

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking to Oversee the  
Resource Adequacy Program, Consider  
Program Refinements, and Establish Annual  
Local and Flexible Procurement Obligations  
for the 2019 and 2020 Compliance Years.

Rulemaking 17-09-020  
(Filed September 28, 2017)

**OPENING COMMENTS OF THE  
CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES ON  
THE PROPOSED DECISION ADOPTING LOCAL CAPACITY OBLIGATIONS FOR  
2020-2022, ADOPTING FLEXIBLE CAPACITY OBLIGATIONS FOR 2020, AND  
REFINING THE RESOURCE ADEQUACY PROGRAM**

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For: CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

June 13, 2019

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2019 and 2020 Compliance Years.

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2020-2022, ADOPTING FLEXIBLE CAPACITY OBLIGATIONS FOR 2020, AND  
REFINING THE RESOURCE ADEQUACY PROGRAM**

The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Opening Comments on the Proposed Decision Adopting Local Capacity Obligations for 2020-2022, Flexible Capacity Obligations for 2020, and Refining the Resource Adequacy Program (Proposed Decision), mailed in this proceeding (R.17-09-020) on May 24, 2019. These Opening Comments are timely filed and served pursuant to Rule 14.3 of the Commission's Rules of Practice and Procedure and the instructions accompanying the Proposed Decision.

**I.  
THE PROPOSED DECISION FAILS TO DEAL WITH THE CRITICAL CHALLENGES  
FACING RESOURCE ADEQUACY TODAY**

The Proposed Decision is profoundly disappointing – not for what it concludes, but for what it simply ignores or defers of an undefined future proceeding without any sense of urgency for action. The Summary states:

This decision adopts local capacity requirements for 2020-2022 and flexible requirements for 2020 applicable to Commission-jurisdictional electric load-serving entities. This decision also makes *minor* (emphasis added) refinements to the Resource Adequacy program.<sup>1</sup>

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<sup>1</sup> Proposed Decision, at p. 2.

The next section of the Proposed Decision under “Issues Before the Commission” concludes:

All proposals and comments submitted by parties were considered, but given the number of parties and issues, some proposals and issues may receive little or no discussion in this decision. Issues within the scope of the proceeding that are not addressed here, or that are only partially addressed, *may* (emphasis added) be addressed in a later phase of this proceeding.<sup>2</sup>

The Proposed Decision is otherwise silent on disposition of critical issues that are obvious to even the casual observer of the Resource Adequacy (RA) program and any of the proposals to deal with them.

CEERT is very concerned with the state of RA in California today and strongly believes that the current scope and pace of this proceeding is inadequate to address the serious short-term challenges the program faces. This Proposed Decision simply kicks meaningful change down the road for another year while cementing in the status quo for at least Local Capacity Requirements (LCR) for three years. CEERT strongly believes that this situation will result, at best, in sharply increased costs for RA that are already greater than \$1B/year, and presents an unacceptable, if relatively small, risk of actual capacity shortages during extreme events.

Three trends are converging to create this condition. First, the period of surplus generation capacity that the state has enjoyed for at least fifteen years – largely caused by success in deployment of renewable resource to meet increasing renewables portfolio standard (RPS) policy goals while consistently moderating demand increase through successful energy efficiency programs – is coming to an end. It is not simply the wave of once-through cooling (OTC) retirements that will crash on the scene over the next year because at least there is a plan to address those retirements. The irony that the two old pillars of last century’s grid – coal and nuclear – will extinguish together in California when Diablo Canyon and Intermountain Power Plant (IPP) retire in 2024-2025 should not be lost. However, there is no plan to address those

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<sup>2</sup> Proposed Decision, at p. 5.

retirements. Worse still, Diablo Canyon is owned and operated by a utility in Chapter 11 and is one condenser leak or one generator stator repair away from “early” retirement.

