

Stakeholder Comments

SDG&E's Comments on the CAISO's May 22, 2015

"Reactive Power Requirements and Financial Compensation Issue Paper"

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As a follow-up to the discussion at the May 28, 2015 stakeholder conference call, the CAISO is requesting written comments on the Issue Paper: Reactive Power Requirements and Financial Compensation dated May 22, 2015.

I. SDG&E Supports a Requirement that All New Generators Provide a Minimum Level of Reactive Power Production/Absorption Capability

SDG&E supports the CAISO's proposal to impose a requirement that all new synchronous and asynchronous generators interconnecting within the CAISO Balancing Authority provide reactive power production/absorption capability within a prescribed range (.90/.95 lagging to .95 leading power factor).¹ The proposal would apply to interconnecting generators in the first generator interconnection queue cluster having an interconnection request window following the effective date of the tariff revisions required to implement the CAISO's proposal.

This places all new generators within the CAISO Balancing Authority on a level playing field with regard to VAR production/absorption capability and does not retroactively impose new requirements on existing generators. The CAISO's proposal is responsive to the declining amount of synchronous generation within the CAISO Balancing Authority, such generation having historically supplied the majority of voltage control capability. Having a sufficient amount of generation with reactive power production/absorption capability is necessary to maintain acceptable voltages across the CAISO Balancing Authority under both steady state and contingency conditions. Both high and low voltage levels can jeopardize system reliability by

¹ Reactive power requirements are a little bit different for synchronous and asynchronous generators. According to the CAISO's existing tariff, the reactive power requirement for synchronous generators is 0.9 lagging to 0.95 leading at the generator terminals. For asynchronous generators whose interconnection studies identify a specific need, the reactive power requirement is .95 lagging to .95 leading at the Point of Interconnection (POI) specified in the three party interconnection agreement between the CAISO, the Participating Transmission Owner (PTO) and asynchronous generator.

increasing the possibility of flash-overs and equipment damage and by triggering system-wide voltage collapse.

The CAISO's proposal to require reactive capability from all new generators is also responsive to the reality that the generator interconnection study procedures are an imperfect mechanism for establishing exactly which interconnecting generators should be obligated to provide reactive power production/absorption capability in order to maintain an acceptable level of grid reliability. In the first instance, a significant portion of the generation studied in the interconnection study process will never be built. Additionally, as a practical matter, the generator interconnection study process can only consider a handful of possible system conditions—there are an infinite number of other possible system conditions and the CAISO needs to have the reactive power capability available to manage these unstudied events.

II. SDG&E Does Not Support the CAISO's Proposal to Separately Compensate All Generators for Their Capability to Produce/Absorb Reactive Power

A. CAISO has Failed to Provide any Analysis Demonstrating that Providing Compensation for the "Ability to Provide Reactive Support" Outweighs the Costs to Ratepayers

Absent analysis demonstrating that the benefits of the CAISO's proposal to separately compensate all generators for their reactive power production/absorption capability, exceed the sum of (i) the amount of such compensation, and (ii) the administrative costs of setting up and administering the proposed compensation system, SDG&E does not support the CAISO's proposal.² In SDG&E's opinion, such a demonstration should be a threshold requirement for moving forward with the CAISO's proposal.³

Existing generators have already entered into Purchased Power Agreements (PPAs) that the generators determined would provide sufficient revenues to compensate for the cost of the equipment necessary to provide the required reactive power production/absorption capability, if any. If the CAISO were to begin paying these generators a separate reactive power capability payment, without an identifiable offsetting benefit, it is hard to see how such payments would not represent an unearned windfall.

It is possible that there could be circumstances where an existing generator without reactive power production/absorption capability could be required to add such capability in order for the CAISO to ensure grid reliability. In such circumstances SDG&E believes the most economical

² SDG&E acknowledges that separate compensation systems for real power and reactive power capability provided by generators could provide long term market efficiency benefits. Separate compensation systems might also make it easier to determine when it is more economic to use generators to supply reactive power capability than to add reactive power production/absorption equipment on the transmission system. At this point, however, such benefits are conjectural.

³ SDG&E supports the CAISO's proposal to pay generators the opportunity costs of producing or absorbing reactive power when the CAISO requires generators to operate *outside of* their prescribed power factor range in order to ensure grid reliability. SDG&E expects such instances will be infrequent.

approach would be for the CAISO to enter into a bilateral contract with the generator which spells out the rates, terms and conditions under which the generator would be compensated for the addition of the necessary equipment.

B. Unlike Other Regions, where Similar Proposals Have Been Adopted, CAISO Does Not Have A Capacity Market

An important difference between the CAISO Balancing Authority and other areas of the country where FERC has approved reactive power capability payments (e.g., ISO New England and PJM), is that the other areas generally have centralized capacity markets where a competitively-based market price for real power is established. Competition in the real power auction helps to squeeze out any windfalls that would otherwise result from the separate reactive power capability payments.