

**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 16-02-007
(Filed February 11, 2016)

**COMMENTS OF THE INDEPENDENT ENERGY
PRODUCERS ASSOCIATION ON THE PROPOSED
REFERENCE SYSTEM PLAN**

**INDEPENDENT ENERGY PRODUCERS
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Almost 14 months ago, the Independent Energy Producers Association (IEP) presented its comments on the draft 2016 Renewables Portfolio Standard (RPS) procurement plans in Rulemaking (R.) 15-02-020. Attached to those comments was an analysis, prepared by MRW & Associates, of the effect of federal tax incentives on procurement of renewable energy. That analysis concluded that procurement of renewable energy in 2025, after the federal tax incentives had declined or expired, would cost 22% (solar) and 32% (wind) more than procurement of comparable eligible resources in 2019, the last year when some significant federal tax incentives are available. Based on that analysis, IEP urged the Commission to authorize investor-owned utilities (IOUs) to procure renewable resources in 2016.

In Decision (D.) 16-12-044, the Commission rejected IEP's recommendation, stating, "we will not require the IOUs to increase their procurement obligations beyond the minimum targets established by statute at this time."¹

¹ D.16-12-044, p. 58.

The “Administrative Law Judge’s Ruling Seeking Comment on Proposed Reference System Plan and Related Commission Policy Actions,” issued in this proceeding on September 19, 2017 (Ruling), attached a Proposed Reference System Plan prepared by the Commission staff in connection with the Commission’s Integrated Resource Planning (IRP) effort. The modeling supporting the Proposed Reference System Plan and the IRP effort reached the same conclusion IEP did in its September 2016 comments. As summarized in the Ruling,

[T]he ability to take advantage of the federal investment tax credits (ITC) and production tax credits (PTC) in the near term, before they expire, to purchase solar and wind resources, results in the model selecting these resources earlier than they would otherwise be needed for RPS compliance or reliability purposes, resulting in lower portfolio costs for ratepayers overall. . . . This also interacts with the timing of the replacement of the power from the Diablo Canyon nuclear plant, because, rather than waiting until the plant is retired (assuming that occurs), the model essentially chooses to pre-purchase the solar and wind power that would otherwise be needed later in the next decade, in order to take advantage of the cost savings associated with the ITC and PTC.²

Two independent analyses have now reached the same conclusion: ***significant ratepayer benefits are available if procurement of renewable energy is completed in time to take advantage of the existing federal tax incentives.*** However, these benefits may evaporate unless the Commission acts quickly to require the procurement of renewable resources that can qualify for the tax incentives. The available benefits shrink significantly for projects that are not able to commence construction by 2019.³ But the Commission cannot wait until 2019 to act. To allow time for Load-Serving Entities (LSEs) to prepare and conduct competitive solicitations,

² Ruling, pp. 11-12.

³ *I.e.*, the ITC, relied on by many solar developers, shrinks from 30% in 2019 to 10% for projects commencing construction after 2021. The PTC, used by wind developers, is declining by 20% per year from 2016 levels and will reach 0% for projects commencing construction after 2021. Bonus depreciation, available to both solar and wind developers, is phasing out and expires after 2019. Few observers believe that any tax reform proposed by the Trump administration will extend these incentives for renewable energy.

negotiate power purchase agreements (PPAs), obtain the Commission’s final and unappealable approval of the PPAs, and for the project developers to begin construction in time to qualify for the tax incentives, the Commission must issue a decision authorizing additional procurement in early 2018.

The Commission could authorize additional procurement in its decision on the Reference System Plan, now scheduled for early 2018.⁴ In that decision, the Commission can implement the conclusions of the Plan, specifically the conclusion that procurement of renewable energy “within the next 1-3 years to take advantage of federal tax credits are part of least-cost solution for 2030.”⁵

The decision on the Reference System Plan presents the Commission with an ideal opportunity to take several steps toward the “least-cost solution for 2030.” In its decision in early 2018 adopting the Reference System Plan, the Commission should:

- Authorize LSEs to undertake an expedited additional procurement of around 3000 MW of eligible renewable resources (and such additional larger quantities of renewable procurement as are justified by the lower costs of projects qualifying for the federal tax incentives) in 2018 to take advantage of remaining federal tax incentives, progress toward a least-cost solution for 2030, and lower overall costs for ratepayers.
- Increase the RPS targets of retail sellers to levels designed to limit 2030 greenhouse gas (GHG) emissions by the electric sector to 42 million metric tons (MMT).

