Stakeholder Comments Template

Regional Integration California Greenhouse Gas Compliance

September 20th

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Comments:

San Diego Gas & Electric ("SDG&E") respectfully submits the following comments in response to the California Independent System Operator's ("CAISO") request for stakeholder input on its Regional Integration California Greenhouse Gas ("GHG") Compliance Issue Paper ("Issue Paper") released August 29, 2016 and its September 6, 2016 stakeholder conference call. SDG&E is supportive of the CAISO expansion from the perspective that efficient markets should reduce GHG overall by better integrating renewables. Reduction of renewable curtailments in California, smoothing the morning and afternoon ramps, and the reduced use of higher emitting combustion turbines are potential GHG benefits of the CAISO expansion.

Deemed Delivered

As noted in the Issue Paper, the cap-and-trade regulation as adopted by the California Air Resources Board ("ARB") applies to both generation of electricity within California and imports of electricity into California.

The cap-and-trade regulations require imported renewables to include the retired renewable energy credits ("REC") associated with the electricity delivered. In recent years, ARB has not required that retired RECs be included for renewable energy deemed delivered to California.[1] Instead, ARB relies on e-tags to determine "delivery" of out-of-state firmed-and-shaped renewables. This can occur when the e-tags indicate that the source of the energy

[1] The specific language of section 95852(b)(3)(D) states unambiguously regarding imports, "If RECs were created for the electricity generated and reported pursuant to MRR, then the REC serial numbers must be reported and verified pursuant to MRR."

entering California is from out-of-state nuclear, hydroelectric or renewable resources and, at the same time, out-of-state carbon-emitting resources are operating to ensure a region-wide load-resource balance.

In 2014, CAISO expanded the real-time Energy Imbalance Market ("EIM") to include out-of-state load serving entities (LSEs) in addition to the Valley Electric Association (VEA). It is the opinion of ARB Staff that this market expansion has resulted in an incomplete accounting of the GHG emissions associated with imported power that serves California's load. ARB Staff states that CAISO's EIM creates a secondary emissions effect for which California-located EIM purchasers should have a compliance obligation: "Clean resources with a lower deemed-delivery bid price are selected for 'deemed-delivery' to California, while higher-emitting power plants with a higher deemed-delivery bid may be the actual plants dispatching to serve California load."

The CAISO EIM market optimization is guided by ARB and Federal Energy Regulatory Commission ("FERC") regulations. ARB regulations, as implemented, assign a zero GHG compliance obligation to imported power whose e-tags indicate the energy was generated from out-of-state resources with no emissions, including from out-of-state renewable resources that do not have the associated RECs. FERC requires CAISO to cap the GHG cost bid at the expected GHG compliance cost as determined by the ARB cap-and-trade regulation. The CAISO computer model then determines imported EIM energy by selecting the lowest cost out-of-state electricity willing to be "deemed delivered" to California and receive a cap-and-trade compliance obligation corresponding to the exercised GHG cost bids.

If this electricity is "deemed delivered" to California for consumption by California electric load, then, following ARB's rules, there are no "secondary emissions." The only GHG-emitting power "delivered" to California is that which is delivered pursuant to the "delivery" requirements of ARB's own rules. ARB's use of e-tags to assign zero GHG to "delivered" out-of-state renewable power is responsible for the "secondary emissions" effect ARB is concerned with, not the CAISO's EIM market. Requiring two after-the-fact unknown uplift charges for EIM purchasers is not the appropriate solution.[2] What is needed for EIM and for regional expansion is for ARB to either accept the deemed delivered result as consistent with its regulations, or change the GHG compliance cost to unspecified or that of an asset-controlling suppler unless the power has associated RECs.

Self-scheduling

SDG&E disagrees with the statement, "self-scheduling generation in one state cannot support load in another state." As indicated on the September 6th Stakeholder Call, there are many long-term contracts between (i) generators in states other than California, and (ii) purchasers in California. SDG&E believes that if the existing EIM market mechanism, which includes a GHG export allocation constraint, is implemented at the day-ahead level in an expanded ISO, GHG compliance obligations will be properly identified for self-scheduled out-of-state generation. Because the CAISO's market mechanisms treat self-scheduled generation as price-takers (i.e., an offer price of negative infinity), it is very likely that the self-scheduled

[2] There would be one uplift charge for the "remaining emissions," the secondary emissions effect, and a second one when ARB applies its "lessor of" adjustment, choosing the lessor of the CAISO "deemed delivered" amount and the amount produced through the meter during the time interval.

generation will receive a final schedule, even with a non-zero GHG cost bid. Of course, self-scheduled generation is at risk for operating during time periods when lower operating cost alternatives are available in the market. However, this is a choice the self-scheduling entity is free to make.

Existing CAISO Interties

The existing CAISO interties that remain should be considered within a zone where the GHG price is already embedded, with the LMPs reflecting the implicit GHG cost.

Attributing Imports

The CPP is based on electricity production in each state under the mass-based plan, so attributing imports is only required for the California cap-and-trade and rate-based plans. Self-scheduling of contracts in an expanded ISO's day-ahead market, along with the opportunity to submit a GHG cost bid, allows out-of-state self-scheduled generation to be tracked under California's cap-and-trade program through ARB's "deemed delivery" mechanism. Through self-scheduling of renewable contracts, states using a rate-based approach to tracking GHG can track imports of renewables for purposes of the CPP.

Attributing Exports

Since California does not allow for reductions of statewide GHG for exported power, exports do not need to be tracked. Mass-based programs under the CPP are based on electricity production in each state, so exports will increase measured GHG, but there is no need to track GHG of the exported power because the GHG is included by the state where the exported power is produced. States using a rate-based approach for tracking may only need to account for imports of renewables; there does not seem to be a need to track exported power.