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## **California Efficiency + Demand Management Council Interim DR Qualifying Capacity Methodology Proposal**

### **Introduction**

The California Efficiency + Demand Management Council (“Council”) provides its demand response (“DR”) Qualifying Capacity (“QC”) methodology proposal (“Council Proposal”) for inclusion in the California Energy Commission’s (“CEC”) Supply Side DR QC working group interim report. This proposal is meant to be considered by the California Public Utilities Commission (“CPUC”) as an interim DR QC method in Rulemaking (“R.”) 21-10-002. In this context, the Council defines “interim” as the time between now and CPUC deployment of the new Slice-of-Day framework, which the Council expects to be adopted in June 2022 in R.21-10-002. If adopted as an interim method, the Council recommends that the experience and lessons learned will inform its viability as a potential long-term DR QC method under a Slice-of-Day framework.

### **Problem Statement**

The overriding goal of the CEC-led Supply-Side DR QC working group should be to develop one or more DR QC methodologies that works well for both third-party DR providers and investor-owned utilities (“IOUs”) while ensuring that DR programs and resources are delivering value commensurate with their QC values. The current DR Load Impact Protocols (“LIPs”) act as a barrier to third-party DR growth because they lack transparency, are very time-consuming, and bear a large cost to the DR provider with no guarantee of cost-recovery - all without necessarily demonstrating greater accuracy than other approaches. For third-party DR to grow, a new approach is needed that will accurately reflect the capabilities of each DR provider, be transparent in how a DR portfolio QC value is determined, incur a reasonable cost, and require significantly less time to implement.

The current LIPs were developed for IOU DR programs which tend to be larger and more static than third-party DR providers’ portfolios primarily due to generally stable or more predictable participation levels. In CPUC Decision (“D.”) 19-06-026, the CPUC directed that third-party DR providers use the LIPs to determine their QC values beginning with the 2020 RA year.<sup>1</sup> Since then, it has become very apparent that the LIPs are highly problematic for DR providers for several reasons which has created a significant barrier to third-party DR participation in California:

1. The accuracy of the LIPs is questionable for more dynamic portfolios. Unlike IOU programs, DR provider portfolios can significantly change from one year to the next because they have a financial interest in sizing their portfolios to meet market commitments and take advantage of market opportunities. Because of the uncertainty inherent in executing contracts and enrolling customers, portfolios may differ widely from year to year, both in size and customer composition. In addition, the

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<sup>1</sup> D.19-06-026, at Ordering Paragraph 18.

extended timeframe of the LIP process leads to performance data being used from up to two years prior to the Resource Adequacy (“RA”) delivery year. There is a two-year lag between the data used for LIP analysis and QC determination, and the RA delivery year. For example, the LIP process that kicked off in December 2021 will use data from the 2021 RA year to derive QC values for the 2023 RA delivery year. Under a majority of circumstances, it is difficult to argue that performance data that old is relevant to forecasting performance.

2. The LIP process is very time-consuming and limits participation in solicitations. The LIPs entail a four-month process beginning in December that culminates in a final report for each IOU and DR provider due on April 1 of each year. The final LIP reports are then assessed by the CPUC Energy Division over the following five months to determine the QC values of these DR programs in September. During this time, DR providers must be available to respond to Energy Division questions regarding their LIP reports; in addition, they must prepare for an annual workshop where IOUs and DR providers present their LIP reports. From start to finish, this process takes approximately ten months to determine QC values. This places a significant burden on Energy Division staff, given the voluminous nature of some LIP reports. In addition, because the Energy Division assigns preliminary RA requirements to IOUs and LSEs in June, DR providers are unable to participate in early LSE solicitations because they do not receive their NQC values until September. This is anti-competitive because it favors “steel in the ground” resources whose NQC values are generally fixed.
3. The LIP process is costly with no guarantee of cost recovery for third parties. The LIP process requires extensive analysis and reporting which requires the use of specialized consultants. This is very costly (typically more than \$100,000), especially for comparatively small portfolios because there is typically a floor to the cost, regardless of the portfolio size. This cost increases based on the number of customers and events. IOUs are guaranteed recovery of these costs through their DR program budgets but DR providers do not have that luxury which creates a clear competitive advantage for IOU DR programs versus third-party DR. Such a significant investment with no promise of cost recovery discourages some DR providers from participating in the LIP process.
4. The need for consultants to perform the LIP analysis acts as a bottleneck. There are a limited number of consultants who are able to perform the LIP analysis and, due to the intensive nature of this work, many consultants are limited in the number of LIP analyses they can perform. This leads to many IOUs and DR providers chasing a limited number of consultants which can lead to DR providers being frozen out of the LIP process and therefore unable to sell their capacity.
5. The Energy Division assessment of LIP reports lacks transparency. Once IOUs and DRPs submit their LIP reports on April 1, the Energy Division then determines whether to approve the NQC that is claimed in each LIP report or to discount it. To the extent that a discount is applied, it is usually unclear to the DR provider what the exact reasons were for the discount. For example, the Energy Division can discount a DR provider’s NQC based on the per-customer load impact, enrollment forecast, or both. However, the Energy Division will not always explain the approved per-customer load impact and enrollment; instead, it will simply provide the approved NQC value with no explanation as to the underlying causes. To the Energy Division’s credit, it has developed its *Guide to CPUC’s Load Impact Protocols (LIP) Process* to provide information on best practices for LIP reports, but additional transparency around the final QC determination is necessary.

