



Comments of OhmConnect, Inc.
In Response to the Demand Response Working Group (DRWG) September 30th, 2016 Meeting

Submitted by	Company	Date Submitted
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1. INTRODUCTION

OhmConnect, Inc. (OhmConnect) appreciates the opportunity to submit comments to the Independent Electricity System Operator (IESO) on the presentation to the DRWG entitled “Residential DR Baseline” at the September 30th, 2016 meeting. We are excited that the DRWG is exploring how to include residential Demand Response (DR) in the 2016 IESO DR auction, and look forward to offering our experience gained through participation in the California Demand Response Auction Mechanism (DRAM). Our comments in this document focus on four main items:

1. The DRWG proposed baseline methodology
2. Aggregation of residential customers
3. Third party access to Smart Meter data
4. The DRWG proposed Capacity Charge

2. OVERVIEW OF OHMCONNECT

OhmConnect is a third-party Demand Response Provider (DRP) founded in 2013 and headquartered in San Francisco, California. The company currently provides DR services to residential retail electric customers in California pursuant to the California Public Utility Commission’s (CPUC) Rule 24/32. OhmConnect’s free software service notifies households of DR events and pays them for their energy reductions, without requiring purchase or installation of additional hardware. OhmConnect is registered to participate as a DRP in the wholesale electricity market operated by the California Independent System Operator Corporation (CAISO),¹ and is one of the largest residential participants in the California DRAM. OhmConnect has witnessed outstanding growth in California with over 1000% year-over-year customer growth, and is currently reducing dozens of MWs in California on a regular basis.

¹ See list of CAISO Demand Response Participants; available at <https://www.caiso.com/Documents/ListofDemandResponseParticipants.pdf>.

3. COMMENTS

3.1. The DRWG Proposed Baseline Methodology

OhmConnect broadly supports the RCT Baseline.² The methodology presented by the DRWG largely resembles the control group methodology in the CAISO's Energy Storage and Distributed Energy Resources (ESDER) Phase 2 Second Revised Straw Proposal,³ which was developed through extensive stakeholder collaboration and is currently being vetted by CAISO staff. We recommend that as the IESO refines the proposed RCT Baseline, further consideration be given to the frequency with which control groups may be updated and the flexibility of using a common control group across similar but distinct zones. Although the current proposal only allows for resource composition of contributors to change monthly, this does not have to preclude changes to the treatment and control groups within the month. Allowing Demand Response Market Participants (DRMPs) to move users between treatment and control groups within the month will enable a better user experience and will reduce customer attrition caused by too many, or too few, DR events. It will also ensure that treatment and control groups remain comparable as customers inevitably change address from time to time. Finally, OhmConnect encourages the IESO to allow control groups to serve multiple treatment groups in different, but comparable, zones. This will minimize the number of customers withheld from participating in DR events, to the benefit of DRMPs and the market alike.

For reference, the CAISO's ESDER Phase 2 Proposal also outlines a process for statistical checks to determine control group validity.⁴ This process includes randomly selecting a control group of at least 100 customers. Using hourly meter data, bias and precision tests are conducted to determine whether the control group is sufficiently representative of the treatment group. OhmConnect believes that 30 days of the most recent hourly customer-level interval meter data would generate a sufficiently large sample of data to perform the tests, and we recommend that if the IESO adopts a methodology similar to the CAISO that no more than 30 days of data be required. Otherwise, customers who do not have historical data (such as those who have recently moved, or only recently received a Smart Meter) will be excluded entirely from participating.

3.2. Aggregation of Residential Customers

In the DRWG presentation it was established that capacity is qualified and registered by zone, suggesting that contributors aggregated by the DRMP into a resource must all be

² See September 30th, 2016 "Residential DR Baseline", at slides 9-16; available at <http://www.ieso.ca/Documents/consult/drwg/DRWG-20160930-Residential-DR-Baseline.pdf>.

³ See the "Second Revised Straw Proposal"; available at https://www.caiso.com/Documents/SecondRevisedStrawProposal_EnergyStorage_DistributedEnergyResourcesPhase2.pdf. For further documentation on the ESDER Phase 2 Stakeholder Process, see the CAISO ESDER Initiative Status page; available at https://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_DistributedEnergyResourcePhase2.aspx.

⁴ Second Revised Straw Proposal, at pp. 32-34.

physically located in the same zone.⁵ However, the contributor information submitted to the IESO includes more granular information, such as the Local Distribution Company (LDC).⁶ OhmConnect seeks clarification as to whether aggregated customers within a resource must be served by the same LDC in addition to being located in the same zone. In order to build a robust resource capable of meeting the 1 MW threshold, we encourage the IESO to allow DRMPs to aggregate customers across LDCs.

OhmConnect also seeks clarification regarding the intent of the phrase: “[l]oad reduction plan must indicate where DR is provided by residential load.”⁷ It is our understanding that as part of the process for qualifying capacity the Demand Response Auction Participants (DRAPs) will submit the capacity it can offer *prior* to the auction. Therefore, we interpret the above phrase to mean that DRAPs should identify how much of the capacity will be provided by residential load. However, a separate interpretation could be that DRAPs need to list all contributors that would be participating. We would appreciate clarification on the correct interpretation.

