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California Wind Energy Association

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California Energy Commission
Docket No. 15-IEPR-06
Docket Office
1516 Ninth Street
Sacramento CA 95814

Submitted via email to: docket@energy.state.ca.us

Re: 15-IEPR-06 -- Comments on May 11th IEPR Workshop on Renewables Progress, Challenges, and Opportunities

The California Wind Energy Association (“CalWEA”) was pleased to be invited to participate on a panel for the May 11th IEPR Workshop on Renewables Progress, Challenges, and Opportunities. We appreciate the opportunity to provide these written comments on the questions on “New Issues And Challenges Associated With A 50% Renewable Target” posed by the Commission to stakeholders.

1. What should a 50% renewable policy framework look like? How much should it rely on what is already in place versus a complete redesign of the existing policy structure? Should it replace the current Renewables Portfolio Standard requirement or work in tandem with it?

It is perplexing that this question suggests that the RPS might not be the policy that the state should rely upon for moving to 50% renewables, since the RPS has been extraordinarily successful in achieving the state’s renewable energy goals, having produced over 10,000 MW of new renewables capacity so far, including 1,000 MW of wholesale distributed generation (DG) projects, in addition to supporting much of the pre-existing base of renewables. This success is due in large part to the fact that the RPS created market certainty that enabled companies to invest in project and technology development, and enabled the CPUC, CAISO and utilities to plan and build major transmission upgrades that brought major system benefits, as well as enabling the delivery of renewables.

The RPS has fostered fierce competition, which has contributed to major technology cost declines – not just in solar-PV, but also 50% cost declines in already-low-cost wind technology over the past 5 years. This is critically important because the RPS has kept the cost of achieving the state’s renewable energy goals within reasonable bounds which, in

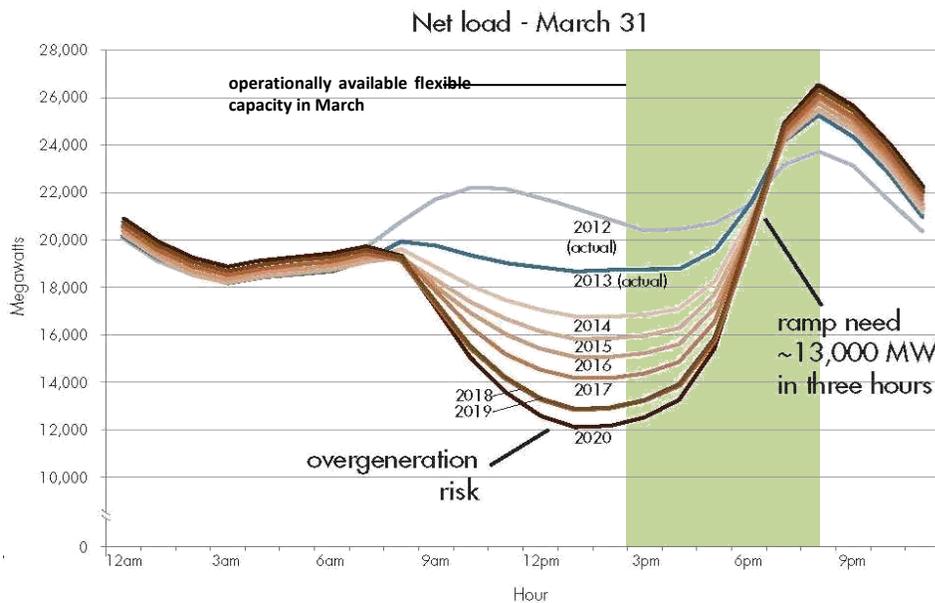
turn, will maintain public support for achieving the state’s climate change goals. The certainty of the RPS targets also helped to drive operational changes at the CAISO, which responded by reforming its markets so that they now efficiently integrate wind and solar resources onto the grid.

2. What are the operational challenges of a 50% renewable policy framework?

The operational challenges to achieving 50% renewables are readily surmountable.

First, we need to avoid procuring renewables in a way that creates operational problems. We need to carefully plan for and procure a mix of renewables that will minimize operational challenges. To do that, we need to diversify away from the nearly 100% solar procurements that have occurred over the past few years, which should occur as the PUC updates the least-cost, best-fit bid evaluation values (which it is in the process of doing – see response to Question 3, below).

Second, we need to make sure that the CAISO has access to the significant amount of flexible capacity resources that are on the system today, but that are not fully accessible. All gas resources on the system should offer their inherent flexible capacity to the system with appropriate incentives. As indicated by the graphic below, enough flexible capacity exists on the system today to address twice the ramping need that is expected in 2020.



Source: CalWEA, based on CAISO materials: the “Duck Chart” from CAISO “Fast Facts,” 10/2013; the light-green bar is from CAISO 3/22/2013 presentation, which represents all available and dispatchable Effective Flexible Capacity (EFC) in March. All 28,000 MW of EFC is operationally (but not necessarily contractually) available to address the 13,000-MW ramping need.