The Council believes that future DR growth will occur primarily through third parties, so a more-streamlined DR QC methodology is needed that better suits the more dynamic nature and business needs of DR

providers. In many ways, the shortcomings of the LIPs represent the opposite of what the new DR QC methodology should look like. Specifically, the new methodology should:

1. Reflect DR provider assessments of their capabilities based on the most current information possible. The LIP process utilizes data from up to two years prior to the RA delivery year which rarely reflect current and expected DR portfolios.
2. Minimize the time required to receive a NQC value from the Energy Division. This will ensure higher quality information is used in the NQC valuation process, better enabling DR providers to participate in near-term IOU and LSE solicitations.
3. Be as transparent as possible. It is critical that DR providers understand the reasoning behind Energy Division assessments of their NQC values.
4. Minimize the cost to DR providers. Such a significant cost can be a barrier to entry in the DR market, especially to new entrants, because cost recovery is not guaranteed as it is for the IOUs.
5. Avoid or minimize the need for outside consultants. As stated above, this creates a bottleneck in the QC valuation process and can leave DR providers without a consultant and therefore unable to receive a QC value, thus preventing them from selling their RA capacity.
6. Reduce the Energy Division workload to determine DR QC values. This is a critical issue from the perspective of allocating limited Energy Division resources. The sheer volume of the April 1 LIP reports creates a substantial burden on the Energy Division staff who must assess them over five months. This time can be better spent on important policy issues.

### **The Council Proposal Addresses a Majority of the CEC Supply-Side DR QC Methodology Principles and Should Be Adopted as An Interim Methodology**

At the CEC's December 3 workshop in its Integrated Energy Policy Report ("IEPR") proceeding, the Council presented its "PJM/NYISO" method as a potential option as an interim solution. The PJM/NYISO is so named because it mimics the approach used by the eastern capacity markets in which each DR provider proposes its QC values to the market operator. The market operator performs an assessment on the inputs to the QC values and makes a determination on the amount of capacity each DR provider is authorized to sell in the next capacity auction.

The PJM/NYISO method is highly suitable as an interim method because it addresses almost all of the six needs listed above and can be easily implemented for the 2023 RA Year.

### **Premise of the Council Proposal**

The Council Proposal would utilize a significantly different approach compared to the LIPs that would be more effective in ensuring the delivery of contracted capacity than the LIPs while reflecting the actual capabilities of each DR provider. The LIPs utilize rigorous regression-based up-front analyses to estimate QC values but often lack a direct connection between DR provider capabilities as well as a process to ensure that they are actually delivering consistent with contractual commitments. Therefore, any perceived precision of LIP-based QC values is based on the belief that the associated regression models that are used to perform these analyses are somehow able to accurately predict future key inputs that directly impact DR QC values such as DR provider enrollment levels, penetration levels of enabling technologies, and other innovations that could improve DR

customer participation and performance. In reality, LIP-based analyses cannot accurately predict these inputs which are subject to DR provider efforts and individual customer decisions, and cannot be influenced by the regression analyses themselves. DR providers are best positioned to know these inputs and can best assess how they translate into the amount of capacity they can responsibly sell. However, to ensure that DR providers are realistic in their estimates, a mechanism is needed to ensure that contracted capacity is delivered. The Council proposes to eliminate the use of LIP-based up-front analyses to estimate QC values, and replace it with a DR provider responsibility to assess the QC value of their portfolios, with continued Energy Division oversight over final QC value, while being subject to an after-the-fact penalty structure to ensure that contracted capacity is delivered.

## Methodology Process

The Council Proposal involves the following primary steps:

- 1. DR Provider Analysis:** As frequently as on a quarterly basis, the DR provider performs its own internal analysis using its choice of analytical tools to calculate its Claimed QC (i.e., the amount of QC the DR provider forecasts that it can provide) for each month of a given period based on the prevailing CPUC RA framework and DR availability requirements.

Claimed QC values must be made at the System-level and, optionally, at the Local Capacity Area (“LCA”)-level, for up to three years in advance to allow DR providers to participate in multi-year LSE solicitations. LCA-level Claimed QC values are only required if the DR provider intends to sell Local RA. The current one-year limitation on DR NQC values poses a risk to DR providers when selling their capacity farther than one year in advance because it is unclear what their QC value will be in the future under the current LIP process.