⁴ The Administrative Law Judge’s Ruling Modifying Schedule, issued on June 13, 2017, indicated that a proposed decision on the Reference System Plan was targeted to be released by the end of 2017. The Commission’s decision could follow after the 30-day period for comments.

⁵ Proposed Reference System Plan, slide 80.

- Work closely and quickly with the California Independent System Operator (CAISO) to identify the attributes of gas-fired resources that will be needed for reliability and renewables integration through 2030 and to develop mechanisms that will allow units offering the necessary attributes to continue in operation through 2030.

The bases for these recommendations are presented in IEP's responses to some of the questions posed in the Ruling. IEP will list each of the relevant questions, followed by IEP's response.

5. Comment on the advisability of early procurement of renewables to take advantage of federal ITC and PTC availability.

The independent analyses of MRW & Associates and the Commission's Energy Division both conclude that significant savings for ratepayers would result from procurement of renewables in time to qualify for the existing federal tax incentives. It is critical for the Commission to act promptly to require LSEs to conduct early procurement of renewables to secure the benefits of the federal tax incentives before they expire.

The federal ITC and PTC can significantly lower the cost of constructing eligible renewable energy projects. For more than a year, IEP has advocated in several proceedings for timely procurement of renewable energy so that California consumers can benefit from the federal tax incentives. In the Diablo Canyon retirement proceeding, Application (A.) 16-08-006, IEP emphasized the need to act quickly to procure renewable energy resources before the federal tax incentives decline and eventually expire:

If the Commission and Pacific Gas and Electric Company (PG&E) act quickly enough, developers of renewable generation projects may have time to qualify their projects for the maximum levels of the existing federal tax incentives before they expire or decline.

On the other hand, if procurement is delayed, as PG&E and others propose, so that deliveries do not begin until 2025, after the tax incentives expire or significantly decline, the cost of these same resources will be substantially higher than the cost of projects receiving federal tax incentives. For example, the levelized costs of projects commencing operation in 2025 are expected to be 22% (solar) to 32% (wind) more expensive than projects that qualify for incentives available in 2019.

It is time for the Commission to choose. . . . The Commission should not turn its back on a fleeting opportunity to allow the federal government to finance a significant portion of the renewable generation needed to replace Diablo Canyon's output and meet the state's GHG emission-reduction goals. Renewable energy developers are unlikely to see this level of federal financial support again, certainly not during the Trump administration. But for California to capitalize on the existing incentives, the Commission must act quickly.⁶

In comments on the 2016 and 2017 RPS Procurement Plans in R.15-02-020, IEP has presented an analysis of the federal tax incentives prepared by MRW & Associates. In summary:

Based on the 2016 RPS Calculator, the MRW Analysis reveals that the federal tax incentives reduce the levelized cost of energy (LCOE) for solar and wind resources significantly. For example, for projects qualifying in 2019, a 34% reduction in solar PV levelized costs and a 15% reduction in wind levelized costs would be anticipated. Even taking into account declines in future technology cost, the analysis shows higher costs of solar and wind in 2022 than in 2019 (25% and 13% higher, respectively). As a result, the MRW Analysis estimates that for every 1,000 MW of resources contracted at the 2022 LCOE instead of the 2019 LCOE, annual costs would increase by \$54 million per year for solar PV (\$1 billion over 20 years) and \$30 million per year for wind (\$600 million over 20 years).⁷

⁶ Opening Brief of the Independent Energy Producers Association, pp. 1-2, May 26, 2017 (A.16-08-006).

⁷ Comments of the Independent Energy Producers Association on the Renewables Portfolio Standard Procurement Plans Submitted by the Load-serving Entities, p. 11, Aug. 18, 2017 (R.15-02-020).

