

**Ellen Wolfe, Resero:**

1. Regarding hurdle and carbon rates in SERVM, does SERVM know if energy being transferred into California is renewable or not? In other words, is there an AB32 hurdle rate applied to all energy entering the state?
  - a. SERVM models “purchases” which are unspecified imports and “direct purchases” which are specified imports. Unspecified imports receive the 0.428 metric ton per MWh emissions factor. Specified imports are defined in the model as connecting to specific resources: OOS renewables and Palo Verde, which deliver energy directly to CAISO as “must-take”. These resources are non-emitting and do not have an emissions factor applied. Specified imports in SERVM are tagged with the remote generator variable, which identifies the region that takes the energy from that resource. Specified imports are determined from the CPUC’s RPS contracts database.
2. Last week we raised a question about OOS wind representation in SERVM. You indicated that there is a PNM area and an AZ area. What will the implications be if the renewables named by LSEs exceed the transfer capability on the external facilities? For example, if some of the wind would have been delivered over new merchant lines, and if the LSEs have contracted for this wind, the CPUC would not reduce the amount of this wind in the portfolio, would you? It’s unclear what the role of SERVM is in assessing this OOS wind. Any more insight you could offer would be helpful.
  - a. Staff assumed LSEs intended to select NM, WY, and AZ wind but did not intend to build new merchant lines. Staff is not performing a deliverability or power flow analysis on the Hybrid Conforming plan, so the PCM studies do not confirm whether a new merchant line is needed. The PCM studies simply attempt to model a system that does deliver power from OOS generation to load in CAISO, and must record and tabulate delivery of that generation. For that, the SERVM transfer limit between the OOS generator location and the CAISO area was adjusted to ensure that SERVM simulates the power getting to CAISO, but this does not necessarily mean a new merchant line must be built. Staff expects that a deliverability assessment/power flow analysis conducted by the CAISO would assess whether a particular OOS generator could be delivered over existing transmission or whether upgrades would be needed.
3. As discussed to some extent during the last office hours, our initial assessment suggests that the hybrid plan has higher emissions than the RSP. (a) Will the CPUC modify the hybrid plan in this case to try to bring emissions back closer to the RSP levels, and if so how would you expect to adjust it? (b) Would that response change depending on whether the emissions were above or below 42 mmT? (E.g., what if the RSP resulted in an estimated 34 mmT, but the hybrid plan results in an estimated 39 mmT?)
  - a. Staff is not expecting to make any further adjustments to the Hybrid Conforming portfolio before modeling it in SERVM for the Preferred System Plan. Staff will report these SERVM modeling results according to the schedule in the recent [ALJ ruling](#). Any actions resulting from the modeling work, including potential procurement or investment identified as needed to address long-term GHG reduction or reliability

issues, would be handled in the ruling expected Jan. 11, 2019. Staff expects to conduct more thorough work to converge the outputs of the RESOLVE and SERVVM models during the 2019 Reference System Plan development process, including a revisit of the GHG planning target, reliability issues, and other policy goals.

4. Similarly, will the CPUC modify the portfolio if SERVVM reflects an LOLE that is higher than desired, or a reserve margin that is lower than desired? If so, in what way would the portfolio be adjusted?
  - a. Same answer as Q3.

**Shucheng Liu, CAISO:**

1. There are two plants in the SERVVM dataset that should be offline in 2030 based on announced retirement information. See the CAISO announcement of generation resource retirement and mothball: <https://www.caiso.com/Documents/AnnouncedRetirementAndMothballList.xlsx>  
The two plants are:

RESOURCE_ID	GENERATOR NAME
INLDEM_5_UNIT 2	Inland Empire Energy Center, Unit 2
GATES_6_PL1X2	Gates Peaker

For reference, additional information about Gates Peaker:

<https://www.industryabout.com/country-territories-3/873-usa/fossil-fuels-energy/9669-gates-peaker-gas-power-plant-shutdown>

- a. Staff will look into this discrepancy and make the necessary corrections to the SERVVM dataset.