

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to
Integrate and Refine Procurement
Policies and Consider Long-Term
Procurement Plans.

Rulemaking 12-03-014

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CLEAN COALITION OPENING COMMENTS ON DECISION AUTHORIZING
LONG-TERM PROCUREMENT FOR LOCAL CAPACITY REQUIREMENTS
FOR R. 12-03-014

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The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems through innovative policies and programs that deliver cost-effective renewable energy, strengthen local economies, foster environmental sustainability, and enhance energy security. To achieve this mission, the Clean Coalition promotes proven best practices, including the vigorous expansion of Wholesale Distributed Generation (WDG) connected to the distribution grid and serving local load. The Clean Coalition drives policy innovation to remove major barriers to the procurement, interconnection, and financing of WDG projects and supports complementary Intelligent Grid (IG) market solutions such as demand response, energy storage, forecasting, and communications.

The Clean Coalition is active in numerous proceedings before the California Public Utilities Commission and other state and federal agencies throughout the United States, in addition to work in the design and implementation of WDG and IG programs for local utilities and governments. The Clean Coalition has intervened before the Commission on many areas surrounding including SONGS OII (I. 12-10-013), Resource Adequacy (RA), Energy Storage (ES) and various Smart Grid proceedings.

In addition to these Opening Comments, the Clean Coalition is submitting joint comments with the Natural Resources Defense Council (NRDC) and other parties in discussing other aspects of the Proposed Decision (PD). Additional comments are not due to a difference of opinion but rather reflect additional discussion points of relevance to the Clean Coalition.

I. Summary of support and recommendations

- We support the authorization of the CPUC to procure 50 MW of ES in the Southern California region and we recommend that ES be added into the State's

Loading Order in the near future;

- We support the strict adherence to the State’s established Loading Order for preferred resources;
- We encourage the Commission to ensure, through policy and coordinated action in other proceedings, that market mechanisms are established to develop these preferred resources to meet local capacity requirements (LCR) within the required scale and schedule;
- In evaluating cost effectiveness, we recommend that cost, performance, and grid application data be ordered collected for Commission and public review to assist in determination of the most cost effective future application of options such as distributed storage facilities and services;
- Renewable procurement targets should be treated as a floor, not a ceiling and preferred resources should be procured at an ongoing basis. SCE should be meeting and exceeding preferred resource targets to meet established State goals;
- We strongly support the rigorous use of DG within this track in order to meet LCR goals and wish to continue to advocate for the largely unappreciated benefits of DG, which include:
 - Avoided risk and enhanced security
 - Economic indifference
 - Increased societal benefits
- DR should be further recognized as an importance resource in meeting LCR needs by the ISO and utilities and should be included in future modeling. In addition, aggregated EV DR and residential DR can be considered as additional DR potential and should be further analyzed;
- We support the direction of the PD that no RFO requirements explicitly or implicitly exclude any preferred resources, and strongly recommend thorough application of this standard in review of RFO requirements.

I. Discussion

LCR Procurement

The Clean Coalition applauds the Commission for recognizing the likelihood of future LCR procurement as responding to increasing levels of energy efficiency, demand

response and energy storage, resulting in lower levels of other procurement than modeled by the ISO to satisfy requirements in the LA Basin. We strongly support development of such preferred local resources and the inclusion of risk adjusted uncommitted resources in planning assumptions. We encourage the Commission to ensure, through policy and coordinated action in other proceedings, that market mechanisms are established to develop these preferred resources to meet local capacity requirements (LCR) within the required scale and schedule; such proceedings would include Resource Adequacy (RA), Energy Efficiency (EE), Demand Response (DR), and Energy Storage (ES).

Energy Storage

“We will require that SCE procure at least 50 MW of energy storage resources for LCR purposes in the LA basin local area. We view this as a modest level of targeted procurement of an emerging resources, and as an opportunity to assess the cost and performance of energy storage resources.”¹

As a longtime advocate for the rigorous use of energy storage as a dispatchable local capacity resource, the Clean Coalition commends the Commission for requiring 50 MW of procurement in Southern California for energy storage. This is a significant win for Energy Storage in California and the Clean Coalition is pleased to see it included in this Proposed Decision. It is our hope that the Commission and the utilities see the 50 MW as a floor, not a ceiling and proceed to procure additional ES as a preferred resource within the continuing LTPP and the coordinated ES proceeding (R.10-12-007). The authorized procurement should commence expeditiously in order to reach optimal procurement levels in a timely manner.