For California to receive the maximum benefit of the federal tax incentives, however, the Commission must develop a sense of urgency and must act quickly to authorize and require procurement of eligible renewable resources. Other parties also recognize the need for urgent action. On behalf of ratepayers, The Utility Reform Network (TURN) argues that “California must act quickly to capture these benefits and lock in the current low market prices. The Commission can realize the value by directing a round of expedited interim procurement that will ensure the value of the federal tax credits are fully passed through to retail customers.”⁸ As TURN recognized, to realize the maximum remaining value of federal tax incentives, contracts must be approved in time for developers to begin construction by the end of 2019 to qualify for the full value of the existing incentives. In fact, the PTC is already declining, and projects that commence construction in 2019 will qualify for a PTC that is 60% lower than the credit that was available in 2016. TURN notes that, although contracts must receive final approval by early 2019 at the latest, the agreements can be structured to delay the obligation of an LSE to purchase electricity to better align with that LSE’s actual needs.⁹

Significantly, the model used in Energy Division’s analysis reinforces IEP’s and TURN’s arguments. The model selected resources that are eligible for the federal tax incentives earlier than when the resources would be needed for RPS compliance or reliability, resulting in lower overall costs for ratepayers.¹⁰ The Proposed Reference System Plan confirms that “model results indicate that utility-scale solar PV and wind procured within next 1-3 years to take

⁸ Comments of the Utility Reform Network on Energy Division Staff Proposal for Implementing Integrated Resource Planning Comments, p. 13, June 28, 2017.

⁹ Comments of The Utility Reform Network on Energy Division Staff Proposal for Implementing Integrated Resource Planning, p. 13, June 28, 2017.

¹⁰ Ruling, pp. 12-13.

advantage of federal tax credits are part of least-cost solution for 2030,”¹¹ and the Plan concludes that in the 42 MMT Scenario, “significant renewable procurement would be optimal, potentially in the short-term.”¹²

The Commission should implement the recommendations of the Proposed Reference System Plan in its decision on the Plan in early 2018 and should authorize an expedited procurement in early 2018 for resources that can benefit from ITC, PTC, and bonus depreciation so that the maximum remaining value of the existing federal tax incentives can be obtained for the benefit of retail customers.

The Proposed Reference System Plan concludes that “significant” renewable energy procurement would be optimal but does not specify the amount of early procurement that will result in the greatest benefits for customers. The Default Scenario modeling concluded that about 3000 MW of new renewable resources would be needed by 2030.¹³ A conservative, no-regrets approach would be for the Commission to authorize early procurement of around 3000 MW of renewable power, and to authorize additional procurement of such larger quantities of renewable procurement as are justified by the lower costs of projects qualifying for the federal tax incentives. The precise amount of renewable energy procurement leading to a least-cost solution for 2030 could be determined by the Energy Division’s modeling or by each LSE’s evaluation of the maximum level of cost-effective procurement. (Alternatively, as discussed below, the Commission could increase the RPS goals for 2020 and 2024 to encourage early procurement of renewables.)

¹¹ Proposed Reference System Plan, slide 80.

¹² Proposed Reference System Plan, slide 125.

¹³ Proposed Reference System Plan, slide 51.

The Commission should authorize all LSEs to undertake expedited additional procurement of renewable resources and to include a target amount of this procurement in each LSE's IRP filing. Procurement of these resources should proceed as soon as possible and should not await the Commission's adoption of the LSEs' IRPs, which is not scheduled until late 2018. The costs and benefits of this additional procurement should be allocated fairly among all LSEs.

To further expedite the procurement of renewable resources in time to qualify for the maximum available federal tax incentives, the Commission should authorize the investor-owned utilities to use the Renewable Auction Mechanism (RAM) process for the additional procurement. The RAM provides for standardized PPAs, quick review, and quick Commission approval, all of which will help ensure that renewable energy developers can commence construction by the end of 2019. In D.14-11-042, the Commission eliminated the previous size limitation of 20 MW for RAM solicitations.¹⁴ To take full advantage of the dwindling availability of federal tax incentives, renewable resources of all sizes and all technologies should be allowed to compete in the RAM solicitation.

6. Comment on the impact of banked RPS procurement on this analysis.

Banked Renewable Energy Credits (RECs) could distort the analysis. The GHG emissions reductions occur when renewable energy is generated, but RECs cannot be counted by an LSE for RPS purposes until they are retired, which could occur several years later than the time the renewable energy is generated. Thus, the GHG emissions reductions may not occur when the RECs are retired for RPS purposes. To the extent the analysis assumes that GHG emissions reductions occur simultaneously with the retiring of RECs, the GHG emissions reductions in years when banked RECs are retired will be less than the analysis assumes.

