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CLECA Comments on Supply Side Demand response QC Methodologies

Additional submitted attachment is included below.

October 17, 2022

California Energy Commission
Docket Unit, MS-4
Docket No. 21-DR-02
1516 Ninth Street
Sacramento, California 95814-5512

Re: CEC Docket: 21-DR-02

Dear California Energy Commission:

The California Large Energy Consumers Association (CLECA)¹ provides these comments on the demand response (DR) counting proposals submitted by The California Efficiency + Demand Management Council (Council), OhmConnect, Demand Side Analytics (DSA), the California Energy Commission Staff (CEC Staff), and CLECA's proposal.

1. Introduction

The working group (WG) process at the CEC was requested by the CPUC to develop a methodology to establish a qualifying capacity (QC) for supply-side demand response (DR) to be used for 2025 resource adequacy (RA) compliance year. Ordering Paragraph 11 of the CPUC's D. 22-06-050 requested the following from the CEC working group:

The California Energy Commission (CEC) Working Group is requested to continue to develop long-term recommendations for a new demand response (DR) qualifying capacity (QC) methodology, consistent with the Reform Track framework adopted in this decision. The CEC Working Group is requested to

¹ CLECA is an organization of large, high load factor industrial customers located throughout the state; the members are in the cement, steel, medical and industrial gas, pipeline, beverage, cold storage, and minerals processing industries, and share the fact that electricity costs comprise a significant portion of their costs of production. Some members are bundled customers, others are Direct Access (DA) customers, and some are served by Community Choice Aggregators (CCAs); a few members have onsite renewable generation. CLECA has been an active participant in Commission regulatory proceedings since the mid-1980s, and all CLECA members engage in Demand Response (DR) programs to both promote grid reliability and help mitigate the impact of the high cost of electricity in California on the competitiveness of manufacturing. CLECA members have participated in the Base Interruptible Program (BIP) and its predecessor interruptible and non-firm programs since the early 1980s. Thus, CLECA is knowledgeable about DR and very committed to it. CLECA strongly supports accurate determination of the capacity value of DR and incenting high levels of DR performance.

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develop recommendations that consider the following issues for the 2025 Resource Adequacy (RA) year:

- (a) Whether the proposals that are presented in the CEC's stakeholder process are reasonable and appropriate to determine the QC of DR resources;
- (b) Whether the DR QC methodology reflects the contributions of DR resources to reliability;
- (c) Whether the DR QC methodology is compatible with the new RA framework for the 2025 RA year and beyond;
- (d) Whether the DR QC methodology is transparent and how it could be implemented in a time-efficient manner;
- (e) Whether and to what extent alignment of DR measurement and verification methods in the operational space for the California Independent System Operator market settlement purposes with methods to determine DR QC in the planning space should be achieved, and if so, how; (f) Whether, and if so what, enhancements to intra-cycle adjustments to DR QC during the RA compliance year, as adopted in Decision 20-06-031, are feasible and appropriate to account for variability in the DR resource in the month-ahead and operational space; and
- (g) Whether, and if so how, any changes to DR adders should be reflected in DR QC methodology.

The CEC Working Group is requested to submit recommendations into this proceeding by February 1, 2023, for consideration for the 2025 RA year.²

In addition, and very relevant to item (c), is that the same decision adopted the 24-hourly slice of day reform proposal for RA (RA Reform). Under the RA Reform, the resource stack is not just measured at the time of the peak hour of each month, but instead the resource stack is shown for a 24-hourly forecast of the worst day for each month. The RA Reform recognizes that the future resource mix is not predominantly resources with a relatively constant capacity, but that the capacity is shaped over the course of the day. For example, the typical solar photovoltaic shape is a curve that peaks at the middle of the day, with zero output at night. While the base interruptible program (BIP) has a relatively flat load response due to the participation of many high load factor customers, there are many DR programs that have a shape where the load response varies by the hour.

These comments are organized by each party's proposal and will summarize CLECA's views of the strengths and weaknesses of each proposal. The CEC Staff posted nine principles for a DR QC counting methodology. The CEC Staff requested parties to rank each proposal on how well it responded to each principle. It should be noted that parties had different interpretations on what a principle meant

² D. 22-06-050 at 126-127, OP 11.

and how it should be applied to a proposal. The principles also have no weighting or rank. This can be problematic because a proposal may score well in many principles, but if it is not compatible with the adopted RA Reform, then it is not a suitable proposal.