As renewables whose costs are now in many cases below system average costs surge in volume, the Western coal fleet is fading fast -- limiting the ability of imports to save California's bacon in a pinch. To compound the issue, the era of flat to declining load growth is coming to an end as well. As California, quite properly, begins to ramp up the second part of the climate change mantra: “Decarbonize electricity and electrify everything,” long-term projection calls for a California Independent System Operator (CAISO) of well over 100 GW in size. There very well could be a load growth of over 5%/yr, which has not been seen for two generations in California. In the face of these trends, virtually the only new resources procured recently have been distributed solar and battery storage. Both are marvelous, offering a clean and affordable vision for the future that we can all be proud to witness. However, unless balanced with resources like wind whose production profile lags the sun, dispatchable load where consumption can chase production as opposed to the other way around, and more expansive forms of “storage,” there is a risk of having too much of a good thing. And, finally, there is the necessity of a rear guard action by gas to cover the fossil retreat. The pace of these changes is slow, but needs to pick up and we are rapidly running out of time to respond. New capacity resources are needed now, and new energy resource needs are not too far behind. The Proposed Decision is oblivious to this reality. The risks of price spikes and physical shortages is small today, but is growing and is simply unacceptable compared to the “N-1-1” planning standard we all ascribe to and spend billions of dollars per year to maintain.

Second, reduced capacity gas fleet factors as renewables begin to dominate energy supply that is coupled with a rapidly declining long-term demand forecast for natural gas sales means

significant cost pressure as peak loads remain high, but fixed costs are spread over lower sales volumes. This calls into question natural gas's current role of virtually exclusive provider of essential reliability services for the electric grid. If the electric grid is to grow as it will and must, the need for new non-gas capacity resources is rapidly becoming urgent. The San Bruno and Aliso Canyon disasters were a wake-up call. The current situation of multiple corrosion sites over scores of miles on the interstate pipelines that limits ability to import gas to support peak load conditions is simply mind boggling. This situation effectively means that gas fired generation in Southern California meets the definition of "availability limited and that they are far from the near perfect generators" assumed in the RA Net Qualifying Capacity (NQC) counting rules. The answer is NOT billions of dollars to replace and expand aging infrastructure, but acceleration of commercialization of the capacity resources of the future coupled with a renewed and focused plan of life extension on selected portions of the existing infrastructure to maintain reliability.

Third, planning, procurement and operational market protocols for capacity related services that assume provision by traditional natural gas fired generation have not been adapted to facilitate provision by the new generation of preferred resources that dominate the grid of the future. The Commission and CAISO keep trying to stick the square peg of preferred resources with close to zero short run marginal cost into the round hole of a "perfect generator" with high variable costs. Today, demand response (DR) is roughly half of what it was five years ago when it could and should be at least five times current levels and be poised to grow quickly from there as the low carbon future unfolds. Energy Efficiency programs are fighting the last war of expensive marginal cost of energy and must be repurposed to focus on supplying capacity to reduce peak loads.

All of these trends that are simply enumerated here are generally accepted as very relevant in the long term, but, so far, the fog of uncertainty surrounding the details and the timing has not been penetrated to galvanize near term action. The implications obviously go well beyond next year's RA showings and the RA program itself, but the program must lead the transition, not be blind to its implications.

## **II. ISSUES WITH THE PROPOSED DECISION**

The body of the Proposed Decision is roughly forty pages of minutiae on relevant topics that make little substantive difference for the program. Effective Load Carrying Capability (ELCC) calculations are getting difficult to substantiate not because the Commission does not have the right data. Instead, this is because the real world is telling us that the current fundamental modeling assumption that an individual resource has a discrete capacity value independent of all other resources, and, therefore, the system NQC is simply the algebraic sum of the individual resource NQCs is just plain wrong. With the resource mix we see today, that simplifying assumption of independence does not hold and the capacity value of each individual resource indeed does depend on the season, time of day, weather conditions, load level and what other resources are around it. There is a true "portfolio NQC" that can be calculated for planning purposes using ELCC modeling, but it is mathematically impossible to assign a discrete, consistent value to each individual element of that portfolio.

The Proposed Decision is filled with unclear concepts like "compliance QC vs. operational QC"<sup>3</sup> or "diversity benefits"<sup>4</sup> and statements like "no new methodology is needed"<sup>5</sup> or "it is impractical to deal with the infinite number of configurations" when discussing "plus

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<sup>3</sup> Proposed Decision, at p. 42.

<sup>4</sup> *Id.*, at p. 44.

