

Stakeholder Comments Template

Regional Integration California Greenhouse Gas Compliance Workshop

October 27th

Submitted by	Company	Date Submitted
Dave Barker (858-654-1865) Greg Anderson (858) 654-1717	SDG&E	10/27/2016

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 Workshop on October 13, 2016. SDG&E is supportive of the Energy Imbalance Market (“EIM”) and the CAISO expansion from the perspective that efficient markets should reduce GHG overall by better integrating renewables. Reduction of renewable curtailments in California, reducing the magnitude of morning and afternoon ramps, and less use of higher emitting combustion turbines are potential GHG benefits of the EIM and the CAISO expansion.

SDG&E appreciated the presentations at the workshop including clear examples and CAISO’s willingness to engage in discussions with stakeholders of the various options. SDG&E is pleased that the original option that is reflected in the proposed California Air Resources Board (“CARB”) 45-day proposed changes to the cap-and-trade regulation is “off the table.”

Discussion of Option 1

SDG&E disagrees with CARB and CAISO that Option 1 should be off the table. The deemed delivered energy approach is the same as CARB’s current regulation in the bilateral market, so option 1 without any true-up is consistent with CARB’s current reporting regulations.

Given that the CAISO’s counter-factual analysis indicates that the EIM reduces GHG emissions in the West compared to not having the EIM, it is consistent with the AB 32 requirements to “[c]onsider overall societal benefits, including ... other benefits to the economy, environment, and public health.” SDG&E does not believe there is a need for changing the current GHG attribution approach until (i) a computationally tractable version of Option 2 can be

implemented, and (ii) it is determined that pass-one does not unduly distort calculated leakage given its reliance on a market condition which does not exist.

No Change to Existing EIM GHG Attribution Methodology

As noted in the Issue Paper, the cap-and-trade regulation as adopted by the CARB applies to both generation of electricity within California and imports of electricity into California. It is the opinion of CARB Staff that the EIM market has resulted in an incomplete accounting of the GHG emissions associated with imported power that serves California’s load. CARB 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.”

However, CARB regulations, as currently 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. There is no consideration that this power might be shifting resources in the West and having higher emitting resources be dispatched to replace that existing resource. In the same manner, the CAISO modeling 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. SDG&E can see no difference between the CARB’s current treatment of the power in the bilateral market and the current CAISO treatment of that exact same type of power in the EIM market. Just as CARB does not consider out-of-state impacts to the environment of bilateral contracts with existing out-of-state zero-GHG resources, it does not need to consider the same type of inaccuracies in GHG emission accounting for the same type of delivery via the EIM market. Nothing in AB 32 would prevent this result.

Further, the CAISO’s counter-factual analysis, which shows that there is no net GHG impact on the environment outside of California as compared to not having the EIM should be enough to let the EIM market continue as is until Option 2 can be implemented.

AB 32 includes a list of things CARB needs to consider:

(b) In adopting regulations pursuant to this section and Part 5 (commencing with Section 38570), to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the state board shall do all of the following:

...

- (5) Consider cost-effectiveness of these regulations.
- (6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health.
- (7) Minimize the administrative burden of implementing and complying with these regulations.
- (8) Minimize leakage.

- (9) Consider the significance of the contribution of each source or category of sources to statewide emissions of greenhouse gases.

While CARB has been focused on number 8 in the list, “Minimize leakage,” weight should also be given to others on the list relevant to the issue. Number 6 requires CARB to consider the societal benefits including the benefits to the economy and the environment. The fact that the EIM reduces GHG in the western U.S. should be a significant environmental benefit that should be considered since GHG is a global pollutant and the entire purpose of AB 32 is to reduce greenhouse gases. Further, the CAISO studies show there is a benefit to the California economy of the expansion of the CAISO market with a structure that is the same, or similar to, the current EIM market. In addition, number 7 on the list requires CARB to minimize the administrative burden of implementing its regulations. As demonstrated at the CAISO workshop, Options 2 and 3 place a large administrative burden on the CAISO. That administrative burden can be avoided by making no changes to the current EIM structure, and simply monitoring the net impact on the environment to see if option 2 is even required.