Summary of CLECA Positions		
Proposal	CLECA Position	Comments
Council	No position	Appears designed for third party DR, as it relies on penalty provisions to incent good forecasts. CPUC can already review IOU prudence, so penalty provisions may not be necessary
OhmConnect	Mostly Support	Reducing unnecessary reporting can reduce measurement and evaluation costs, which allows for increased participation incentives while retaining cost effectiveness
CLECA	Support	Leverage current LIP to develop profiles for slice of day and is compatible with RA Reform
Demand Side Analytics	Mostly Support	Leverage current LIP to develop profiles for slice of day. Need to validate performance metrics before adopting
CEC Staff	Not recommended	More complex than current LIP, and unclear if it would produce superior results. Has not been validated with historical data compared to LIP. Could be more costly than current LIP

2. Party Proposals for Counting Demand Response for Resource Adequacy

a. The California Efficiency + Demand Management Council (Council) Incentive Based DR Counting Proposal

The Council's proposal mentions that the structure is modeled after practices at the New England and New York independent system operators. Instead of having a prescriptive set of protocols to determine QC, the DR provider is held accountable for accuracy through penalty provisions. Should the DR operator fail to provide its claimed QC, then it can be subject to financial penalties. In CLECA's view this proposal is best targeted to third-party DR providers, since the CPUC has the ability to investigate and penalize IOUs for poor performance of DR programs. In addition, some programs such as BIP already impose penalties on participants for failing to perform. Should the CPUC be comfortable with financial penalties as an incentive for good forecasts of performance, this proposal should be an alternative option—but not a requirement.

In meeting the nine principles established by the CEC staff, this proposal ranked the lowest in the survey conducted by the CEC staff. The biggest strength of the proposal is the freedom it allows for

the DR provider to develop QCs for its programs. Third-party DR providers have complained that the LIP are time consuming, costly, and not a good fit for their programs. The proposal addresses those complaints. Its weakness is that exactly how the DR provider develops the QC is not documented upfront. The proposal relies on the incentive of financial penalties to encourage accuracy. Depending on a party's point of view, this is either a weakness or a strength. In terms of meeting the slice of day RA Reform, the proposal does not explicitly state how it would meet its hourly requirements, but states that it can easily do so.

b. OhmConnect Simplified Load Impact Protocols

OhmConnect does not present a new QC proposal, but offers recommendations to simplify the existing load impact protocols (LIP). CLECA supports the concept of simplification of the LIP to reduce measurement and evaluation costs, while maintaining forecast quality. The current avoided cost calculator is showing reduced capacity value over time. Therefore, excessive measurement costs would result in reduced participation incentives for a DR program in order to remain cost effective. Reduction in incentives will lead to reduced DR participation. This is especially concerning since California has a shortage of generation and storage capacity.

CLECA supports the continued use of the LIP and supports many of the OhmConnect's recommendations to eliminate unnecessary reporting. However, without more feedback from the Energy Division on what reporting requirements are critical for their review, CLECA cannot endorse all the recommendations. CLECA suggests a workshop with the Energy Division to discuss OhmConnect's simplification recommendation to determine which parts of its proposal can be supported by the Energy Division, and which aspects may need refinement.

In terms of principles, the proposal is not a new QC proposal but a modification of the existing LIP. For the principles survey, CLECA did not provide rankings. Since it utilizes the LIP, which is the basis for CLECA and Demand Side Analytics proposal, it should be similarly ranked.

c. CLECA and Demand Side Analytics

The proposals from CLECA and Demand Side Analytics (supported by SDG&E) are very similar in that they utilize much of the existing process in the LIP to develop an hourly profile consistent with RA Reform. Demand Side Analytics offers some additional recommendations for determining an expected DR profile from an assumed event by utilizing reliability studies. In addition, its proposal recommends a time-temperature matrix to assist operations and two new performance metrics: the performance alignment metric (PAM), and the bid alignment metric (BAM). CLECA supports the Demand Side Analytics proposal, including the concept of additional performance metrics. However, the performance metrics have not been fully vetted using historical data to evaluate the results. Until that occurs, the CPUC should not adopt the performance metrics. CLECA is also concerned about additional cost related to the performance metrics. Since they are not necessary for QC determination, if the cost is high, they may not be justified. Demand Side Analytics has not mentioned the cost to perform this additional analysis. If performance metrics are included in an updated LIP, then the CPUC should look to removing unnecessary reporting from the LIP—as recommended by OhmConnect.

In terms of meeting the nine principles, the CLECA and Demand Side Analytics proposals ranked the highest, and were very close. The strengths of the proposals is that they are well documented because the core is based upon the existing LIP, and how each would be used for Slice of Day RA Reform is documented. Both proposals can develop hourly shapes for DR programs, which is necessary for RA Reform. The weakness of both proposals is the long time required to develop the QC in the current LIP process, and the need for consultants to perform the work. The Demand Side Analytics' proposal with the addition of the time-temperature matrix and the performance metrics could make the time and cost situation worse. However, if OhmConnect's request for simplification were implemented that could offset the time and cost.

CLECA supports its own proposal as well as the Demand Side Analytic proposal, provided the latter's performance metrics are fully vetted prior to adoption, and a review to eliminate unnecessary reporting is performed. We view the latter as a phasing issue that should be pursued.

d. CEC Staff Proposal for Hourly Regression Capacity Counting Methodology for Supply-Side DR

The CEC staff proposal would leverage bid data for regressions to develop hourly QCs. It also includes a penalty mechanism. CLECA has several concerns about the proposal. First, it would leverage historical bidding patterns which may not be reflective of when DR may be used in the future, due to the rapidly changing grid. In addition, there are complications that many bids occur during non-reliability events, and the bids offered in the market may be skewed to ensure they are not dispatched during non-reliability events, which dispatch would use up a program's call limitations, and to avoid having more dispatches than the underlying customers prefer. Second, many parties at the workshop did not fully understand the proposal. Third, the proposal has not been properly vetted using historical data for the programs and compared to the LIP to determine if it is superior. Finally, the proposal seems to be overly focused on operational needs, rather than a planning exercise to determine sufficient resource capacity.

