

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements.

Rulemaking 16-02-007
(Filed February 11, 2016)

**NOTICE OF EX PARTE COMMUNICATION BY
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

Pursuant to Article 8.4 of the California Public Utilities Commission (Commission) Rules of Practice and Procedure, the California Independent System Operator Corporation (CAISO) hereby files this notice of oral *ex parte* communications in the above captioned proceeding.

This filing provides a summary of three separate *ex parte* communications that occurred on November 22, 2019. Table 1, below, provides a summary of the *ex parte* communication, attendees and times. All of the *ex parte* communications were conducted by telephone.

Table 1

Time	Commission Decision makers	Other Commission Staff	CAISO Representatives
1:00 PM – 1:30 PM	Maria Sotero, Energy Advisor to Commissioner Guzman Aceves	Nathan Barcic, Senior Analyst	Mark Rothleder, Vice President for Market Quality & California Regulatory Affairs Delphine Hou, Director for California Regulatory Affairs Jordan Pinjuv, Senior Counsel
1:30 PM – 2:00 PM	Joshua Huneycutt, Interim Energy Advisor to President Batjer		Mark Rothleder, Vice President for Market Quality & California Regulatory Affairs

Time	Commission Decision makers	Other Commission Staff	CAISO Representatives
			Delphine Hou, Director for California Regulatory Affairs Jordan Pinjuv, Senior Counsel
2:30 PM – 3:00 PM	Rachel Peterson, Chief of Staff; Suzanne Casazza and Jason Ortego, Advisors to Commissioner Randolph		Mark Rothleder, Vice President for Market Quality & California Regulatory Affairs Delphine Hou, Director for California Regulatory Affairs Jordan Pinjuv, Senior Counsel

The CAISO addressed many of the same topics during the three separate *ex parte* communications. The narrative below first provides a summary of topics that were common to all three *ex parte* communications. Subsequently, the CAISO provides a summary of topics that were unique to particular communications.

Summary of Common Topics

The subject of the CAISO’s communications concerned the Commission’s proposed Reference System Portfolio for the 2019-2020 Integrated Resource Planning (IRP) cycle. Specifically, the CAISO focused on the 46 million metric ton (MMT) Alternate Scenario produced by Energy Division Staff because it is the proposed Reference System Portfolio. Ms. Hou began by noting the CAISO’s appreciation for Energy Division staff’s efforts to improve the modeling assumptions to reflect resource adequacy contracting and recent Commission decisions. The CAISO noted, however, that the work is incomplete and that the proposed 46 MMT Alternate Scenario may cause the Commission to transmit an unreliable portfolio to the CAISO’s transmission planning process.

Ms. Hou noted that the Energy Division staff initially determined that the 46 MMT Alternate Scenario was unreliable. As a result, Energy Division staff had to manually add 2,000 MW of generic, effective capacity which was modeled in SERVVM as “a perfectly dispatchable peaker with zero emissions”¹ which “[i]n reality ... could be realized through firm imports, batteries paired with solar, geothermal, more economic retention of existing thermal generation, demand response, or other.”²

Ms. Hou explained that using generic, effective capacity to meet reliability standards is problematic in a number of ways. The first issue is that the CAISO relies on the Commission to provide reliability and policy-driven portfolios to the CAISO’s transmission planning process based on the Commission’s jurisdiction over procurement. The agreement to use the Commission’s resource portfolios is codified in a May 2010 memorandum of understanding (MOU) between the CAISO and the Commission. The MOU provides that the Commission, in coordination with the California Energy Commission (CEC), will develop resource portfolios for the CAISO to use in its annual transmission planning process. The CAISO uses the Commission-developed portfolios to perform reliability, policy and economic assessments in the transmission planning process, with a particular emphasis on identifying policy-driven transmission needs necessary to accommodate renewable generation. As a result of this coordination, the CAISO approves transmission projects based on the Commission-developed portfolios.

Based on the coordination efforts codified in the MOU, the CAISO will not unilaterally change the Commission-developed portfolios. However, because “generic effective capacity” does not exist, there is also no way for the CAISO to include this capacity in its transmission planning assessments. The CAISO cannot model generic, effective capacity because such capacity has no operating characteristics; is not specified as renewable or non-renewable; has no greenhouse gas emissions profile; cannot be identified as a single resource or many resources; and has no specific location on the grid. Consequently, if the CAISO removes the 2,000 MW of generic capacity from the portfolio, the CAISO will be using a portfolio that Energy Division

¹ 2019-20 IRP: Proposed Reference System Plan, Energy Division Presentation, November 6, 2019. https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/2019%20IRP%20Proposed%20Reference%20System%20Plan_20191106.pdf, p. 137.

