural round of the IRP that is coming to a close with the adoption of this decision.

One of the significant planning conundrums associated with the proliferation of CCAs is the risk of contract shuffling that can occur when these entities procure power from existing carbon-free generators, whose current customers then may obtain their energy from fossil fuel sources. In particular, a number of the CCAs appear to be procuring from existing large

hydro resources in the Pacific Northwest. The current users of these resources will have to obtain their requirements from other resources if the hydro resources divert some of their output to California CCA customers. We appreciate that during the 2019-2020 round of the IRP there are plans to study the implications of increasing dependence on NW hydropower, and we call on the Commission to include a full analysis of the implications of contract shuffling as an essential component of this study.

The IRP modeling studies that have been conducted to-date are equivalent to assuming that the IOUs will continue to be responsible for RPS procurement for the entire load that is carried by their wires, or alternatively to assuming that CCAs will procure RPS energy in roughly the same patterns as the IOUs they are breaking away from. Modeling in future cycles of the IRP should take the changing structure of the retail-electric marketplace into account, in order to be able to provide meaningful results to the Commission.

Reliability and a Diverse RPS Portfolio

Section 5 of the PD includes a discussion of the need to maintain reliability on the grid over both the short term and the long term, with particular consideration given to the need to retain a set of natural gas-fired generators on the system that are at risk of imminent retirement due to economic factors. We note that the issue of retaining this same set of generators in-service is concurrently being litigated in the RA proceeding, R.17-09-020. In both proceedings the tricky element is balancing the need to retain these facilities, versus the risk of delaying the implementation of new clean technologies that can provide the same service because of the extension of long-term contracts to these uneconomic generators.

In addition to emerging technologies that can provide carbon-free integration and reliability services, like batteries, there are additional approaches available to handling the problem of renewables integration. In particular, the development of a more diverse RPS portfolio, which has long been a major goal of the RPS program, would mitigate the worst impacts of the "duck curve," in the process decreasing the need for integration services in the first place. During the early years of the RPS program, as renewable energy production increased in the state, so did the diversity of the RPS portfolio. Unfortunately that trend

ended around 2012 or 2013, when PV costs dropped dramatically, and virtually all new RPS PPAs in the solicitations of the three large IOUs were going to solar-PV projects. That trend is continuing to this day, with the result that the state's renewable energy portfolio is increasingly becoming significantly less diverse, not more diverse.

The PD acknowledges the importance of preserving the diversity of resources in the PSP portfolio to achieve IRP environmental, cost and reliability goals in 2030. We note that the RSP adopted by D.18-02-018, and the PSP being proposed for adoption by this Decision, both assume the continued operation of all existing and operating RPS resources currently serving the California grid. This is a poor assumption, and should not be made in the 2019-2020 round of the IRP. Many existing RPS generators are quite old, and have PPAs that expire well before 2030. The GPI recommends that, in addition to removing the assumption of continued operation of all currently operating RPS capacity, as part of the 2019-2020 IRP the Commission should undertake a study on the implications for RPS and IRP goals if substantial amounts of existing RPS generating capacity retire over the next few years, or in any case well before 2030, which is a real possibility.

Replacement Procurement for Diablo Canyon

PG&E filed an Application in August, 2016, that requested Commission permission to close the two units of the Diablo Canyon nuclear power plant in 2024/2025 at the expiration of their current operating licenses, rather than completing the relicensing process that was near completion, and operating the facility into the 2040s as per the original design plan. In their Application, A.16-08-006, PG&E pledged to accomplish the early shutdown of Diablo Canyon without any associated increase in greenhouse-gas emissions, which is exactly what occurred with the earlier, unplanned shutdown of San Onofre. GPI's support for the early retirement of Diablo Canyon was conditioned on the fulfilment of PG&E's pledge, as was the support of many other parties to the application proceeding, including most or all of PG&E's collaborators on the original application (GPI was not a cosignatory).