Cost effectiveness is an appropriate consideration in all procurement. Metrics for such evaluation are currently under discussion in the Energy Storage proceeding, through which determinations can be made based on consistent and duly vetted standards. Likewise, locational values and benefits of scaled and targeted generation and storage

¹ PD at 60

assets on the distribution system are already scheduled for discussion in a Commission workshop on January 31st. In the interim, best estimations of such metrics and valuation should be employed to ensure full valuation and fair comparison is adopted in SCE's procurement application and practices. In addition, it should be apparent that even mature technologies do not benefit from manufacturing and installation learning curves or economies of scale until the market has gained experience and scale has been achieved. Cost effectiveness must consider the value of experience and available research regarding projections of its impact on driving cost reductions when evaluating early market response and higher initial prices. Our recommendation on this subject is that cost, performance, and grid application data be ordered collected for Commission and public review to assist in determining the most valuable and cost effective future application of distributed storage facilities and services.

As quoted in the PD, CESA calls for the full integration of storage into long-term procurement planning as "a powerful and resource adequacy-improving asset class."² The Clean Coalition very much agrees with this and hopes that this integration of storage into LTPP will provide the much needed recognition of ES as a valued preferred resource and LTPP as well as the coordinated ES proceeding (R.10-12-007) continue to develop the future of ES in long-term planning. LTPP should continue this coordination with the ES proceeding and all analyses that are produced (such as cost effectiveness metrics) and coordinated workshops, comments and discussions should continue as ES is further developed as a preferred resource.

In discussing the Motion by Megawatt Storage Farms, Inc. to move ES to the top of the Loading Order, the Clean Coalition (jointly with CEJA) supported the idea that ES should generally be included in the Loading Order. The coordinated ES proceeding has declined to take up this issue for the same reasons the ALJ states in the PD: "the Loading Order is a multi-agency document that may require some effort and time ..."³

² PD at 58

³ PD at 111

While we understand that the Commission cannot undertake this step unilaterally, we strongly encourage the Commission to be the first mover in convening the parties involved, and believe that the Commission is heading in the right direction with the authorized procurement of ES within this track.

Loading Order

“SCE’s procurement plan shall be consistent to the extent possible with the multi-agency Energy Action Plan, which places cost-effective energy efficiency and demand response resources first in the Loading Order, followed by renewable resources and then fossil-fuel resources. Energy storage resources should be considered along with preferred resources.”⁴

As we have consistently commented throughout this proceeding, we support the strict adherence to the State’s established Loading Order for SCE (and all utilities as well as the ISO) as we go forward, as is consistent with the Energy Action Plan. Along with other parties, the Clean Coalition firmly believes that adherence to the Loading Order is essential to meeting established State goals such as the RPS and the 12 GW of Distributed Generation (DG) goal, as well as the GHG emission reduction targets mandated under AB 32. These goals should be a priority and all measures should be taken to ensure that they are met efficiently and in a timely manner.

The Clean Coalition would also like to reiterate the importance of the ALJ’s statement that “once procurement targets are achieved for preferred resources, the IOUs are not relieved of their duty to follow the Loading Order.” In D.07-12-052 (at 12), the Commission stated that once demand response and energy efficiency targets are reached, “the utility is to procure renewable generation to the fullest extent possible and the obligation to procure resources according to the Loading Order is ongoing.” This is an important point to highlight because targets that are set in CPUC proceedings in regards to preferred resources are often treated like a ceiling rather than a floor by

⁴ PD at 3

utilities. As stated in the PD, “preferred resources should be procured at an ongoing basis, not just until targets are reached...consistent with Commission policy.”⁵ As such, procurement should respect both the Loading Order and any other preferred resources to the fullest extent, regardless of compliance with the minimum standards established the RPS or specific authorizations.