¹⁴ D.14-11-042, pp. 93-93.

Banked RECs, particularly when combined with the IOUs' forecasts of declining load, create a barrier to procurement of renewable energy projects that could take advantage of the federal tax incentives. The IOUs' 2017 RPS Procurement Plans revealed that excessive amounts of banked RECs created by energy generated today are reserved for RPS compliance in the future, leading the utilities to propose **no** incremental procurement of renewable energy, even though a delay in procurement would foreclose the opportunity to benefit from the federal tax credits.

21. Should the Commission raise the RPS compliance requirement for 2030 and/or intervening years for all LSEs?

a. If so, to what percentage?

b. If so, in this proceeding or as a recommendation to be considered in the RPS rulemaking (or another venue: please specify)?

In Public Utilities Code section 399.15(b)(3), the Legislature authorized the Commission to require retail sellers to procure greater amounts of RPS-eligible energy than the amounts specified in the RPS statute. The Commission should exercise this authority to establish higher minimum procurement obligations for retail sellers.¹⁵ The Proposed Reference System Plan points out that existing statutory RPS requirements are not sufficient to meet 2030 GHG emission goals, and additional renewable energy will be needed to meet those goals. To meet the Energy Division's recommended 2030 GHG emission goal of 42 million metric tons (MMT), an RPS of about 58% in 2030 would be required.¹⁶

¹⁵ "Retail sellers" include IOUs, community choice aggregators, and electric service providers. "Retail sellers" do not include municipal utilities. Pub. Util. Code § 399.12(j).

¹⁶ Proposed Reference System Plan, slide 58.

The Commission should act now and exercise its statutory authority to increase RPS requirements to levels designed to limit 2030 GHG emissions to 42 MMT. Based on the Proposed System Reference Plan’s calculation that a 58% RPS would be needed in 2030 to meet the 42 MMT target , at a minimum the existing statutory RPS goals should be increased as follows:

<u>Year</u>	<u>Existing Goal</u>	<u>Revised Goal</u>	<u>Change</u>
2020	33%	35%	+2%
2024	40%	44%	+4%
2027	45%	51%	+6%
2030	50%	58%	+8%

However, these increases do not account for the fleeting opportunity to procure resources that are eligible for the federal tax incentives. The Commission should authorize additional procurement of resources that can take advantage of the federal tax incentives. One mechanism to encourage this additional procurement would be to increase the 2020 and 2024 RPS goals to 39% and 46%, respectively, to encourage greater procurement of resources that can qualify for federal tax incentives and lower the overall cost of RPS compliance for ratepayers, as shown in the following table:

<u>Year</u>	<u>Existing Goal</u>	<u>Frontloaded Revised Goal</u>	<u>Change</u>
2020	33%	39%	+6%
2024	40%	46%	+6%
2027	45%	51%	+6%
2030	50%	58%	+8%

If the Commission acts quickly to increase the RPS requirements (or to move toward a least-cost solution for 2030 by authorizing early procurement of around 3000 MW of renewable power), retail sellers could procure renewable energy from projects that can take advantage of the remaining federal tax credits, to the benefit of retail ratepayers. Higher RPS requirements would also reduce the amount of RECs that have been banked against future RPS requirements and would limit the distortion in the analysis that could result from the disconnect between GHG emissions reductions that occur when renewable energy is generated and REC retirements that can occur years later. If the Commission raises the minimum RPS requirement, many of these RECs would simply be used to count against a retail seller's elevated compliance obligation rather than banked for further compliance, and consumers would have a more accurate accounting of the amount of RPS energy that their LSE is using to meet retail load in the year in which the delivery occurred.

In response to the Ruling's questions about the venue for increasing RPS obligations, IEP notes that three potential procedural options exist.

- **This IRP Proceeding (R.16-02-007):** The issue of increased RPS requirements has been raised in the Ruling and will be addressed in the comments called for by the Ruling. The IRP proceeding has the benefit of including the Proposed Reference System Plan and the underlying analysis in the record. A proposed decision on the Reference System Plan is scheduled to be issued later this year. The Commission could act to increase RPS targets and to authorize additional procurement in a decision on the Reference System Plan scheduled for early 2018. The IRP proceeding is the most logical proceeding for the Commission's action,

provided that the proceeding stays on schedule for a decision in early 2018.

