

## Stakeholder Comments Template

Submitted by	Company	Date Submitted
Alan White <a href="mailto:alan@emotorwerks.com">alan@emotorwerks.com</a> +1 415-793-1397	eMotorWerks	8/18/2015

Please use this template to provide your comments on the Issue Paper and Straw Proposal posted on July 30, 2015 and as supplemented by the presentation and discussion during the stakeholder web conference held on August 6, 2015.

Submit comments to [InitiativeComments@caiso.com](mailto:InitiativeComments@caiso.com)

**Comments are due August 18, 2015 by 5:00pm**

All documents for the energy storage and distributed energy resources (ESDER) initiative, including the July 30, 2015 Issue Paper and Straw Proposal and the presentation discussed during the August 6, 2015 stakeholder web conference, are available on the webpage for the ESDER initiative at:

[http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage\\_AggregatedDistributedEnergyResources.aspx](http://www.caiso.com/informed/Pages/StakeholderProcesses/EnergyStorage_AggregatedDistributedEnergyResources.aspx)

**Overall Comments:**

eMotorWerks appreciates the opportunity to provide comments in this initiative. We are in the process of building out a full network of aggregated EV chargers connected via a fully controllable, cloud-based intelligent platform.

The manageable portion of our customers' EV charger load can be bid and dispatched into multiple CAISO market products, including energy, frequency regulation, and spinning reserves. eMotorWerks dispatchable charging networks may also provide frequency response services to meet the 2016 NERC requirements at the CAISO.

As of now, several issues prevent us from providing services in CAISO markets as either a fully functional PDR or NGR. We appreciate that the CAISO is working to resolve many of these issues and look forward to continued collaboration with the ISO and other stakeholders in this initiative.

**Non-generator resources (NGR) enhancements**

*Please provide your comments in each of the four areas of proposed NGR enhancement.*

1. *Update documentation on NGR to capture material and clarifications compiled for April education forums.*

**Comments:**

eMotorWerks appreciates this documentation update by the CAISO.

2. *Clarify how ISO uses state of charge (SoC) in market optimization.*

**Comments:**

SoC clarification is critical for NGRs seeking to bid into CAISO markets. However, it is not clear how to bid according to the current SoC optimization in the NGR model, particularly if the dispatchable portion of an EV charging resource changes over the course of the day. Nor is it clear whether the ISO's SoC optimization is truly optimal for these types of resources. Additional SoC clarification would be tremendously helpful.

3. *Evaluate initial SoC as a submitted parameter in the day-ahead market.*

**Comments:**

eMotorWerks strongly supports this effort. Because the SoC of individual EVs and aggregated EV charging fleets will vary from time to time and day to day, enabling SoC as a parameter submitted in the day-ahead market will allow for additional MW from these resources to be bid into CAISO markets. The current SoC construct only allows resources to bid their worst case capacity, and limits dispatch of resources according to CAISO assumptions about the SoC.

4. Evaluate option to not provide energy limits or have the ISO co-optimize an NGR based on state of charge.

**Comments:**

eMotorWerks supports this effort. Resources should be allowed to manage their own SoC if desired. According to the conformed tariff, it is already possible for the CAISO to rescind payment for lack of performance due to energy limits. Resources should be allowed to bear their risks of deviations based on energy limitations, similar to how other resources bear such risks.

**PDR/RDRR enhancements – alternative baseline methodologies**

Please provide your comments in each of the two areas of proposed enhancement.

1. Develop meter generator output (MGO) as a new ISO baseline methodology.

**Comments:**

eMotorwerks encourages the ISO to implement MGO as a new baseline methodology as soon as possible. EV charging sub-resources operating under the DERP agreement have two characteristics that make a MGO baseline methodology desirable in terms of dispatch as well as performance verification.

1. Dispatchable EV charging sub-resources can be bid and dispatched daily into CAISO markets. This type of regular dispatch should be encouraged by the ISO. However, under the current baseline methodology, daily dispatch is actually discouraged, because it can disrupt the baseline. MGO can provide proper accounting for the dispatch of these resources and encourage more frequent market participation.
2. Dispatchable EV charging sub-resources can be readily submetered with revenue grade meters. Submetering allows for the most transparent verification of aggregated subresource dispatch according to ISO bids. Aggregated submetered data isolates the EV chargers as a resource, and can clearly reveal the baseline EV charging load as well as the load reduction due to CAISO dispatch. In contrast, the current methodology is based on retail site meters, which contains site loads that are discrete from EV charging activities. This makes verification needlessly challenging, and discourages participation by EV charging resources.