Distributed Generation

“We anticipate that much of the additional 2,400 MW of LCR need currently forecast by the California Independent System Operator can be filled by preferred resources, either through procurement of capacity or reduction in demand. Preferred resources include energy efficiency, demand response, and distributed generation...”⁶

The Clean Coalition wholeheartedly agrees with this, as reflected in our prior comments advocating for the use of preferred resources to fill this LCR, especially for the use of DG. Distributed generation plus intelligent grid (DG+IG) provides a key component of the future energy system. This includes utilization of advanced inverter functionalities, which already exist in most inverters on the market today and is already employed widely and effectively in Europe. These functionalities can transform distributed renewables from simply being seen as reducing load to highly flexible “grid assets”, and facilitating much higher penetrations of distributed generation in utility distribution networks. The specific inverter functions that are most relevant to renewable energy grid integration include reactive power support, voltage support, fault ride-through, and ramp rate control.

As we have also discussed in Track 2 of this proceeding, DG (especially wholesale) can provide the following benefits:

⁵ PD at 11 (as quoted from D.12-01-033 at 21).

⁶ PD at 4

- Avoided Risk and Enhanced Security – Local DG is, in aggregate, dramatically less susceptible to outages caused by weather, accident or intent as it is widely dispersed and avoids the choke points associated with transmission facilities and fuel distribution networks that supply conventional design. If a failure does occur in local DG, the impact is limited in scale and area, with surrounding facilities able to mitigate.
- Economic Indifference – full recognition of Locational Value of DG has no cost to ratepayers as it is a reflection of avoided costs that would otherwise be incurred
- Societal Benefits – locating renewable generation near load supports widely distributed clean energy investment near all communities throughout the state. DG also puts local labor to work on local installations, producing three times the employment compared to investing in transmission infrastructure and remote generation.

While the benefits listed above are specific to wholesale DG, the Clean Coalition cannot emphasize enough the importance of DG used in conjunction with IG options. Energy storage and demand response can provide many benefits to this process, often without the need to build expensive transmission. A few of these benefits include: improved efficiency and reliability from generation to customer, lowered capital investments requirements, and lowered emissions.⁷

Utilization of Advanced Inverters capabilities is the most cost-effective way to enhance grid stability and resilience while integrating high levels of renewable energy. Electric

⁷ *Updating the Electric Grid: An Introduction to Non-Transmission Alternatives for Policymakers*, US Department of Energy, September 2009, pg. 13

Power Research Institute (EPRI) estimates that using inverters in DG and ES facilities to provide voltage support can allow for up to twice the PV penetrations in a given distribution network whose penetration is constrained by voltage levels, compared to a PV deployment using historical inverter capabilities.⁸ These inverters for distributed renewable energy and battery storage have advanced features that can actively control real and reactive power outputs to support distribution grid reliability and power quality.

The Clean Coalition recommends the following actions to encourage the deployment of facilities utilizing Advanced Inverter capabilities:

1. Recognize the value of the benefits to the grid that may be cost-effectively provided by Advanced Inverters, and accordingly, require Advanced Inverter functionality in new commercial distributed generation (DG) where applicable;
2. Develop a standard means of compensation for grid services support provided by Advanced Inverters and allow the DG sector to participate in ancillary services markets;
3. Adopt updated technical standards to facilitate the use of advanced inverter capabilities;

“Minick also testified that the ISO did not recognize the potential for increased distributed generation, assumptions for uncommitted energy efficiency or increased localized generation, all of which would lower the load on the transmission system.”⁹

Increased penetration levels of DG is the first of many steps that need to be taken in order to fully realize the benefits that DG can provide, especially considering its locational value. We strongly encourage this proceeding to coordinate with the ISO to:

⁸ Smith, J. “*Advanced Voltage Control Strategies for High Penetration of Distributed Generation. Emphasis on Solar Photovoltaic and Other Inverter-Connected Distributed Generation.*” EPRI Technical Update (1020155). December 2010.

⁹ Exhibit SCE-1 (Minick) at 7).

1. Examine the benefits of providing local reactive power support from distributed inverter-based resources; and
2. Examine the potential for inverter-based distributed generation to provide voltage support to the transmission grid, plus the associated value of wholesale DG-based voltage support.

