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Stakeholder Comments Template: Methodology Minimum Components

Submit comments to: Tom.Flynn@energy.ca.gov

Comments are due Thursday, Oct 21 by 5:00 p.m.

Partial or draft responses may be discussed on Monday, Oct 18. Please contact Tom by Thursday, Oct 14 if you are interested in presenting.

All comments received will be posted to CEC Docket 21-DR-01

Instructions (Sponsors only): CEC staff is requesting stakeholder clarification on QC methodology proposals from sponsors of the initial QC methodologies and hybrid approaches. This comments template includes two components considered the minimum required for a complete proposal, as well as three other components that may support a methodology proposal but are not required.

For each component, please describe what is proposed under the proposed methodology with as much specificity as possible and explain how the proposed methodology satisfies each component. The status quo approach has been completed as an example.

Minimum Required Components

1. **Ex ante Resource Capability Profile:** Resource capabilities refer to the characterization of load impacts over a coming term (e.g., RA showing month). Capabilities may be influenced by factors including ambient temperature, day of the week, time of the day, and locational marginal price (LMP), among others. Typically, these are modeled from historical load impacts. Resource capabilities also includes resource constraints such as dispatch time, maximum number of dispatches or dispatch hours, load impacts outside of dispatch hours (such as pre-cooling and snapback). Finally, resource capabilities include any predicted changes in enrollment and customer composition.
 - a. **Status Quo (LIP+CPUC):** The LIPs include a regression of load impacts over the availability assessment hours (AAH), which are currently 4–9 p.m. on non-holiday weekdays. For weather-sensitive DR resources, the regression is specified as a function of temperature. The results are summarized as an hourly supply curve for a “peak day” for each month. For aggregations of small resources such as residential customers, capabilities are expressed per customer, then adjusted by forecasted enrollment.

- b. **LIP-informed ELCC:** Building upon the status quo, this approach generates a number of load impact profiles in addition to those for the monthly peak day to provide input to the ELCC model. The load impact profiles will be generated based on the same regression models used in (a) above, yet with a more diverse set of assumptions (e.g., dispatch time, day of week, temperature). Those assumptions are the conditions of the loss of load event, as defined by the ELCC model. The resulting load impact profiles represent the hourly load impacts of the resource when dispatched under those *ex ante* conditions. The underlying enrollment forecast is the same as those used in (a) above, which stays constant for the month, but may vary month to month. The load impact profiles will then become input to the ELCC calculation.
- 2. ***Ex ante* Qualifying Capacity:** *Ex ante* QC is the translation of resource capabilities (above) to a single value capacity value representing a contribution to reliability. Crucially, this value (and the capacity price) directly determines the capacity compensation DRPs earn. QC is calculated annually for supply planning and monthly for RA showing.
 - a. **Status Quo (LIP+CPUC):** QC is the average predicted load impact under the utilities' monthly 1-in-2 peak temperature forecast conditions over the AAH. The AAH were selected to reflect the hours under which loss of load probability (LOLP) tends to be highest and in that way attempts to quantify contribution to reliability. However, the AAH windows are prescriptive, and the methodology does not account for the variability in factors like LOLP or LMP over that timeframe. These calculated QC values are then sent to the CPUC, which makes a reasonableness determination of the claimed values and adjusts them at staff discretion.
 - b. **LIP-informed ELCC:** The QC of the ELCC model is the resource's MW contribution to system portfolio (i.e., equivalent quantity of perfect capacity). For detail, please see CAISO's RECAP ELCC.

Additional Components

The following components may not be required for determining QC but are identified as important interrelated aspects of a QC methodology proposal. If relevant, describe any changes required for your proposed methodology relative to the status quo for each of the following.

- 1. **Event Load Impacts:** Load impacts are the calculated reductions in electric demand relative to some baseline for a given DR event or dispatch. One topic of the CPUC request for the CEC to address through this working group is the "alignment of DR M&V methods in the operational space for CAISO market settlement purposes with methods to determine RA QC in the planning space." Describe the extent to which the methodology addresses any misalignment in load impact calculation methods between settlement (i.e., operational) and in determining QC (i.e., planning).
 - a. **Status Quo (LIP+CPUC):** Under the Load Impact Protocols (LIPs), load impacts are typically calculated by independent evaluation, measurement, and verification (EM&V) consultants. The accepted methods to do so are generally the same as those used in

CAISO settlements: day-matching, weather-matching, and control groups. However, some demand response providers (DRPs) have reported barriers to implementing control groups for settlements and still others have reported barriers implementing control groups for QC valuation. As such, weather-dependent DR resources are at risk of being undervalued in both markets.

- b. **LIP-informed ELCC:** ELCC accounts for the variable and use-limited nature of the resource in determining its reliability contribution and calculates a single QC value for planning purposes. However, events can be dispatched under different conditions. Settlement assesses the resource's performance under the event conditions, which may differ from the conditions used for planning. To the extent the QC is just a single value, some misalignment between settlement and planning will continue to exist.
- 2. **Capacity Measurement & Verification:** The CPUC asks the CEC "to develop recommendations for a comprehensive and consistent M&V strategy, including a new capacity counting methodology for DR addressing *ex post* and *ex ante* load impacts." Describe the role of M&V in the proposed capacity counting methodology.
 - c. **Status Quo (LIP+CPUC):** DR performance is measured by bids during the AAH. So long as these bids are entered into the market, there is no assessment of actual performance to CEC staff's knowledge. To the extent DR resources do not perform when dispatched, they are subject only to replacing the energy in the spot market.
 - d. **LIP-informed ELCC:** A consistent evaluation strategy is one that applies to both *ex post* and *ex ante* impacts. Specifically, the actual performance (*ex post*) should be used to inform the QC assessment (*ex ante*). To the extent reasonable, the per customer performance with weather adjustment should be used in the QC assessment, while expected change in customer mix and enrollment growth also need to be considered. As the LIP-informed ELCC leverages the load impact profiles, the capacity counting methodology is grounded in historical performance.
- 3. **Incentive Mechanisms:** Incentive mechanisms exist to ensure DRPs accurately claim, offer, and deliver capacity awards. Typically, incentive mechanisms exist as financial penalties for underperformance. The ELCC methodologies enumerated in the CPUC request include requested exemptions to the Resource Adequacy Availability Incentive Mechanism (RAAIM). Describe whether the RAAIM, no incentive mechanism, or an alternate mechanism would be appropriate. Include a description of any alternate mechanisms or proposed changes to the RAAIM if appropriate.
 - e. **Status Quo (LIP+CPUC):** The RAAIM is imposed on resources that fail to bid their capacity obligations over the AAH. Because the AAH are fixed and do not account for the variable nature of DR, DRPs are concerned they would be penalized for placing realistic bids that are less than QC. However, the RAAIM is not imposed on resources <1 MW, so many DRPs have simply aggregated their underlying participants into resources under 1 MW, leaving DRPs with no availability penalty in practice.
 - f. **[Add responses here:]**

Any additional comments

Please provide any additional comments that your organization would like to make. You may use this space to describe aspects of the proposal not otherwise covered in the above components, such as process improvements.

[Add responses here:] No additional comments.