



232 3rd Street Suite C201  
Brooklyn, NY 11215  
718.522.7051  
[energyhub.com](http://energyhub.com)

October 14, 2016  
IESO Stakeholder Engagement  
Submitted via email

Dear IESO Stakeholder Engagement,

RE: Comments on Residential DR

Thank you for including us in the Demand Response Working Group. We look forward to collaborating with the IESO and other stakeholders to create market rules that encourage Residential DR participation.

EnergyHub attended the September 30, 2016 Demand Response Working Group meeting in which the IESO presented its Residential DR changes. In this letter, we discuss a few questions and comments on the IESO's proposal and a few areas in which the IESO solicited stakeholder input.

Below are some questions regarding the IESO proposal.

1. What are the IESO's plans to automate meter data access in the future? Will the IESO set up green button for third parties to access interval data if they retrieve customer authorization? Slide 9 of the presentation says, "any baseline methodology developed for residential DR will consider the means by which this data can be made available today." Can the IESO elaborate on how this was considered?
2. Will the IESO create the "approved tool" designed to randomly establish the control group? How will the IESO enforce the usage of this tool?
3. Is the premise/universal ID an identifier that is collected for each customer by the LDC? Are there any cases where a customer would not have one or would have multiple?

## Control Group Baseline

We commend the IESO in its effort to include residential aggregators in the next DR auction. Their suggestion of a control group baseline methodology makes a big impact on residential aggregators' ability to participate because this baseline more accurately approximates residential load shed.

As a general comment, we suggest that the IESO manage the creating of the control groups for each aggregation. This will ensure that control group is selected in an unbiased manner.



232 3rd Street Suite C201  
Brooklyn, NY 11215  
718.522.7051  
[energyhub.com](http://energyhub.com)

## Control Group Size

In their presentation, the IESO asked stakeholders to write about the best methodology to determine the control group size.

The control group should be large enough that there are statistically significant limits on the impact that random fluctuations in individual usage can have on the baseline (and hence on reduction estimates). However, it should not so large as to compromise the ability of the aggregation to provide the most load shed possible and exclude smaller aggregations from participating.

The significance of such limits depends on the absolute size of the control group and on the variance of load on a home-to-home basis, but not on the relative size of the control group to the total population. Therefore, recommendations for control group size should be given as device counts, not as percentages of total population size. Put another way, once a sufficient size for statistical significance is reached, there is no benefit in increasing the size of the control group further, regardless of how large the target population grows.

A baseline working group in California has recently established one hundred homes as the minimum acceptable control group size. Based on our analysis of home-to-home variance in load, we recommend a control group size of two to three hundred homes.

## Day of Adjustment

We believe a day-of adjustment is necessary because it corrects for discrepancies between the control and treatment groups. These discrepancies represent a bias in using the control group as a stand-in for business-as-usual for the target population, and therefore should be corrected for.

Consistent with this, we suggest an *enhanced* day-of adjustment. This adjustment would account for differences in load trend during the match period in addition to the usual adjustment, which accounts for differences in total energy (the average usage of the control group is compared to the average usage of the treatment group to calculate a fixed adjustment value that is added to the control group load). Our proposed enhanced day-of adjustment additionally compares how the treatment group and control group loads are trending during the adjustment period; meaning, we compare the rates at which the control group and treatment group loads are increasing (or decreasing) during the adjustment period. Therefore, if the treatment group's load is increasing at a faster rate than the control group, the baseline would reflect that trend. This is an issue we have encountered in some of our California programs, resulting in significantly biased reduction estimation, and we therefore believe mitigating it is critical during the day of adjustment.



232 3rd Street Suite C201  
Brooklyn, NY 11215  
718.522.7051

[energyhub.com](http://energyhub.com)

Adjusting for trend as well as total energy represents a simple extension of current practice. Rather than a shift adjustment to the baseline curve, we use ordinary linear regression to learn constants A and B such that, during the pre-event matching period,  $A + B \times (\text{baseline load})$  best approximates actual load. We then apply this same adjustment to the baseline data during the event period to obtain the adjusted baseline, against which curtailed load is compared.

We would be happy to answer any questions that arise about this proposal and help the IESO incorporate it.

## Customer Data Sharing Authorization

On slide 22, the IESO says, "participant must retain contributor consent and participation agreements for audit purposes." EnergyHub agrees that all contributors must authorize their data to be released to third parties. We propose that this language be incorporated in the third party's terms and conditions that the customer must accept to participate in the program.

## Minimum Contribution Size

The presentation reiterates the 1 MW minimum aggregated DR capacity by zone. EnergyHub believes this minimum size is much too big, especially for new market participants. Additionally, since the current system requires aggregators to create data sharing systems with each utility, it will be very hard for them to be able to aggregate 1 MW, in year one, by zone and LDC.

Thank you,

Erika Diamond  
Vice President, Energy Markets  
EnergyHub