2. *Develop additional detail regarding the “ISO Type 2” baseline methodology (i.e., provision of statistically derived meter data) and document that in the appropriate BPMs.*

**Comments:**

eMotorWerks supports this development by the ISO.

**Related Comments:**

eMotorWerks supports the requests of other stakeholders on the August 6<sup>th</sup> ESDER web conference that PDR be expanded to allow for ancillary services participation by non-exporting PDR resources. eMotorWerks accepts that appropriate telemetry and metering would be required to provide frequency regulation, but does not see a need to move to the NGR model for non-exporting resources.

PDR has many advantages for third party providers. Allowance of ancillary services provision by PDR resources would expand the ISO’s pool of fast responding, low cost, load modifying resources, with a corresponding reduction in ancillary services costs for ratepayers in CAISO territory.

**Non-resource adequacy multiple use applications**

*Please provide your comments on each of the two non-RA scenarios the ISO has proposed to address.*

*Also, the ISO strongly encourages stakeholders to **identify and describe use cases** under each scenario (including diagrams of the configurations contemplated for these use cases), or issues not covered in these scenarios that should be addressed in this initiative.*

1. *Type 1: Resource provides services to the distribution system and participates in the ISO market. Question 1 – How do we manage conflicting real-time needs or dispatches by the distribution utility and the ISO? Question 2 – If distribution system and ISO needs are aligned, and the resource’s actions meet the needs of both, is there a concern about the resource being paid twice for the same performance? Under what situations is double payment a concern? How should we address this concern? Question 3 – Should any restrictions be on a DER aggregation providing distribution-level services? Would the distribution utility ever call upon a multi-pnode DER aggregation to address a local distribution problem?*

**Comments:**

Dispatchable EV charging offers an exceptional way to avoid excessive distribution upgrades due to load growth or high renewable generation. Dispatchable EV chargers can quickly ramp

down to reduce feeder load, and can also ramp up to absorb high local renewable generation. Considering state policy goals and ongoing proceedings at the CPUC, it seems likely that dispatchable EV chargers will be compensated and/or contracted to provide distribution services.

Due to distribution reliability concerns, we presume that the local distribution services would come as a first priority to these resources. However, given that distribution services are likely to be called only rarely, resources contracted or incentivized to provide distribution services should not be prevented from providing ISO market services at other times.

eMotorWerks respectfully requests that the ISO provide a path for resources not awarded bids in ISO markets in a given time period to provide distribution services. The CAISO should clarify how EV charging load and dispatch would be considered in the CAISO's NGR model. That clarification should allow for out-of-market dispatch according to local distribution needs.

2. *Type 2: Resource provides services to end-use customers and participates in the ISO market. The ISO has identified the following three sub-types (are there others?): (a) DER installed behind the customer meter, such that flow across the customer meter is always net load; (b) DER installed behind customer meter, such that flow across the customer meter can be net load or net injection at different time; and (c) DER installed on the utility side of the meter, may provide service to end-use customers and participate in wholesale market.*

**Comments:**

eMotorWerks supports the clarification of these three sub-types and plans to participate as sub-type A, with a revenue grade submeter at all charging units. All eMotorWerks dispatch will involve load reductions on the part of EV charging units, which will not flow power back through the customer meter.

Considering that the CAISO is requiring load modifying resources to participate under the NGR model in order to bid into ancillary service markets, eMotorWerks would request that the sub-type A resources not be required to interconnect under the Wholesale Distribution Access Tariff. The WDAT/WDT is onerous for customers and insufficiently supported by utilities at this time, especially given the need to incentivize participants and create more market liquidity.

Downward dispatchable EV charging resources will not be physically capable of flowing power through the retail into wholesale markets, nor will it in any way violate Federal Power Act provisions for selling power across interstate lines.

Finally, it is important that the CAISO clarify that retail EV charging load, absent dispatch instructions, should not be considered out-of-market dispatch. eMotorWerks is happy to work with the ISO to determine how exactly dispatch should be verified and settled.

Chris 8/15/2015 2:44 PM

**Comment [1]:** Note that I have talked to people in two camps on this. CESA's regulatory attorney is convinced that WDAT is required for A/S provision, even by loads. Olivine is convinced that it is not. I figure it is worth asking.