Finally, the DRWG presentation indicated that at this time only single-family homes will be eligible to participate as contributors to a DR resource.⁸ We encourage the IESO to extend eligibility to all end-users who have Smart Meters. OhmConnect agrees that the Smart Meters are an essential component to participation, since they provide the necessary hourly meter data. However, we believe that customers in multi-unit dwellings can also successfully contribute to our program, which encourages behavioral responses to DR events. In addition, limiting eligibility to single-family homes will add another verification step, which could slow down the registration process.

3.3. Third Party Access to Smart Meter Data

The DRWG presentation noted that the IESO is working to “facilitate access to data from the Smart Metering data repository”, but that “[a]ccess to this data likely will require direct partnership between participants and LDCs in order to provide the necessary meter data.”⁹ OhmConnect appreciates that the IESO is diligently addressing access to meter data. However, we are unsure what a “partnership” with the LDCs would entail, and seek more clarification. If the LDCs are not currently equipped to provide meter data in a timely fashion, this could present a barrier to integration of the DR resource into the IESO. Likewise, if the Smart Meter repository cannot serve the requests of the participating DRMPs then the DRMPs will struggle to properly integrate their resources. For example, in California, DRPs were in some cases unable to receive customer data from the utilities in a timely fashion, which slowed down the ability of market participants to deliver on their DRAM contracts. In California, a clause exists in the contracts for delivery that allows market participants to adjust downwards the planned capacity *at no penalty* if certain

⁵ “Residential DR Baseline” presentation, at slides 20-21.

⁶ *Ibid.*, at slide 22.

⁷ *Ibid.*, at slide 20.

⁸ *Ibid.*, at slide 18.

⁹ *Ibid.*, at slide 17.

limitations occurred.¹⁰ We suggest that the IESO withhold from penalizing companies if DRMPs are unable to meet their capacity obligation due to events outside of their control that prevents DRMP access to Smart Meter data. Alternatively, the IESO could adopt the approach currently used in the California DRAM whereby DRMPs can reduce their capacity if they are unable to register all of their contributors. We note that OhmConnect also supports protection of the buyer through punitive penalties for non-performance. Furthermore, we encourage the IESO to develop a process that clearly outlines what customer information is required to gain access to Smart Meter data, and to whom the DRMPs should submit that information.

OhmConnect also asks the IESO to further explore how DRMPs will collect the contributor information needed prior to the start of each month.¹¹ Although we imagine this information will be available on every customer's bill, it has been our experience that many customers do not have easy access to their bills, and that manual processes (such as filling out and submitting this information online) introduce the possibility of data entry errors and overall customer fatigue. In some cases, such as EnergyHub's white paper, the findings show user adoption rate is a mere fraction (<10%) of what was witnessed in places that had easier enrollment processes.¹² We have found that auto-populating enrollment forms such that users simply need to authorize that the data is accurate with one signature (or click) decreases the number of errors and increases participation. We wonder if this necessary contributor information can be collected through the Smart Meter repository, such that the DRMP can collect the information for the customer once the customer has authenticated himself to the DRMP and authorized the DRMP to access his data. Another possibility might be through the "Green Button Download My Data" if that database holds the required information. However, we note that this solution may not be able to work with every LDC, because some LDCs are not currently participating in Green Button.¹³

3.4. The DRWG Proposed Capacity Charge

OhmConnect seeks clarification on the proposal for when the Capacity Charge will apply. The DRWG presentation outlined a methodology that would apply a Capacity Charge if for any event within a month the average reduction (measured as the control group load

¹⁰ The Joint Advice Letter filed by the three California investor-owned utilities (IOUs) seeking approval of the 2018 California DRAM stipulates under Section 1.5b of the attached pro forma DRAM Purchase Agreement that DR Sellers may reduce their contracted monthly capacity obligations if they are unable to register their resources for reasons demonstrably beyond their control. Available at <https://www.sce.com/NR/sc3/tm2/pdf/3466-E.pdf>.

¹¹ Required information includes address, premise/universal device ID, LDC name and account number and effective start and end date. See "Residential DR Baseline" presentation, at slide 22.

¹² See the 2016 "Optimizing the Demand Response Program Enrollment Process" White Paper by EnergyHub; available at <http://www.energyhub.com/blog/optimizing-demand-response-enrollment>. In particular, the comparison between ERCOT and CAISO enrollment funnels on page 4 illustrates the differences in adoption rate. Additionally, the White Paper notes on page 2 that "[r]equiring customers to provide utility account numbers creates friction that results in an 84% drop-off in customer enrollment."

¹³ See list of utilities that have implemented Green Button Download My Data; available at <http://greenbuttondata.ca/utilities/>.

minus the treatment group load) was less than 80% of the average Total Bid Quantity minus the Scheduled Quantity. We first seek to clarify whether this average is compared on an hourly basis, or over the course of the entire event. We also seek to clarify why it is not 80% of the Scheduled Quantity for that particular event, if the intended comparison is whether the DRMP reduced within 80% of the quantity of what they were scheduled to reduce.

4. CONCLUSION

OhmConnect thanks the IESO for considering our comments. The IESO staff has been exemplary in their commitment to incorporating residential DR in the upcoming December auction, and we are very appreciative of their efforts. We hope that our comments provide additional helpful perspective as a residential DR provider.