

Flexible Resource Adequacy Criteria and Must-Offer Obligation Draft Final Proposal, Posted February 7, 2013

Submitted by	Company	Date Submitted
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NGK Insulators, Ltd. (“NGK”) is a large international firm focused on the power, ceramics and electronics businesses. NGK is the manufacturer of the NAS battery system that is proven in extensive commercial operation. Globally, more than 300 MW of NAS battery capacity at over 170 projects with 6 to 7 hours of energy storage (over 2100 MWh) are currently in operation and additional projects are in development.

MegaWatt Storage Farms, Inc. (“MegaWatt”) is a storage advisory firm. MegaWatt prepared these comments on behalf of NGK.

NGK and MegaWatt commend the work of the CAISO, CPUC and the parties that developed this Draft Final Proposal (“Proposal”) for flexible resource adequacy, including consideration of the flexibility that can be provided by electricity storage projects.

NGK’s comments are generally applicable to most multi-hour battery and other fast, multi-hour storage technologies.

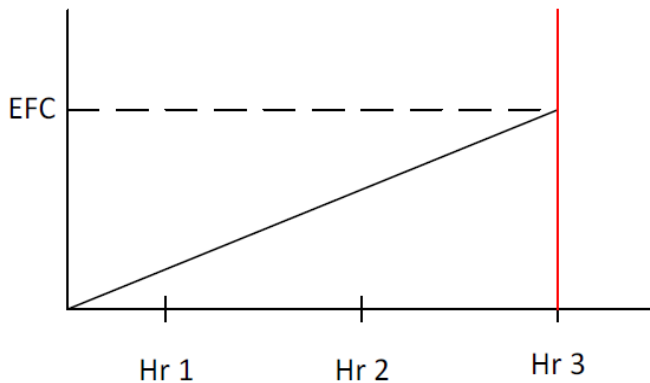
COMMENTS

The ISO Proposal has made significant revisions to the fifth revised straw proposal relevant to storage.

For storage electing to provide fully flexible capacity, the ISO now proposes to determine the effective flexible capacity (EFC) of energy storage resources based on the MW output the resource can deliver after three hours of discharge at a constantly increasing discharge rate (1.5

hours of energy capability over 3 hours). Previously, storage was required to deliver 3 hours of energy over 3 hours.

The figure below from the ISO Proposal illustrates this determination of EFC for storage to qualify as fully-flexible capacity. It means that only 1.5 MWh of energy storage per MW (1.5 hours) of storage is required and longer duration storage receives no additional EFC credit.



Most storage and especially fast storage that can provide the most flexibility to the ISO market can respond almost immediately. Applying a reduced, low ramp rate to storage below its capability makes no sense.

It is not clear from the ISO Proposal, what category (1, 2, or 3) this 1.5 hour storage would qualify for. The storage requirements for the three ISO Categories are:

Category 1 (Base Flexibility – about 75% of the need) lists storage resources with long discharge capacities as qualifying for this category. It appears that such storage will require 6 hours of energy at EFC. There is no mention of an increasing discharge rate for 6 hour storage. Clearly, 1.5 hours of storage should not be allowed to substitute for 6 hours storage or 6 hours of any other resource.

NGK suggests, consistent with the requirement for other resources, that the ISO proposal make clear that the storage requirement is for 6 hours of energy for Category 1.

Category 2 (Peak Flexibility – about 20% of the need) requires storage to have 3 hours at EFC.

Category 1 (Super Peak Ramping) – about 5% of the need) requires storage to have 3 hours at EFC. 15 minute Regulation Energy Management storage is also allowed in Category 1.

NGK suggests that both Category 2 and 3 require storage to follow the same rules as other resources which require 3 hours of energy, or as much as each resource ramp rate allows over 3 hours.

Finally, the proposal is silent on the Pmin for storage. NGK suggests that the Pmin for storage should be negative at the sustainable charge rate for storage over 6 hours for Category 1 and 3 hours for Category 2 and 3.

SUMMARY

The ISO Proposal advocates a technology agnostic flexible capacity must-offer obligation (Section 5.2). The ISO makes an excellent case that: “Attempting to design flexible capacity must-offer obligations to satisfy each new technology type will become increasingly unwieldy and confusing.” However, in violation of this principle, the ISO now proposes a technology specific flexible capacity must offer obligation for storage.

NGK suggests that this proposal as it affects storage is not ready for ISO Board approval. With respect to storage, the proposal is also inconsistent with the CPUC Energy Division proposal in R.11-10-023.

Any specific requirements for storage will impact the procurement of storage under AB2514. It is clear that renewables integration and reduction of greenhouse gas targets cannot be achieved with mostly short duration storage.

NGK recommends that the ISO make clear that Category 1 as applied to storage requires 6 hours of storage and Category 2 and Category 3 require 3 hours of storage for fully flexible capacity.

NGK also recommends that the ISO clarify for storage that the Pmin is negative.