Energy Storage Enhancement Initiative

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Energy Storage Resource Model

AES Position

- ESR model itself needs additional support and stakeholder consideration so should not move forward to Draft Final Proposal without further discussion
- Support storage resource functionality to manage dynamic charge and discharge rates, and transition times between charge and discharge
- This functionality should be in all models, with the NGR model implementation prioritized

Recommendations

•Provide additional details on how the ESR model works, including Ancillary Services and dynamic charge and discharge rates

- Provide additional formulation details regarding how market will manage dynamic ramp rate
- Risk Management – ability for resources to bid such that it can follow its day-ahead awards

•Provide dynamic charge and discharge rate in the NGR model since stakeholders are already familiar with this model

Reliability Enhancements

Exceptional Dispatch (ED)

- Support CAISO's proposal to allow operators to hold State of Charge (SOC) to meet net load peak
- Use ED to manage SOC instead of a fixed or minimum dispatch

Compensation for ED

- In principle agree with CAISO proposal to compensate storage for lost opportunity cost
- Consider the impact of ED on Day-Ahead market and 15-minute market awards and price
- Consider the impact of ED on Ancillary Service payment

Tools for Local Area

- Support CAISO's proposal to secure SOC needs for local area reliability if storage resources are appropriately compensated and it does not significantly impact prices
- Compensate storage resource for lost opportunity cost similar to ED
- Publish information when SOC restrictions are in place for storage resources similar to how the CAISO published Minimum Online Constraints (MOCs)

Co-Located Enhancements

- Investment Tax Credit (ITC) is a federal policy designed to help fuel the growth of clean energy resources
- Storage developers need flexibility from the CAISO market model to manage ITC restrictions
- A significant amount of storage is coming online by Summer 2022
- CAISO market model already has off the shelf capability (Aggregate Capacity Constraint) to address these constraints
- Lack of Market functionality would result in Scheduling Coordinators choosing between various financial implications, which may reduce generating resource pool available for dispatch

<u>Recommendation</u>

- Implement these changes in multiple phases and implement more straightforward changes first
- Remove the sunset clause without clear justification for eliminating this feature
- Provide the same functionality with co-located as currently available with the Hybrid Resource Model