² *Id.*

staff demonstrated to be unreliable, typically showing reliability needs in the evening net peak hours after the sun sets.

The generic capacity (or lack thereof) will also have a significant impact on the transmission planning process because 2,000 MW of capacity can change the power flows in the CAISO's modeling, thereby affecting the outcome of the transmission plan. As an example, the CAISO may identify reliability issues in its transmission planning analyses, but will not be able to differentiate whether the removal of the generic capacity creates the shortfall or whether another transmission-related issue caused the reliability issue. This would create significant obstacles to approving potentially necessary transmission projects. If the CAISO is required to use portfolios with significant amounts of generic resources in the transmission planning process, the CAISO runs the risk of delaying action on needed upgrades, or potentially initiating action where it is not warranted.

Ms. Hou explained that the CAISO believes that the RESOLVE modeling produces unreliable results due to a mismatch between resource adequacy and energy constraints in the model. In the RESOLVE modeling, Energy Division staff limits resource adequacy imports to 5,000 MW but allows energy imports up to 11,665 MW. This likely results in RESOLVE selecting greenhouse gas free capacity at least cost (*i.e.*, solar heavy portfolios) to meet resource adequacy, but then using energy from imports for reliability (*i.e.*, serving load after the sun sets). In other words, RESOLVE is using one set of resources to meet resource adequacy and another set of resources to meet the energy needs of the system. The portfolio selected should ideally be able to meet both resource adequacy and energy needs.

Ms. Hou also expressed the CAISO's concern about how the 46 MMT Alternate Scenario reflects the Commission's recent decision in the IRP procurement track (Decision 19-11-016). Energy Division staff's modeling includes 2,289 MW of once-through-cooling (OTC) resources through 2023.³ However, the modeling should ideally reflect the phasing in of the 3,300 MW of new capacity authorized by the Commission and should only rely on the OTC units as a backstop. By including the 2,289 MW of OTC generation in RESOLVE, the model will use that capacity as an input assumption with no opportunity to release the OTC units earlier. Ideally, the RESOLVE modeling should try to create an optimal portfolio without any the OTC resources to

³California Public Utilities Commission, *Administrative Law Judge's Ruling Seeking Comment on Proposed Reference System Portfolio and Related Policy Actions, Attachment A*, R.16.02-007, November 6, 2019, p. 136.

understand the quantity and characteristics of new resources needed to supplant the OTC units and serve load reliably.

Ms. Hou presented three potential options to address the issues identified above. The first and most comprehensive solution would be for Energy Division staff to rerun RESOLVE to identify an optimal, reliable portfolio without the 2,000 MW of generic capacity. Energy Division staff could accomplish this by reducing the import energy limit to match resource adequacy import limit (*i.e.*, to 5,000 MW) and by removing the OTC resources after 2020. This would allow the Commission to understand what the optimal reliable portfolio would be without the generic capacity and the OTC units. The RESOLVE modeling may re-optimize the entire portfolio based on these modeling changes.

A second option would be to direct Energy Division staff to manually replace the generic capacity with the most appropriate real resource(s). Ideally, this new portfolio's reliability would be tested in SERVM production cost modeling. As guidance, Energy Division staff should focus on resources that can serve load reliably after the sun sets. Ms. Hou cautioned that if Energy Division staff manually adds new resources, subsequent corrected RESOLVE runs may produce portfolios significantly different from those created by the manual additions. This could cause significant reconciliation work in future years.

As a third option, Ms. Hou suggested reverting to the base cases submitted for the 2019-2020 transmission planning cycle policy and reliability analyses. This option provides certain benefits because the Commission already refined the prior portfolio as the Preferred System Plan in the prior IRP cycle. In addition, using the same portfolios would not create undue dislocations in resource planning (and mapping of resources) from the previous transmission planning cycles.

Ms. Hou indicated that the CAISO understands that these three options are no small undertaking, but given the importance of the portfolios and the integrity of both the IRP and transmission planning processes, the CAISO can work with Energy Division staff on an alternate schedule to transmit the revised portfolios from the Commission to the CAISO. Ms. Hou indicated that the CAISO can accommodate a three-week delay from the original schedule to receive the final portfolios. If a full rerun of RESOLVE cannot be accommodated in that time (*i.e.*, Option 1), the CAISO prefers to pursue the third option for the 2020-2021 transmission planning process.

The CAISO did not provide any written materials during the *ex parte* communications.