The DR provider then provides its Claimed QC values and specified Supporting Data to the CPUC Energy Division for review and assessment, just as is currently done in the LIP process. The Supporting Data consist of:

- a. Current and projected number of Service Accounts
  - b. Customer class, size, and technology type, if applicable
  - c. Projected aggregated load (aggregated capacity in the case of behind-the-meter (“BTM”) energy storage)
  - d. Projected % of load impact or reduction (projected % of capacity delivered for energy storage)
  - e. Nature of load being aggregated
  - f. Dispatch method
  - g. Historical performance data
- 2. Energy Division Assessment:** The Energy Division assesses the DR provider’s Claimed QC values and Supporting Data. If necessary, the Energy Division follows up with the DR provider for additional documentation or clarifying questions. This step is similar to the current step under the LIP process in which the Energy Division reviews LIP reports and requests additional information if necessary. Once the Energy Division makes a determination on the DR provider’s Awarded QC values, they post the NQC values on the current CPUC NQC List for the forward period requested by the DR provider (up to three RA years).
  - 3. Contracting DR Capacity & Collateral Requirement:** Once a DR provider receives its NQC value, it is free to sell its capacity as Resource Adequacy. To ensure that DR providers will be able to deliver the capacity it contracts out (Contracted QC), each will be required to provide a \$2,500/MW-year collateral

payment to the Energy Division to be held in escrow based on the amount of NQC they have contracted out. To be clear, the Collateral Requirement would not apply to Awarded QC because a DR provider should not be required to provide collateral on capacity it has not sold. In the future, those DR providers with a strong track record of reliable capacity deliveries could potentially be subject to lower or no collateral payments. Payment of the Collateral Requirement would be due two months prior to the beginning of the contract delivery period. A DR provider can notify the Energy Division at any time if its Collateral Requirement should be reduced to reflect less capacity under contract.

- 4. Performance Assessment:** On an annual basis, for each RA contract, DR providers would submit to the Energy Division a completed Demonstrated Capacity template and associated invoices for each RA contract that compares the amount of capacity delivered against the Monthly Supply Plan QC for each RA contract for each month. As Contract Quantities are grossed up by the Planning Reserve Margin and Transmission Loss Factors, comparing performance against Supply Plan values ensures accurate evaluation of load impacts net of the gross ups. For months for which the local IOU has provided less than 95% of Revenue Quality Meter Data (“RQMD”), the DR provider will be exempt from providing Demonstrated Capacity data. Demonstrated Capacity reflects CAISO market performance based on the following delivery types during the prevailing Availability Assessment Hours: 1) full economic dispatch, 2) full dispatch test event, or, 3) when there is no full economic dispatch or test event, CAISO market bids during the applicable Must Offer Obligation (“MOO”) hours. This approach directly aligns CAISO market settlement with capacity performance because DR providers will be required to bid consistent with their Monthly Supply Plan QC. The following Demonstrated Capacity guidelines would apply:
- a. Each resource within a contract may provide a different ratio of full economic dispatches and market bids, but the prevailing RA testing rules for DR resources must be observed. For example, a DR provider has a Monthly Supply Plan of 4 MW of RA capacity using two 2-MW resources in different sub-Load Aggregation Points (“subLAP”). Resource 1 may meet its Demonstrated Capacity requirements using full economic dispatches and test events (i.e., it is dispatched in each month), whereas Resource 2 may meet its Demonstrated Capacity requirements using only test events and market bids.
  - b. To count toward Demonstrated Capacity, a test event must be for the full resource amount, subject to the prevailing CPUC DR testing rules. The Demonstrated Capacity value of a test event is the average output during the entire test event.
  - c. The current order of Demonstrated Capacity is as follows: 1) if there is a full market dispatch of a resource in a month, the results must be used for Demonstrated Capacity; 2) if there is a test of a resource in a month, the results must be used for Demonstrated Capacity; and 3) only if there is no dispatch or test of a resource in a month can the bidding detail for a resource under the MOO be used for Demonstrated Capacity.
  - d. Customer location movement between resources within a month is prohibited, except under the following circumstances:
    - i. Newly enrolled customers can be added to a resource.
    - ii. A customer who exits the Auction Mechanism may be dropped from a resource.
    - iii. If the above changes make a resource trigger the CAISO’s 10 MW telemetry requirement, or have it drop below the minimum Proxy Demand Response size of 100 kw resources, resources may be split or combined mid-month to continue to meet CAISO market requirements.
  - e. The DR provider must avoid any potential double counting of customer performance associated with service account movement permitted by the exemptions when invoicing Demonstrated Capacity. In

order to mitigate double counting of customer performance, all customers not having been dispatched through an economic dispatch must be tested within the same month.

