

studies, and review may be difficult or impossible if the utilities fail to make their work transparent and accessible.

2. Data from Newly Developed Resource Areas Should Be Collected Quickly

As these analyses rely upon actual historical data, it will be desirable to collect data from newly developed resource areas as quickly as possible, so that the CPUC does not have to extrapolate from nearby areas as it did in the first round of bid evaluations.

3. Analysis of Out-of-State Resources Are Needed

The integration cost work has so far focused on in-state renewable resources. Yet, out-of-state renewables are also eligible under the RPS. These studies should quickly be expanded to explore this issue and make recommendations to the CPUC regarding the cost adders and capacity values that should apply to out-of-state resources.

4. Methodological Adjustments Should Be Made to Eliminate Regulation Costs that Renewable Resources Pay Directly

To review, the purpose of the report is to quantify the *indirect* regulation and load following costs of each type of proposed generation. These indirect costs are imposed on the system by the generator, but not paid by the generator. Indirect costs must be quantified because the RPS legislation requires a total cost evaluation of renewable resources.

In the Phase I and Phase II Reports, and in the recommendations of the Phase III Report, the authors found no additional measurable regulation costs imposed by new renewable generation, and recommended a zero bid adder as a result. The Phase III Report presents, in section 3.2.5, a step-by-step methodology to determine if additional regulation is required as a result of new generation. If additional regulation is required, the report suggests a methodology for allocating the regulation cost to the new generation.

The Phase III Report should be modified to reflect two important considerations:

1. The report does not consider the obligation of scheduling coordinators to provide regulation services in connection with the scheduled generation. The regulation provided by scheduling coordinators that is associated with new renewable generation is not an indirect cost, therefore, but rather a direct cost that is paid by the generator.¹ The portion of the regulation required by the

¹ The California ISO tariff actually imposes regulation requirements on load. The tariff also imposes the obligation on scheduling coordinators to balance load and generation (in each hour). Though we refer to regulation requirements associated with added generation, the tariff actually associates such regulation with load. Scheduling coordinators presumably allocate their regulation costs to the generators that they schedule. We are assuming, and we read the same assumption into the reports, that additional generation responds to load growth within the California system.

California ISO and provided by the scheduling coordinator should be subtracted from the additional regulation imposed on the system as calculated in the Phase III Report methodology. The net would be the indirect cost of the renewable generation added to the system.

2. The Phase III Report allocates the total regulation cost for all generators and loads (existing and proposed). Of course, the electric system requires regulation today and will continue to require regulation in the future, whether additional renewable generation is built or not (and whether load is added or not). The important consideration for the determination of the bid adder is the *additional* regulation imposed on the system; that additional regulation should be allocated to the *proposed* generation facilities. The methodology should be revised accordingly.

The report authors should also determine whether the allocation in paragraph 2 above should be made before or after the subtraction of scheduling coordinator-provided regulation as described in paragraph 1 above.

5. Additional, Related, Analyses Are Needed to Inform Decisions on Transmission Upgrades

The trend analysis that is recommended to be conducted as part of the ongoing integration cost studies should indeed provide an understanding of the impact of gradually increasing penetration by renewable generators. Trend analysis is not, however, sufficient to inform decisions about transmission upgrades necessary to accommodate large additional amounts of renewable capacity. While that was not the objective of this effort, we urge the Commission to expand these studies for that additional purpose.

In particular, the Tehachapi Study Group that was formed by the CPUC to study transmission upgrade alternatives into the Tehachapi wind resource area is looking at the system impacts of wind under those different upgrade alternatives. Regulation costs (or the reduction thereof) figure into this analysis but such analysis has not been conducted. The Commission's RPS Integration Cost analysis team is well-suited to provide this and other related analyses, but they would need to be conducted quickly (i.e., in the next few months).

Likewise, the CPUC is reconsidering the transmission cost bid adders that it adopted for use in the first RPS solicitations last summer. We expect the CPUC to look at the network benefits associated with transmission upgrades as well as the cost of the upgrades. Here again, this Commission's RPS Integration Cost analysis team is well-suited to assist in this effort. We urge the Commission to offer its resources to the CPUC as it begins work in these areas in the coming weeks.

Thank you for considering our views. Please contact me if I can provide further information on any of our comments.

Respectfully submitted,

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