Discussion of Option 2

While Option 2 offers an analytically precise method for calculating carbon “leakage,” SDG&E is concerned that this approach is based on a “first pass” which contemplates a market condition which does not in fact exist, i.e., a market condition where a load-resource balance in the non-California regions of the EIM is achieved through the use of only non-California bids and schedules. Basing a calculation of “leakage” on a market condition which does not exist, raises questions as to whether the result is meaningful.

These questions become even more important if the two-pass approach is applied at the day-ahead level to an expanded ISO. Because most unit commitment decisions get made at the day-ahead stage, the first-pass becomes critical in establishing the baseline level of carbon emissions against which the carbon emissions attributable to California loads will be calculated. If the first pass unit commitment decisions that get made assuming a market environment that is materially divorced from reality (i.e., where the schedules and bids in California are simply ignored) results in the commitment of non-California resources with relatively low emission profiles, it is entirely possible that the second pass will produce an entirely different unit commitment outside of California with a substantially larger amount of carbon emissions. The resulting calculation of carbon leakage would indicate that California loads are responsible for a large amount of out-of-state emissions but it is impossible to know whether this result is reasonable since it is based on a completely hypothetical market construct.

SDG&E believes option 2—a two pass optimization where the first pass optimizes across only non-California bids and schedules and the second pass optimizes the entire EIM footprint could possibly be modeled to reflect which resources are incrementally dispatched to serve California load and would have a GHG obligation. However, it was made clear by CAISO that existing software solution times are too long to allow for two passes for each five-minute dispatch interval. SDG&E agrees with the stakeholders who suggest the CAISO investigate an approach whereby the first pass takes place immediately following the unit dispatch in the fifteen-minute

interval, and the results of the first pass are deemed valid for the next two 5 minute intervals. Put here

Most stakeholders believe Option 2, with the two pass optimization, has the potential to better reflect which resources are incrementally dispatched to serve California load and would have a GHG obligation under CARB's cap-and-trade regulations. At the workshop, a number of stakeholders suggested the two-pass approach could be modified in order to accommodate the software limitations which currently prevent two passes to be conducted for each five-minute dispatch interval. In the modified approach the first pass using only non-California bids and schedules would only be conducted for each 15-minute interval immediately after unit commitment. The next two 5-minute intervals would be deemed to have the same first-pass unit commitment.

It would be useful to see if the results of this modified approach would be significantly different from the two pass model for each five-minute interval. It should be possible for the CAISO to use historical bids and schedules from the EIM for selected time periods to evaluate the difference between the modified approach and the full two-pass approach for each five-minute dispatch interval. If the differences are not large, and if it is determined that performing a first pass on a system condition which does not exist nevertheless is meaningful, then the modified approach would allow for a transition until the required computing power becomes available to implement Option 2.

The CAISO should study this option and publish the results comparing (i) the two pass approach using a first pass approximation, to (ii) the two pass approach in each 5-minute dispatch interval. The results should provide information that would shed light on the accuracy and reasonableness of the approach in determining which dispatched resources are deemed to serve California load, the net impact on the environment, and the administrative burden on the CAISO and CARB.

Discussion of Option 3

SDG&E opposes Option 3 as proposed by the CAISO that applies a hurdle rate based on "historically observed missing emissions due to secondary dispatch."¹ SDG&E also opposes CARB's modified Option 3, presented at CARB's October 21, 2016 workshop, which would instead apply a default emissions factor to all imports except for California RPS renewables. While they are an improvement over the original proposal reflected in the CARB's 45-day cap-and-trade regulation changes, the application of a hurdle rate or a default emissions rate is a blunt force instrument that is divorced from the specific market conditions that exist within each settlement interval. A hurdle rate or default emissions rate will unnecessarily interfere with efficient market decisions by market participants both within, and outside of, California and unnecessarily increase the cost of meeting environmental goals. It is not apparent that either option will result in overall benefits to the environment; but it is apparent that both options will create large administrative burdens.

¹ Slide 30 of CAISO's October 13th, 2016 Presentation