- f. The baseline method used for energy settlement at the CAISO must be the same as the baseline method used to invoice Demonstrated Capacity.

**5. Penalty Assessment (if necessary):** Penalty assessments are assessed on an annual basis by the Energy Division based on the Demonstrated Capacity information provided during the performance assessment described above. The Energy Division will assess monthly performance for each individual contract. The Council proposes that the Pacific Gas and Electric Company (“PG&E”) Capacity Bidding Program (“CBP”) penalty structure be used to ensure equitability with IOU DR programs to maintain equitability with IOU DR programs.

| <b>PG&amp;E CBP Penalty Structure</b>   |   |
|---|---|
| <b>Contracted QC vs. DC Value</b>       | <b>Penalty</b>                              |
| 105% - 75% of Monthly Supply Plan QC    | None  |
| <75% to >=60% of Monthly Supply Plan QC | 50% of DC                                   |
| <60% to 0% of Monthly Supply Plan QC    | (60%-Hourly Delivered Capacity Ratio of DC) |

If the average monthly performance for an RA contract is above 75%, DR providers will receive 100% of their Collateral Requirement associated with that specific contract.<sup>2</sup> If the average monthly performance is between 60%-75%, DR provider will lose 50% of their Collateral Requirement. If the average monthly performance is below 60%, DR providers will lose 100% of their Collateral Requirement. Any loss of a DR provider’s Collateral Requirement due to poor performance would be provided by the Energy Division to the contracting LSE. Any loss of a DR provider’s Collateral Requirement would need to be replenished as necessary based on its contracted capacity for the following year.

**QC Process Timeline**

- Quarter 1 Cycle
  - December 1: Updated Claimed QC for up to 3 years beginning in Q2 due to Energy Division
  - January 1: Updated Awarded QC issued by Energy Division
  - February 1: Updated Contracted QC due to Energy Division; incremental Collateral Requirement due, if required
  - February 15 (est.): Month-Ahead Supply Plans due for April
- Quarter 2 Cycle
  - March 1: Updated Claimed QC for up to 3 years beginning in Q3 due to Energy Division

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<sup>2</sup> Penalties would be assessed for each individual contract. For example, a DR provider has two RA contracts – Contract One is for 10 MW and Contract Two is for 5 MW. The DR provider would put up \$25,000 for Contract One and \$12,500 for Contract Two for a total collateral of \$37,500. If the DR provider performs, on average, at 70% for Contract One and at 95% for Contract Two, they will receive back 50% of the collateral associated with Contract One and 100% of the collateral associated with Contract Two, for a total of \$25,000.

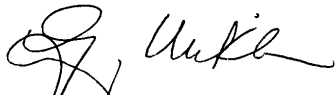
- April 1: Updated Awarded QC issued by Energy Division
- May 1: Updated Contracted QC due to Energy Division; incremental Collateral Requirement due, if required
- May 15 (est.): Month-Ahead Supply Plans due for July
- Quarter 3 Cycle
  - June 1: Updated Claimed QC for period for up to 3 years beginning in Q4 due to Energy Division
  - July 1: Updated Awarded QC issued by Energy Division
  - August 1: Updated Contracted QC due to Energy Division; incremental Collateral Requirement due, if required
  - August 15 (est.): Month-Ahead Supply Plans due for October
- Quarter 4 Cycle
  - September 1: Updated Claimed QC for up to 3 years beginning in Q1 due to Energy Division
  - October 1: Updated Awarded QC issued by Energy Division
  - November 1: Updated Contracted QC due to Energy Division; incremental Collateral Requirement due, if required
  - November 15 (est.): Month-Ahead Supply Plans due for January
- Annual Demonstrated Capacity Assessment
  - January 15: Prior-year Demonstrated Capacity templates and associated invoices due to Energy Division
  - February 15: Energy Division notifies DR providers if they incurred penalty payments, including whether the penalty exceeds Collateral Requirement
  - March 15: Energy Division transfers DR provider penalty payments, as necessary, to contracting LSEs.

## Conclusion

The Council Proposal addresses the key requirements in a new DR QC methodology. Specifically, it 1) better reflects actual DR provider capabilities rather than relying on a series of regression analyses using historical data to determine what it can provide, 2) significantly reduces the timeline for QC value determination, 3) may improve the transparency of the Energy Division assessment, 4) minimizes the cost to DR providers because they will not be required to retain a consultant, and 5) reduces Energy Division workload. In addition, this method ensures that capacity deliveries are directly measured against CAISO market performance, and maintains the Energy Division's role as an "emergency brake" to ensure that DR providers' claimed QC values are realistic.

If you have any questions, feel free to reach out to me by email at [gwikler@cedmc.org](mailto:gwikler@cedmc.org) or by phone at 925-286-1710.

Sincerely,



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