

February 19, 2016

Dear Study Manager,

The Union of Concerned Scientists (UCS) appreciates the opportunity to provide comments on the Assumptions and Methodology proposed for studying impacts related to the development of a regional independent system operator (RISO) beyond the confines of California. We would like to broadly support the specific comments provided separately by NRDC, with the addition of our own comments that would otherwise fall into the “Other” category of the Stakeholder Template provided at the February 8, 2016 Stakeholder Meeting. Our comments relate to some fundamental assumptions that UCS expects the resulting analysis to be most sensitive to.

CAISO BAU Policies and Curtailment

Presenters and commenters at the February 8 Stakeholder Meeting suggested that a driving factor for both the location of renewable resources and ultimate value of a RISO will derive from the effects on renewable resource curtailments. UCS has conducted its own earlier study (“Achieving 50 Percent Renewable Electricity in California: The Role of Non-Fossil Flexibility in a Cleaner Electricity Grid”) finding that 80% of the renewable resource curtailments accrue from two assumptions made in CAISO analyses conducted in the long-term procurement proceeding for the California Public Utilities Commission study that would have a significant effect on the evaluation of RISO benefits.

The first of these two study assumptions is the requirement that at least 25% of generation in designated regional areas of the CAISO in each hour come from “conventional resources” (i.e., natural gas, hydropower, and combined heat and power). These “regional generation requirements” were ostensibly imposed in previous CAISO analyses for reliability purposes. However, services such as frequency control for which these resources are mandated could be provided by the renewable resources themselves, demand response, or storage. It is unclear whether CAISO intends to maintain these assumptions in the proposed study and UCS requests CAISO be clear on whether these, or other such assumptions having such a direct impact on renewable curtailments will be included.

The second requirement previously modeled was for down-regulation services to be provided by conventional resources. Large thermal plants are operated above their minimum generation level so that there is something to turn down should the renewables increase suddenly. Providing downward regulation is another service that renewable resources can provide.

Selectively curtailing renewables at the sub hourly level will reduce total renewable energy curtailment and carbon emissions.

UCS believes that together the assumptions described above represent major drivers of curtailment and must be addressed whether or not the CAISO and PacifiCorp proceed with a regional market. UCS believes that the CAISO should clearly explain how renewable and non-renewable resources are being utilized to provide grid reliability services, in order to understand how these assumptions may be driving renewable curtailment.

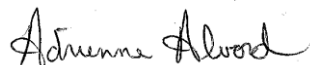
Day Ahead Market Participation

UCS believes a large portion of the benefits from a regional ISO will derive from coordinating resources across the WECC in the day ahead market. However, most resources today are self-scheduling generators that do not participate in setting the day ahead market clearing price. The extent to which individual units are expected to bid into that market is a crucial assumption. This is a particularly important issue for variable energy Resources (VERs) such as wind and solar. Current CAISO market rules result in a very small fraction of California VERs bidding into the day ahead market, resulting in significant inefficiencies. It is unclear what assumption is proposed for the RISO study.

It seems that either the RISO study will assume participation by VERs in the day ahead market, and the necessary changes to market rules; or conversely that the market rules continue as they are and that VERs continue to be absent from the day ahead market. Whatever assumption is made needs to be clear at the outset, or a sensitivity run on both assumptions. It is likely that the choice of assumption will have a very large effect on the results. For example, if coal plants can be shut down for several days in anticipation of a large amount of VERs in a forecast, it has a very different effect than if VERs are entirely absent from the market and the coal plants are committed irrespective of expected VER generation. Similarly, purchases of natural gas fuel are currently done a day in advance—excluding VERs from day ahead processes will likely result in over-purchasing of gas and the potential and needlessly run gas plants and curtail VER generation to avoid over-packing gas pipelines.

UCS appreciates the complexity of the proposed analysis and the myriad of study assumptions that need to be made. We feel however that the issues around extrapolating current market policies into a 50% future outlined above are crucially important to the outcome.

Sincerely,



Adrienne Alvord
California and Western States Director