- **The RPS Procurement Plan Proceeding (R.15-02-020):** In its comments on the 2017 RPS Procurement Plans, IEP proposed that the Commission should increase the RPS requirement, and IEP has advocated for additional procurement of renewable energy in comments on both the 2016 and 2017 draft RPS Procurement Plans. A proposed decision is the next procedural step in this proceeding. All retail sellers are parties to this proceeding. However, the Proposed System Reference Plan and the Staff's analyses are not part of the record of this proceeding.
- **The Diablo Retirement Proceeding (A.16-08-006):** IEP urged the Commission to authorize PG&E to conduct an all-source solicitation for up to 4,000 GWh to replace part of Diablo Canyon's output as soon as possible, to take advantage of the available federal tax incentives. A proposed decision is the next procedural step in this proceeding. However, a Commission order in this proceeding would apply only to PG&E, not to other retail sellers, and the Proposed System Reference Plan and the Staff's analyses are not part of the record of this proceeding.

On balance, IEP urges the Commission to act in the IRP proceeding in the upcoming decision on the Reference System Plan. Regardless of which procedural option the Commission chooses, the most important consideration is **the need to act quickly, before the end of this year or in early 2018**, to secure the benefits of federal tax incentives for California customers.

26. Should the Commission initiate activities with the CAISO or others to analyze the type and viability of the natural gas fleet? What activities should be undertaken and why?

The RESOLVE modeling showed that existing gas-fired power plants that have not retired due to once-through-cooling requirements will continue to be needed for reliability and renewable integration purposes through 2030.¹⁷ The challenge the Commission will confront will be identifying the gas-fired resources that are most suitable for these purposes and creating mechanisms to compensate the needed resources to ensure that they are able to remain in operation through 2030.

The Commission should work with the CAISO to identify the attributes that are needed for reliability and renewables integration. The specific units that will be retained could either be identified as part of the CAISO's analysis or selected through a competitive solicitation of resources with the desired attributes.

Gas-fired generation resources in California are currently unable to earn sufficient revenues through existing market mechanisms to continue in operation. After units retire to meet once-through-cooling requirements in 2020, bankruptcies and retirements due to a lack of revenues could leave California without the gas-fired resources needed through 2030 for reliability and renewables integration. Although the Staff's modeling assumed that all thermal units not retired to comply with once-through cooling requirements would remain online throughout the modeling period¹⁸ (and the modeling confirmed that these units would be needed for reliability and renewables integration), the reality is that present mechanisms are insufficient to assure that needed resources remain in operation. California has recently seen an increase in

¹⁷ Ruling, p. 34.

¹⁸ Ruling, p. 6.

the number of potential Reliability Must-Run (RMR) contracts that the CAISO is considering to avoid the premature retirement of needed resources. If the Commission, in cooperation with the CAISO, is unable to develop mechanisms to provide adequate revenues to retain needed resources, the CAISO will continue to step in to ensure that needed resources are retained for at least another year. RMR contracts are not the ideal means to retain needed generation, but unless other compensation mechanisms are developed quickly, California will continue to see an increasing default capacity procurement through extra-market, federally regulated mechanisms.

CONCLUSION

For the reasons set forth in these comments, IEP respectfully urges the Commission, in its decision in early 2018 adopting the Reference System Plan, to:

- Authorize LSEs to undertake an expedited additional procurement of around 3000 MW of eligible renewable resources (and such additional larger quantities of renewable procurement that are justified by the lower costs of projects qualifying for the federal tax incentives) in 2018 to take advantage of remaining federal tax incentives, progress toward a least-cost solution for 2030, and lower overall costs to ratepayers.
- Increase the RPS targets of retail sellers to levels designed to limit 2030 GHG emissions by the electric sector to 42 MMT.
- Work closely and quickly with the CAISO to identify the attributes of gas-fired resources that will be needed for reliability and renewables integration through 2030 and to develop mechanisms that will allow units offering the necessary attributes to continue in operation through 2030.

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