The Decision settling the Diablo Canyon Application, D.18-01-022, declined to authorize any replacement procurement for the retirement of the state's largest generator, explicitly

deferring all procurement decisions to the IRP proceeding. SB 1090 (Monning, 2018) directs the Commission to "ensure that integrated resource plans are designed to avoid any increase in emissions of greenhouse gases as a result of the retirement of the Diablo Canyon Units 1 and 2 powerplant (PD, pg. 142)." In the opinion of the GPI, the PD fails to fulfill the letter or the intent of either D.18-01-022 or SB 1090. In fact, despite the lead time currently available to plan for the orderly retirement and replacement of Diablo Canyon without causing an increase in system-wide greenhouse-gas emissions, the PD removes any requirement or incentive for PG&E or anyone else to do so. The one concession made in the PD is an order to LSEs in the PG&E service territory to include a consideration of replacement procurement in their 2019 IRPs, which is useful, but probably ineffective if not backed up by targets or incentives. The result of this failure to act, as predicted by the modeling conducted for the initial round of the IRP that this PD is bringing to a close, is that greenhouse-gas emissions will indeed increase as a result of the closure of Diablo Canyon, which is exactly what happened with the closure of San Onofre, and what the PG&E application pledged to avoid.

The PD argues that the modeling conducted for the initial round of the IRP indicates that the 2030 greenhouse gas target will be met, even with the closure of Diablo Canyon as scheduled in 2024/2025. The argument concludes: "Stated another way, the retirement of Diablo Canyon will not prevent the electric sector from meeting its portion of the statewide GHG obligations between now and 2030 (PD, pg. 143)." While we are encouraged to know that the 2030 target can be met, that is not at all the same thing as retiring Diablo Canyon without causing a spike in greenhouse-gas emissions.

The PD goes on to argue that taking too literal an interpretation of what it means to retire Diablo Canyon without causing an increase in greenhouse-gas emissions can lead to absurd conclusions. We agree. However, we disagree strongly with the PD when it essentially concludes that an inability to comply in the most literal sense with the pledge of no increase in greenhouse-gas emissions means that the Commission should not attempt to effectuate a transition that achieves the overall objective of avoiding a bump in greenhouse-gas emissions without being too literal about the interpretation of the statement of intent.

In discussing the need for replacement procurement for Diablo Canyon, the PD notes: "The fact is that with the considerable load departure to CCAs in PG&E's territory, PG&E likely does not need to replace the power at all, or at least not all of it (PD, pg. 144)." While it may be true that PG&E does not need to replace the power for purposes of serving their bundled load, it is equally true that the amount of energy that has to be procured on behalf of the grid does not change at all, and therefore some entity or entities will have to replace the Diablo Canyon power. PG&E may not be the major procurement agent for this replacement energy, but in our opinion they at least have a shared responsibility to replace Diablo Canyon without causing a spike in greenhouse-gas emissions, a responsibility that the utility has embraced since their initial application to the Commission to retire the facility.

New Track for Near and Medium Term Procurement

The GPI has consistently supported the original staff position that the initial round of the IRP should be considered as a proof-of-concept only, and should not be used as the basis for authorizing any new procurement. Instead, if the results of the analyses show an indication that new near-term procurement may be needed, we recommended that conventional procurement methods and oversight be applied. That appears to be what is being proposed in the PD, which proposes to open a new procurement track in the IRP. We support the proposal to open a new procurement track in the IRP, which will run concurrently with the beginning of the 2019-2020 round of the IRP.

The new procurement track is the appropriate place in the 2019-2020 IRP to perform the study of the implications of near-term retirements of existing RPS generators and the possible need to sign some of this capacity to long-term contracts (see Reliability and a Diverse RPS Portfolio above), using much the same approach as is proposed to be applied to natural-gas generators in this new procurement track in the PD.

The new procurement track is also the appropriate place to consider replacement procurement for the closure of the Diablo Canyon power plant. The PD refers to Diablo Canyon as just another power plant, but in fact Diablo Canyon is not just another power plant on the California grid. It is the largest generating resource in California, and it

produces an equivalent amount of carbon-free energy to the total existing RPS portfolio in the state. Replacement procurement involving carbon-free energy is key to a well-planned transition away from Diablo Canyon that does not cause a bump in system-wide, greenhouse-gas emissions.

Conclusion

We recommend that the Commission make the changes we propose, and adopt the positions we have taken in these comments.

Dated April 8, 2019.

Respectfully Submitted,

Gregory Morris, Director
The Green Power Institute
a program of the Pacific Institute
2039 Shattuck Ave., Suite 402
Berkeley, CA 94704
ph: (510) 644-2700
e-mail: gmorris@emf.net