Third, current rules and/or practices that keep thermal units operating at certain (arbitrary) minimum load levels much be reviewed and revised consistent with actual

system needs in each area to reduce the need for curtailment of renewable energy production. Any additional gas capacity should be very flexible.

Finally, the CAISO's Energy Imbalance Market is demonstrating the benefits of sharing flexible resources across balancing areas. Expanding the EIM would bring more benefits.

If we do all of these things, or even most of them, then the need to build new flexible resources to address the remaining operational challenges will be modest.

3. Should a 50% renewable policy maintain the current RPS policy of technology neutrality, or should it favor technologies that provide specific benefits to the system?

This question suggests a lack of understanding of how the RPS policy was designed and implemented, and a lack of familiarity with the major improvements that the Public Utilities Commission (PUC) has made and continues to make in implementing the policy. It suggests that the RPS is "technology neutral" such that it fails to value the specific benefits that particular technologies have to offer to the system. But, while the RPS is agnostic as to technology, it was designed with a "least-cost, best fit" approach intended to account for all of the costs and benefits of each renewable energy technology – both direct and indirect -- so that we achieve our renewable energy goals at the least overall cost.

The RPS is not a price-only procurement program, although that false accusation seems to have taken hold in many minds. This is not to say that some of the estimates of indirect costs and benefits have always kept pace with procurement and the changing electric system resource mix, particularly when the investor-owned utilities opted to greatly over-procure for their immediate needs with solar purchases over the past few years. But the PUC has been working hard to catch up; for example:

- it has adopted an interim integration cost estimate while the parties work to develop more robust, California-specific values which should be completed this year;
- it is moving toward the use of capacity values that reflect the phenomenon that capacity value declines as each technology's system-penetration rises; and
- it has approved utilities' proposals to update other elements of their bid evaluation processes, for example, time-of-delivery values are being adjusted to reflect the fact that middle-of-the-day deliveries are becoming less and less valuable.

As importantly, the PUC is using these and other values to develop a range of future potential renewable energy portfolios for use in system resource and transmission planning, using what it calls the RPS Calculator. The idea is to plan the system around renewable energy portfolios that are more-or-less optimized based on their overall costs and system benefits, and minimizing operational impacts. With those portfolios in hand,

we can then plan for the balance of system resources that will be needed to address the remaining operational challenges. Procurement practices should reflect the values used in the RPS Calculator so that the utilities procure the resource mix that we have planned for – although the whole process will be updated annually or biennially to keep pace with market developments.

Collectively, we are getting much more sophisticated about how we value and plan for renewables. We are doing exactly what we need to do to meet a 50% goal, while keeping the lights on, at least cost.

4. *Should renewable procurement under a 50% renewable policy framework differ from current procurement practices? If so, how?*

Yes, renewable energy procurement under a 50% policy framework should differ from current procurement practices under the RPS, but only somewhat and we are already on the right path in improving those practices, as discussed in the previous response. Were California to radically change the framework, the time that it would take to implement the new policy would jeopardize the ability to achieve the target in the intended timeframe (assuming that the new policy would be effective in fostering the planning and investment in renewables and transmission). Further, if California is going to achieve a 50% RPS by 2030, it will be important for the state to adopt that goal very soon so that we can begin to plan for the transmission upgrades that will be necessary to achieve it on schedule.

5. *What are the roles of DG, energy efficiency, demand response, storage, microgrids, electric vehicles, and electrification of the building heating sector in achieving a 50% renewable target?*

First, wholesale DG is likely to continue to flourish under an expanded RPS. Second, as the California State Agencies' *Pathways* study¹ shows, most of the other resources noted, including behind-the-meter renewables, will be necessary to achieve our 2030 greenhouse-gas reduction goals -- as is 50% wholesale renewables -- and we should plan for each goal accordingly. While there will be important inter-relationships between the 50% renewables goal and these other resources, CalWEA does not view these resources as having a direct role in achieving a 50% renewable energy goal. Rather, we need to study those interrelationships. For example,

- The renewable energy portfolios that the PUC's RPS Calculator will produce should be robust enough to inform long-term planning studies with various electric vehicle scenarios.
- The renewable energy planning portfolios will also indicate that certain levels of flexible capacity resources will be needed (after considering the cost-effectiveness of certain levels of renewable energy curtailment). The PUC can

¹ See http://www.energy.ca.gov/commission/fact_sheets/climate_commitments_fact_sheets.html.

then determine, in the long-term planning proceeding, how best to meet that flexibility need – through existing or new gas-fired capacity, storage, advanced demand response or increased coordination with other balancing areas.

It is important to understand that the 50% renewables target will be met under any scenario – that is, the same amount of gas will be displaced, regardless of how the flexibility need is met. The different flexible resources may have some GHG impacts – such as the losses incurred in storage – but that can be considered as part of that decision on flexibility, rather than in the course of the planning for 50% renewables.

Thank you for considering CalWEA's views.

Sincerely,

A handwritten signature in cursive script that reads "Nancy Rader".

Nancy Rader
Executive Director
Email: nrader@calwea.org
