Stakeholder Comments Template

Submitted by	Company	Date Submitted
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Please use this template to provide your comments
in the Energy Storage Interconnection stakeholder initiative.

Submit comments to EnergyStorage@caiso.com

Comments are due April 14, 2014 by 5:00pm

The presentation discussed during the April 7 stakeholder meeting may be found at:

http://www.caiso.com/Documents/Agenda-Presentation-EnergyStorageInterconnectionApr7_2014.pdf

The ISO is requesting that stakeholders provide comments in one or both of the following two subject areas:

1. Issues and/or questions of more immediate concern relating to the submission of interconnection requests in the Cluster 7 application window. To the extent possible, the ISO will seek to address such issues/questions prior to the close of the Cluster 7 application window (i.e., prior to April 30).

2. Policy issues that may require more comprehensive examination through this initiative. As a reminder, policy issues relating to interconnection of energy storage to the ISO controlled grid are within the scope of this initiative. In contrast, interconnection below the ISO controlled grid, and market and rate issues, are examples of subject areas not within the scope of this initiative.

To aid the ISO in differentiating between comments in these two subject areas, please insert your comments under the appropriate heading below. Thank you.

Policy issues that may require more comprehensive examination through this initiative:

Iberdrola appreciates the opportunity to provide comments on energy storage products in association with the generator interconnection rules in the Generation and Deliverability Allocation Process (GIDAP).

Generally, Iberdrola cautions that the Cal ISO should take a more holistic approach to looking into how energy storage will serve the grid. Specifically, while the GIDAP is a critical piece of the process, it is geared toward "generation," and while storage projects can appear to fulfill the role of generation in some instances, it appears a bit like placing a round peg into a square hole by trying to develop critical and precedent setting policy for this unique product within one generation-related process, albeit an important one. Inasmuch as the CPUC and CEC are also grappling with how to treat and value storage within the larger energy forecasting and procurement context, it may make sense to engage in a collaborative effort with those entities wherein a holistic policy framework can be developed. While it is convenient and understandable that the Cal ISO would prefer to draw the line at deciding policy issues for energy storage that is connected to the ISO-controlled grid, it is nearly impossible to separate out the set of issues that will come about in this regard with those that must be managed for distribution-connected assets or for those not connected to the ISO-controlled grid but will nonetheless be affected by California energy storage policy. For example, it is not clear to Iberdrola that the GIDAP is even the correct forum within which energy storage projects should be evaluated. As an asset that can have a significant impact on transmission, including deferral or displacement, it may make better sense to evaluate storage within the Transmission Planning Process.

As another general observation, Iberdrola submits that understanding market rules and issues is critical and inseparable from the interconnection of storage. As market participants are beginning to investigate the potential for adding storage to existing projects, it is critical to understand how such projects will be valued before any financial commitment can be released for a system impact study.

Following are some more specific comments for your consideration:

1. In order to make the economics work, storage projects must be considered as wholesale transactions. This one detail can make or break the viability of storage in California. Since power is the fuel for storage, charging retail rates would effectively be like charging a natural gas plant retail gas rates. It is also not the final delivery of the power so this load would be charged retail rates at the storage facility then again when it is redelivered to traditional load. And since the storage unit cannot pass the cost through it would eliminate in most cases all of the increased value between the charging hours and discharging hours.

2. Valuation should be broadened to include transmission optimization. This is different than *deferral* as it places value on optimization of *existing* transmission by increasing its utilization and smoothing out the power load. For example, existing transmission lines that service wind are widely underutilized; thus, shifting generation to the periods where they are most beneficial not only reduces the need for new transmission but enhances the value of existing transmission capacity to the extent that curtailment has been avoided and energy is delivered during times of high demand.

3. The Cal ISO should adopt metering rules to allow energy storage that is collocated with other generation to participate in all markets. Since one of the key benefits to storage technologies is the accuracy and speed of its response to market signals, applicable rules should accommodate its participation in ancillary services markets. At issue is determining how to treat the combined signal of solar, wind or other generation at the same meter New protocols should be considered that allow for the combined output at the point of interconnection to be calculated using sub meters on the storage facility. This would be necessary during times the traditional generation had an intermittent signal and the storage is being dispatched for Regulation or Demand Response etc. It is possible for example for the storage to respond accurately but have the signal canceled by an opposite ramp or reduction in the traditional wind or other generation source.

4. In order to incent non-utility merchant owners, the Cal ISO should determine the transmission value of storage facilities and pay a fee for deferring or shifting power over and above the expected energy capacity and/or ancillary services revenue. If needed, the fees could be “capped” at an amount that provides sufficient monetary incentives for storage investment while also providing transmission providers with a cost savings due to transmission deferral or

transmission optimization. As an example, if a facility delivering stored power defers transmission and or capacity builds by shifting power to the highest peak hours, then compensation for this amount and type of transmission deferral value should be applied for performing that function.

5. Storage should not be tied to the RPS. While storage can facilitate the addition of renewables onto the grid, storage itself, does not increase the amount of renewable generation and, in fact, reduces it volumetrically when losses are considered. Iberdrola does consider this loss of energy to shift usage to a more useful time as acceptable and even worthwhile; however, the renewable generator should not absorb those losses. To expand on this point, where a storage device is connected with a renewable asset, the REC value should be determined *prior* to injection where losses are realized. Alternatively, RECs from a storage facility that is generating should be reconciled. The desired impact is that 100% of energy from the renewable technology would count as a REC, whether or not it is injected into storage. Storage does not generate RECs and, as such should not have the ability to dilute them. Finally, renewable facilities with storage on site should be allowed to inject power into the storage facility instead of curtailing at a net zero cost, and the generation should qualify as a REC.

Issues/questions of more immediate concern relating to the submission of interconnection requests in the Cluster 7 application window:

Relative to Cluster 7, Iberdrola would simply reiterate the points from above concerning the urgency of designing an appropriate market valuation structure so market participants can decide whether financial commitments are worthwhile.