Generation Deliverability Assessment Methodology

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PG&E provides the following comments based on the Issue Paper published April 24, 2019 and stakeholder call held on May 2, 2019.

PG&E appreciates the CAISO launching a stakeholder initiative to more fully explore the important issues raised by the new proposed methodology for assessing the deliverability requirements associated with new resource interconnections. Our comments below focus on the two key questions posed on page 18 of the Issue Paper.

Overall, PG&E believes the focus of this process is to give resource developers the appropriate economic incentives to ensure that new resources interconnect at the best locations that provide the highest benefit to serving load and meeting the capacity needs of the system, at the least cost mix of both transmission upgrades and curtailment/congestion. An example that clearly describes the existing process and the proposed changes would be helpful to facilitating a more robust discussion with all involved stakeholders.

1. Should additional studies be added to the interconnection study process to meet the objective of avoiding excessive curtailment?

PG&E believes that additional studies do need to be undertaken, with the objective to quantify the trade-offs of potential network upgrades to accommodate additional deliverability from new resources, versus the additional congestion created by new resources interconnecting without additional upgrades. As a starting point, CAISO would need to establish a baseline model of curtailment by local area/subarea.[1]

It is important to assess both a baseline rate of economic curtailment of renewable resources (during hours of negative pricing), congestion-related curtailment (during hours of locally-constrained deliverability), and the utilization of "congestion management" as a solution within the existing Transmission Planning Process. A baseline curtailment study could be conducted initially as a special study, but might eventually become a regular, recurring feature of the economic study portion of the TPP or Local Capacity Technical Study Process, encouraging the

[1] PG&E believes the CAISO's use of the term "excessive curtailment" in the question is ambiguous. The studies proposed would help determine the current rate and costs of curtailment against which any incremental interconnection resources would be evaluated.

development of economically beneficial transmission projects to reduce overall congestion costs.

During the interconnection study process, individual resources seeking interconnection would be assessed against the baseline rate of congestion to determine their incremental contribution to increasing curtailment costs. These studies would seek to identify cases in which network upgrades might be cost-effective, as compared to the alternative of increased curtailment and congestion cost. CAISO could then evaluate and approve additional network upgrade projects, either under the current RNU/LDNU framework for cost responsibility, or under a new framework (see answer to question 2 below).

PG&E believes that there would be multiple advantages of such a two-tiered study approach. First, with an informational baseline available as a regular part of the TPP, resource developers would have greater transparency as to where to site new projects, in order to target areas of the system that are less congested and less likely to experience curtailment, thereby incenting new capacity to locate where it contributes the greatest value to serving load. Second, by studying network upgrades as a potential mitigation for congestion during the interconnection study process, there is also a significant timing benefit. Transmission projects have a long lead time to permit and construct. The current economic study approach requires building and bringing new resources on-line, incurring several years of higher prices in order to create a historical congestion record that may then allow CAISO to consider and approve new economic projects in the TPP. By studying the likely congestion and curtailment costs up-front, during the interconnection study process, CAISO will allow economic transmission projects to be built much sooner, reducing by several years the lag time during which customers would experience higher prices.

2. If such studies are performed in the interconnection study process, then should the identified delivery network upgrades be required to be funded by the generator owner for its generation project to obtain FCDS?

PG&E believes that resources should have appropriate incentives to identify locations for interconnection with existing transmission capacity. The CAISO currently caps the repayment of amounts advanced for reliability network upgrades up to $60,000 per MW of generating capacity as specified in the Generator Interconnection Agreement. A similar provision should be considered for transmission upgrades that could be essential to relieving congestion and identified within the interconnection process. Additional analysis is needed to understand the value of this provision to all impacted parties.

PG&E believes that this paradigm, while fundamentally sound, may require further evolution, in light of the renewables transition underway and the increasing curtailment caused by an over-reliance on resources that largely follow the same hourly profile. PG&E does not propose any specific changes at this time.