<sup>5</sup> *Id.*, at p.41

storage NQC.”<sup>6</sup> The only two clear, concrete decisions contained herein is to raise the local waiver trigger price to recognize that LCR prices have increased in the last decade,<sup>7</sup> and removing the Path 26 Constraint<sup>8</sup>, not because such a constraint does not exist, but because it does not matter much anyway and it inhibits shuffling of forward obligations between LSEs. Most of the discussions end with words that imply that the Commission cannot think of precise answers to current RA questions and instead want to continue to punt these issues. There is an extensive discussion on the need for improved load forecasting by individual load serving entities (LSEs) to put precision (if not accuracy) into cost allocation. However, there is no mention whatsoever about the need for improved load forecasting by physical Local Capacity Area (LCA) including differentiation of load shapes by LCA so that the appropriate portfolio of local resources to mitigate load drop (blackouts) during transmission contingencies can be determined.

The sum total of all of these “minor” enhancements is simply not sufficient to deal with the broader issues faced by the Resource Adequacy program.

### **III. THE PROPOSED DECISION MUST BE MODIFIED TO DEAL WITH THESE CRITICAL ISSUES**

By far the most important modification to this Proposed Decision is to immediately authorize the procurement by Commission jurisdictional LSEs of significant non-fossil preferred resource capacity resources with an on-line date of the Summer of 2022. CEERT suggests that this authorization be initially capped at 3 GW or roughly 10% of statewide LCR demand, with an RA only price capped at the Capacity Procurement Mechanism (CPM) soft offer cap of \$76/kw-yr., and that strong preference be given for locations south of Path 26 and project portfolios that

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<sup>6</sup> Proposed Decision, at p. 40

<sup>7</sup> *Id.*, at p. 22

<sup>8</sup> *Id.*, at p. 54

not only store energy for later release, but also produce the energy required to recharge that storage over multi-day weather events.

The LSEs would be free to choose technologies, contract terms and conditions, non-RA revenue sharing provisions, and commitment, dispatch and settlement protocols subject only to the above aggregate caps and ability to perform on its RA obligations. The resulting portfolios would count towards their own system, local and flexible RA obligations or for sale to other LSEs to meet their RA obligations at a level calculated for each portfolio on a case by case basis and ratified by the CAISO and the Commission through a Tier 3 Advice Letter process without regard for their individual resource NQC scores or financing structure by today's accounting and contracting conventions.

In the old world of flat load growth and new resource costs well above average system costs, the procurement risk to be avoided was clearly buying too much, too soon. In the dawn of the new world of high load growth and new resource costs below system average costs, the existential risk is buying too little, too late. Punting procurement of needed capacity resources to the *next* IRP cycle means that those resources will not be on-line when the last nuclear and coal plants retire. The system probably has enough slack in energy supply to deal with this, but it is almost certain that capacity will be extremely tight. Even if we avoid physical shortages through a combination of luck with the weather and life extensions of existing resources, existing capacity resources are certain to have market power and forward RA prices will soar.

Clearly, a procurement at scale of portfolios of new, clean, distributed, use and availability limited resources to learn how to rely on them for essential reliability services is the most critical and cost-effective risk mitigation measure the Commission can take in the RA program. The individual LSEs surveying the local resources available and motivated to innovate



and try new contracting and operational structures are clearly best positioned to conduct this procurement. We must learn by doing. There will be plenty of time to optimize and generalize successful efforts later, but it will be impossible to optimize the chaos of rapidly rising RA forward prices, real time wholesale energy market price spikes, Flex Alerts and Stage 3 emergency declarations, much less rolling brownouts during extreme weather.

#### **IV. CONCLUSION**

For the reasons detailed above, it is CEERT's position that the Proposed Decision requires significant modifications. CEERT, therefore, request that the changes described above and embedded Appendix A hereto (Proposed Findings of Fact, Conclusions of Law, and Ordering Paragraphs) be included in the Commission's Final Decision.

Respectfully submitted,

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FOR: CENTER FOR ENERGY EFFICIENCY  
AND RENEWABLE TECHNOLOGIES

## APPENDIX A

### **THE CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDERING PARAGRAPHS FOR THE PROPOSED DECISION ON REMAINING ISSUES**

The Center for Energy Efficiency and Renewable Technologies (CEERT) proposes the following modifications to the Findings of Fact, Conclusions of Law, and Ordering Paragraphs in the Proposed Decision Adopting Local Capacity Obligations for 2020-2022, Flexible Capacity Obligations for 2020, and Refining the Resource Adequacy Program, and mailed in R.17-09-020 (RA) on May 24, 2019 (Proposed Decision).