DG and Transmission Alternatives

SCE witness Minick is absolutely correct in stating that increased levels of DG would lower the load on the transmission system and also that many entities including the ISO do not recognize the great potential for DG in filling energy capacity and especially in recognizing the locational value of DG. As has been discussed throughout this proceeding, and especially in regards to LCR needs in Southern California, additional transmission needed to fill the generation needs in the region is limited due to a variety of factors (most notably transmission constraints in the Southern California Basin). As an organizational focal point, the Clean Coalition advocates for rigorous use of DG (specifically wholesale DG). We wish to reiterate its importance in moving forward towards meeting state goals as well as meeting all needs in Southern California in a cost effective and reliable manner.

In regards to specific scenarios for Track 1, "DRA supports using the Environmentally Constrained scenario because DRA contends it is in line with California's commitment to distributed generation goals."¹⁰ We agree with DRA and have similarly advocated for use of the environmentally constrained and high DG scenarios as best meeting California's multiple policy goals while reflecting active commercial interest seen in interconnection queues as well as avoiding environmental impacts or associated permitting risk and delays. We again stress the importance of meeting State goals and that meeting and exceeding these goals should be prioritized. Any scenario that

¹⁰ PD at 27

contains high levels of DG in order to meet and exceed state goals, (especially the 12 GW of Distributed Generation (DG) goal) should be recognized as a priority within this proceeding as well as at the Commission in general. The Commission has recognized this goal as a priority in Track 2 of this proceeding, and should continue to be one moving forward in the long-term planning process.

Demand Response

“No capacity from demand response was included in any ISO analysis because the ISO “does not believe that demand response can be relied upon to address local capacity needs, unless the demand response can provide equivalent characteristics and response to that of a dispatchable generator.” The ISO claims “demand response does not have these characteristics at this time.”¹¹

The Clean Coalition wishes to contest the claim from the ISO that DR is not a reliable resource and support the Commission in agreeing that demand response programs are important resources in the California electricity system. While the ISO failed to include existing demand response programs in their modeling, we agree with the EnerNOC witness Tierney-Lloyd’s testimony in regard to demand resources that “the filter for evaluating preferred resources must not only be what is feasible and reliable by today’s standards; but, what is likely to be available during the planning window.”¹² Demand response is equal to Energy Efficiency at the top of the Loading Order, and should be given priority in any/all future ISO modeling for long-term planning. The Clean Coalition, like the Commission, agrees that “innovative demand response programs will continue to develop, including those that possess characteristics that are consistent with ISO local reliability criteria.”¹³ and we support the continued increased authorization of preferred resources (including DR) to meet LCR.

In regards to further study of successful DR programs, PJM has had success with DR in their capacity market and noted a price reduction of wholesale power of up to 85%,

¹¹ PD at 17

¹² PD at 51

¹³ PD at 53

which is largely due to the increased use of demand response resources.¹⁴ Such “Merit Order Effects” push down the price of conventional procurement and add tremendously to the value of such programs. By way of example, a recent study¹⁵ by Germany's Institute for Future Energy Systems (IZES) for the German Solar Industry Association (BSW-Solar), solar power has reduced the price of electricity on the spot exchange by an average of 10 percent, with reductions of up to 40 percent at peak hours in the afternoon when conventional power is most expensive. Both DR and ES can have a comparable impact.

RFO Requirements

The Clean Coalition takes the firm position that RFO requirements should not explicitly or implicitly exclude any preferred resources, and we strongly recommend thorough application of this standard in review of RFO requirements. We support the direction of the PD on this issue, based on the knowledge prior practices that have adopted criteria drawn from operating characteristics associated with on type of facility and when the aggregated use of other facilities not meeting these specific criteria could effectively address the actual system needs. Excluding such resources is not in the best interest of this process. Considering the constraints we are facing in Southern California with regards to additional transmission, all resources should be considered without implicit or explicit exclusion to avoid undue reductions in the procurement of any preferred resource.

¹⁴ 2015/2016 RPM Base Residual Auction Results of PJM (“How demand response cuts wholesale power costs,” *eMeter* (Chris King), July 23rd, 2012).

¹⁵ “Merit order effect of PV in Germany,” *Renewables International*, February 2nd, 2012.
<http://www.renewablesinternational.net/merit-order-effect-of-pv-in-germany/150/510/33011/>

II. Conclusion

The Clean Coalition appreciates the opportunity to provide comment on this Proposed Decision and looks forward to collaborating further with the Commission and other parties.

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