California ISO

Stakeholder Comments Template

Hybrid Resources

Submitted by	Organization	Date Submitted
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Forecasting and Operations

Sunrun comments only on forecasting and operations issues related to a hybrid resource located behind the retail meter under a single resource ID. The issue paper points out two issues – first, that the renewable energy component of a hybrid renewable + storage resource would no longer be classified as a participating intermittent resource (PIR) and thus would not require forecasts under the CAISO Tariff; and second, that the CAISO would not have insight into the storage component's state of charge (SOC). The paper mentions that an "additional option may need to be to consider requirements for these single resource ID configurations to provide their own forecast for variable energy resource components".

For aggregations of distributed hybrid resources behind the utility meter (BTM), the installation of meteorological (MET) stations at the site of each resource is both cost-prohibitive and unnecessary. In response to the request for party comment on this, Sunrun is generally open to the option discussed in the paper wherein the scheduling coordinator for a hybrid resource or aggregation of hybrid resources would submit a forecast of the renewable component(s) of a hybrid resource as well as the storage component(s) SOC. We recommend a more focused technical discussion on this and other topics within the scope of this stakeholder initiative.

The operations section of the issue paper references the treatment of hybrid resources with a single resource ID as "any other dispatchable resource". Though the capabilities and availability of the combined resources will be greater generally than each resource on its own, hybrid resources – whether under a single ID or multiple IDs – are inherently limited in their availability as they will not be fully and equally dispatchable in all hours of the day.

Resource Adequacy

Sunrun fully supports the CAISO in proposing to adopt a default qualifying capacity (QC) methodology for hybrid resources that participate in its market, particularly given that the CPUC has thus far declined to adopt a QC methodology for these resources. A 70 percent exceedance methodology appears reasonable and Sunrun does not oppose it. The local regulatory authority (LRA) has yet to develop a qualifying capacity methodology for BTM hybrid or stand-alone resources, and so there is no risk of conflicting rules currently for BTM hybrid resources. Without a QC - at either the LRA or the CAISO – a BTM hybrid resource has no clear resource adequacy value.

Metering, Telemetry and Settlements

BTM hybrid storage resources are likely to almost entirely – if not entirely – be combined with solar PV. The storage charges entirely from the generation of the onsite solar, as required to preserve eligibility for the Federal Investment Tax Credit (ITC). Thus, referring to Table 2 in the Issue Paper, BTM hybrid resources are most likely to charge from on-site generation under a single resource ID.

Table 2 states that the metering required for this category is a single CAISO revenue settlement quality meter. Section 3.8 of the paper mentions that providers may reserve the scheduling coordinator metered entity (SCME) in specified instances. Sunrun submits that for BTM resources and aggregations, direct metering should not be required. Rather, these systems should be able to provide data via an SMCE. Sunrun requests clarification from CAISO in this regard.

Additional Comments

As an overarching comment, Sunrun does not have a strong position on whether hybrid resources should participate under a single resource ID or multiple resource IDs. Instead, it may make sense to make both options available to market participants - for new projects and for retrofits of existing generation projects.

Sunrun recommends that the CAISO explicitly include hybrid resources within the scope of this initiative that are behind the retail meter. While it is true that distributed energy resource (DER) issues are generally taken up in the various sequential iterations of the Energy Storage and Distributed Energy Resources (ESDER) initiatives, those issues tend to be discrete issues that are unique to DERs. The issues at hand in this initiative – default QC, forecasting and operations, ancillary services, etcetera – are all equally relevant to a BTM hybrid resource participating in the wholesale markets as it is for a hybrid resource located in front of the utility meter. Thus, the inclusion of hybrid resources behind the retail meter in this initiative is appropriate.

If and when the CAISO incorporates hybrid resources behind the retail meter into the scope of this initiative, we agree with the recommendation made in the workshop for a technical working group meeting or the convening of a workshop to discuss the issues at

hand. Among those issues is forecasting, availability limitation of hybrid resources, as well as the appropriate participation model for a BTM hybrid resource. To the latter point, the paper mentions that under a single resource ID, the storage component of a hybrid resource would no longer be eligible for the non-generating resource (NGR) model, and the combined resource would be treated as a participating generator. We recommend that the technical discussion include whether the participating generator model is appropriate for hybrid resources located behind the retail meter.