Please note the following:

- A page citation to the Proposed Decision is provided in brackets for each Finding of Fact, Conclusion of Law, or Ordering Paragraphs for which a modification is proposed.
- Added language is indicated by **bold type**; removed language is indicated by **bold strike-through**.
- A new or added Finding of Fact, Conclusion of Law, or Ordering Paragraph is labeled as “NEW” in **bold**, underscoring capital letters.

#### PROPOSED FINDINGS OF FACT:

13. [57] It is appropriate to revisit the accounting methodology for ~~hydro and use limited fossil resources through a working group~~ **all use and availability limited resources including gas fired resources in Southern California subject to consequences of restrictions on operations at Aliso Canyon and reduced interstate pipeline capacity due to long term repairs for mitigation of systemic corrosion issues. Such methodology review will consider portfolio effects**

NEW It is critical to refine and validate load forecasts by Local Capacity Area and Sub-Area including the load shape on the peak day used to determine the LCR requirement for both peak capacity and quantity and duration of energy deficiency during the planning transmission contingency.

**NEW It is reasonable to authorize new resource procurement by LSEs of up to 10% of the LCR demand utilizing combinations of renewable/storage hybrids, demand response and demand response/storage hybrids, targeted Energy Efficiency measures and programs with an on-line date of the Summer of 2022.**

**PROPOSED CONCLUSIONS OF LAW:**

2. [58] Energy Division should establish a working group to evaluate the LCR process **including refinements and validation of local load forecasts including both peak demand and hourly load shape on the peak day** prior to developing local RA requirements for the 2021-2023 compliance year.

16. [59] Energy Division should convene a working group on counting methodologies for ~~hydro and use limited fossil resources~~ **all use and availability limited resources including gas fired resources in Southern California subject to consequences of restrictions on operations at Aliso Canyon and reduced interstate pipeline capacity due to long term repairs for mitigation of systemic corrosion issues. Such methodology review should consider portfolio effects and methods for calculating a portfolio NQC of resources whose individually calculated NQC values do not reflect their portfolio value.**

17. [59-60] Energy Division's revised ELCC proposal appropriately identifies the contribution of in-front-of-the-meter solar resources to grid reliability and reasonably captures the interaction effect between solar and storage. Energy Division's proposed ELCC values should be adopted **on an interim basis pending results from the working group review.**

**NEW The Commission should authorize new resource procurement by LSEs of up to 10% of the LCR demand utilizing combinations of renewable/storage hybrids, demand response and demand response/storage hybrids, targeted Energy Efficiency measures and programs with an on-line date of the Summer of 2022.**

**PROPOSED ORDERING PARAGRAPHS:**

4. [60] Energy Division shall convene a working group to evaluate improvements and refinements **including refinement and validation of load forecast including both peak**

**capacity and load shape for LCR purposes** prior to the development of the 2021-2023 local Resource Adequacy requirements.

17. [63] Energy Division shall convene a working group on counting methodologies for ~~hydro and use limited fossil resources~~ **all use and availability limited resources including gas fired resources in Southern California subject to consequences of restrictions on operations at Aliso Canyon and reduced interstate pipeline capacity due to long term repairs for mitigation of systemic corrosion issues. Such methodology review will consider portfolio effects and methods for calculating a portfolio NQC of resources whose individually calculated NQC values do not reflect their portfolio value.**

18. [63] Energy Division's revised Effective Load Carrying Capacity (ELCC) proposal, as discussed in Section 3.7, and the resulting ELCC values shall be the approved ELCC factors in the Resource Adequacy program, as set forth in Appendix A. The adopted values shall be effective beginning with 2020 Resource Adequacy compliance year **on an interim basis pending results of the working group analysis.**

19. [63] Energy Division shall convene a workshop on Effective Load Carrying Capacity methodologies **focused on methods of calculating portfolio NQC.**

**NEW The Commission authorizes new resource procurement for RA purposes by LSEs of up to 3 GW utilizing combinations of renewable/storage hybrids, demand response and demand response/storage hybrids, targeted Energy Efficiency measures and programs all with an on-line date of the Summer of 2022. The results of such procurement will be approved by the Commission through a Tier 3 Advice Letter process with an RA price only cap of \$76/kw-yr plus retention of wholesale market revenues plus any non-market revenue streams that do not conflict with performance of the LSE's RA obligations. A portfolio NQC for each set of connected resources shall be calculated by the California Independent System Operator and be available to satisfy the LSE's RA obligation or for sale to other LSEs as appropriate.**