Additional Topics from Meeting with Ms. Sotero and Mr. Barcic

Ms. Hou provided additional details regarding the CAISO's proposed timeline for incorporating the new portfolios for transmission planning purposes. Specifically, Ms. Hou noted that the CAISO would need preliminary portfolios by mid-February 2020 and final portfolios by mid-March 2020. Ms. Hou also noted that comments on the 46 MMT Alternate Scenario are due on December 17, 2019. As a result, Energy Division staff may not have sufficient time to review results of any new modeling and subsequently transmit new portfolios to the CAISO for the 2020-2021 transmission planning cycle. Ms. Hou noted that it may be best to use the previous portfolios for the next transmission planning cycle, while continuing to work on the 46 MMT Alternate Scenario in the IRP.

Ms. Hou and Mr. Rothleder explained that under the CAISO's proposed third option, the primary differences in the CAISO's transmission planning assessments would be based on updated demand forecasts and actual procurement results.

Ms. Hou and Mr. Rothleder further explained that updating the resource adequacy import assumption and the energy import assumption in the RESOLVE modeling could drive different capacity expansion results. Ms. Hou noted that it is important for resource adequacy and load serving (*i.e.*, energy) assumptions within RESOLVE to align; as the primary focus of RESOLVE is to develop an optimal portfolio that simultaneously meets the resource adequacy, greenhouse gas, and costs constraints on selected days. On the other hand, the primary purpose of SERVM modeling is to understand how this optimal portfolio can meet more granularly defined reliability requirements (*i.e.*, hourly or within hourly needs across the entire year) against the larger context of energy transfers within the state of California and with the rest of the West. Nonetheless, Mr. Rothleder cautioned that significant modeling inconsistencies between RESOLVE and SERVM may create reliability issues that the RESOLVE modeling fails to uncover.

Additional Topics from Meeting with Mr. Huneycutt

Ms. Hou clarified that the OTC units should be removed from the 46 MMT Alternate Scenario to conduct capacity expansion planning, but that OTC units could be used if they are determined to be necessary to maintain reliability. Ms. Hou indicated that the CAISO would

address the concerns discussed in this meeting in its December 17 comments in the IRP proceeding.

Ms. Hou noted that the CAISO needs preliminary portfolios by mid-February 2020 and final portfolios by mid-March 2020 to incorporate those portfolios in the next transmission planning cycle.

Additional Topics from Meeting with Ms. Peterson, Ms. Casazza and Mr. Ortego

Ms. Hou and Mr. Pinjuv clarified that the CAISO generally studies transmission system needs on a two-, five-, and ten-year forward looking basis. The CAISO also explained that the transmission planning process models imports based on North American Electric Reliability Corporation standards rather than based on resource adequacy imports.

Ms. Hou noted that significant changes to Commission-developed portfolios over time could cause issues in the transmission planning process. The CAISO noted that the portfolios transmitted to the CAISO for the 2019-2020 transmission planning process would not have extended the retirement dates for OTC units. Ms. Hou noted the problem with the current portfolios incorporating OTC extensions as an input assumption.

Ms. Hou explained the CAISO's need for preliminary portfolios by mid-February 2020 and final portfolios by mid-March 2020 to incorporate those portfolios in the next transmission planning cycle. Ms. Hou explained that the CAISO could not incorporate new portfolios produced beyond those dates due to the CAISO's tariff-mandated timeline for its transmission planning process.

Ms. Hou noted that it is important for resource adequacy and load serving (*i.e.*, energy) assumptions within RESOLVE to align; as the primary focus of RESOLVE is to develop an optimal portfolio that simultaneously meets the resource adequacy, greenhouse gas, and costs constraints on selected days. On the other hand, the primary purpose of SERVVM modeling is to understand how this optimal portfolio can meet more granularly defined reliability requirements (*i.e.*, hourly or within hourly needs across the entire year) against the larger context of energy transfers within the state of California and with the rest of the West.

Ms. Hou noted that the CAISO is conducting its own analysis of the 46 MMT Alternate Scenario with Plexos production cost modeling software. Ms. Hou also noted that the CAISO will attempt to re-run the RESOLVE modeling with the changes to import assumptions discussed

above. Ms. Hou explained that the CAISO would change the import energy assumption to see whether and how RESOLVE modifies the capacity expansion.

Ms. Hou explained the challenges associated with significantly modifying portfolios from year-to-year. In that case, the CAISO could approve transmission projects in one year and then find that the need is resolved in subsequent years without the transmission solution or else the need appears in a different geographic location. Ms. Hou noted that it may be appropriate to provide a more stable short-term needs assessment to plan for near-term procurement.

Respectfully submitted

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