In terms of the nine principles, the proposal ranked between the Council proposal and the CLECA and Supply Side Analytics proposals. Its strength is that it is designed to develop hourly profile results which are compatible with the Slice of Day RA Reform. In addition, *if* bids are correlated with system need, they would reflect the historical need pattern in the results. However, if the future dispatch period changes over time, which is likely, then the use of historical bidding data becomes a weakness, as program usage would change. Another weakness is that, based upon participant reaction at the working meeting, many parties appear not to understand the proposal. It would also require the use of consultants, which is a complaint of the third-party DR providers. It is also unclear if the cost to perform the regressions would be more or less expensive than the current LIP.

For the above reasons, CLECA does not recommend the CEC staff proposal.

3. Transmission and Distribution Loss Adders

In D.21-06-029, the CPUC directed a review of the crediting of DR capacity for certain adders as part of its QC. These adders are for transmission and distribution losses (the transmission loss factor or

TLF, and the distribution loss factor or DLF), and for the planning reserve margin (PRM). The decision retained the TLF and DLF, and asked the CEC Working Group to review these adders. Neither the TLF and the DLF, or the PRM adder, was addressed in the February 16, 2022, CEC Interim Working Group Report. They are being included as part of the follow-up work.

CLECA supports the retention of the TLF and DLF. Additional capacity must be available to deliver electricity to end use customers, to overcome T&D losses that are incurred when moving the power through the grid. Reducing 1 MW of load results in a greater than 1 MW reduction in need at the resource, because the T&D losses are not incurred. The CPUC acknowledged this in D.21-06-029, Ordering Paragraph 13, which states the following:

13. The transmission loss factor (TLF) and distribution loss factor (DLF) components of the planning reserve margin adder for demand response (DR) resources shall be retained. The DLF adder shall be incorporated into qualifying capacity (QC) values for DR beginning in the 2022 Resource Adequacy (RA) compliance year. For the TLF adder, Energy Division Staff shall continue the current practice of grossing up RA filings and sending credits to the California Independent System Operator to account for transmission losses.

The load forecast is at the transmission level, so the load impact at the meter should be grossed up for distribution losses to calculate qualifying capacity losses. Distribution losses vary among utility distribution systems and may need to be periodically updated.

Transmission losses should be a credit for the planning process, the same as today, in order to reduce capacity need.

4. Planning Reserve Margin Adder

D.21-06-029 adopted a reduction in the PRM adder from 15% to 9% by removing the 6% in the PRM for forced outages. However, it left open the issue of how the remaining 9% should be addressed, and asked the CEC Working Group to address this issue.

CLECA supports retention of the entire 15% PRM adder, on the grounds that capacity requirements are determined as peak load plus the PRM. Reducing load thus eliminates the incremental PRM associated with that load. For planning, DR is treated as a load modifier because it is non-firm load. Not treating supply-side DR in the same way for planning purposes results in treating load-modifying and supply-side DR differently, despite the fact that they both effectively create an additional capacity margin by reducing load.

CLECA does not support eliminating the 6% share of the 15% PRM for operating reserves. If load is reduced, the need for operating reserves is similarly reduced. The CAISO should be able to distinguish non-firm load as DR for planning purposes. In operations, the operators should be informed of how much load is non-firm and can be shed if needed. This certainly applies to reliability demand response resources.

Should the DR load no longer be grossed up for the full PRM (load forecast variation and forced outage rate), then the counting approach for DR needs modification to prevent discriminatory

treatment of supply-side DR, despite its being a preferred resource. Currently, the LIP use the expected load reduction during a 1-in-2 weather event. However, the likelihood of DR being called during such conditions is very unlikely. Since the reliability standard is 1 day in ten years, the expected DR during a 1-in-10-year weather event should be utilized rather than the 1-in-2 forecast for setting DR QC. Some DR programs, such as air-conditioning cycling, are highly weather sensitive, and counting them based upon 1-in-2 weather conditions would significantly undercount their contribution to reliability. By understating DR's capability during a reliability event, the lost value would be met by less preferred resources to meet the RA targets.

Currently, thermal resources have no reduction in QC due to forced outage rates.³ DR's QC is based upon historical performance, which include non-performance (which is like a forced outage). This leads to inequitable treatment of DR as well. Therefore, a DR QC value should be based upon all customers responding to a DR event, which would be more comparable to other supply-side resources.

³ There is a proposal to derate thermal resources using turbines for air temperature and there is another proposal to derate the QC for forced outage rate, but neither have been adopted by the CPUC.

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