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Middle River Power LLC Comments on Mid-Term Reliabilty Analysis

Additional submitted attachment is included below.

MIDDLE RIVER POWER

September 7, 2021

California Energy Commission
Docket Unit, MS-4
Docket No. 21-ESR-01
1516 Ninth Street
Sacramento, California 95814-5512

Via electronic submittal

Dear Docket Unit, Commissioners and Commission Staff:

Middle River Power LLC ("MRP") appreciates the opportunity to submit these comments on the Mid-Term Reliability Analysis ("MTRA"), as presented at the August 30, 2021 *Lead Commissioner Workshop on Midterm Reliability Analysis & Incremental Efficiency Improvements to Natural Gas Power Plants*. Unless otherwise noted, all references in these comments are to the workshop presentation.[1]

Introduction

MRP owns approximately 1.8 GW of natural gas-fired generation operating within the bulk power system under the operational control of the California Independent System Operator Corporation ("CAISO"). MRP has developed and is currently deploying with the current owners two battery energy storage systems ("BESSs") totaling 110 MW and a 100 MW solar photovoltaic system connecting into the same interconnection facilities at MRP-owned generating plants. MRP is also in the process of developing approximately 1 GW of other BESS projects.

Comments

MRP commends Energy Commission staff both for their work on the MTRA and for their responses to questions MRP submitted via e-mail following the workshop. In particular, Mark Koostra's timely and thorough answers to MRP's questions helped MRP's understanding of the MTRA and the MTRA presentation.

MRP believes the multi-scenario MTRA can provide valuable insights regarding the reliability implications of procurement directed by the California Public Utilities Commission ("CPUC") in Decisions ("D.") 19-11-016 and 21-06-035.

MRP notes that the MTRA, while probabilistic, is a Loss of Load Expectation ("LOLE") analysis that is focused only on the summer months of 2022 through 2026. As such, as the presentation observes, the outputs depend on the inputs and assumptions, and the MTRA should

[1] This presentation is available at https://efiling.energy.ca.gov/GetDocument.aspx?tn=239554&DocumentContentId=72991.

be viewed as information that can help determine appropriate courses of action.[2] MRP recommends that the Commission expands its analysis to encompass all months. MRP also hopes to better understand whether sufficient charging capability exists during non-summer months for the supply mix to continue to meet reliability needs.

While MRP understands and appreciates that such analyses were performed for different purposes, given the multiple analyses performed by the CEC, the preliminary stack analysis ("PSA") and this MTRA, it would be helpful to better understand the specific differences between the analyses to allow stakeholders to compare the results.

MRP appreciates the MTRA as an independent analysis, separate from the stochastic analytical work currently being performed by the CPUC in the Integrated Resource Planning ("IRP") proceeding, Rulemaking R.20-05-003. MRP understands that the two efforts use different models, that the MTRA is not a full-year analysis, and that the analyses cover different time frames, with the MTRA focused on 2022-2026 while the IRP analysis extends to 2032. These differences acknowledged, the MTRA helps provide a reference point against which to consider the IRP analyses.

Comments on MTRA Inputs

MRP offers these comments on the MTRA inputs:

Demand. The MTRA uses a spread of demand forecasts which use assumptions for the 2020 California Energy Demand forecast rather than the 1-in-2-year demand forecast used in the PSA. This also seems to be different than the demand forecast used in the IRP Preferred System Plan ("PSP") analysis. MRP requests that the CEC, at a minimum, present the MTRA demand data against the demand assumptions within the PSA and, if possible, against the demand data used in the PSP. This would help MRP compare the demand used in these analyses.

Hydro. MRP understands that Staff used technology factors on slide 93 to calculate monthly NQC values for hydro based on the name plate capacity values on Slide 98. The CAISO recently published draft monthly NQC values for 2022,[3] and those NQC values should better reflect the hydro NQC methodology adopted by the CPUC in 2020.[4] MRP recommends Staff use the draft 2022 values.

Imports. The MTRA analysis limited the amount of import capacity for hours ending 17 – 22 PST, as shown below:[5]

[2] Presentation at slide 16.
[3] http://www.caiso.com/Documents/Draft-Final-Net-Qualifying-Capacity-Report-for-Compliance-Year-2022.xls
[4] See CPUC Decision 20-06-031 at pages 21-25, Ordering Paragraph 10.
[5] Presentation at slide 21.

	2022	2023	2024	2025	2026
Imports - Unspecified	5,000	5,000	4,000	4,000	4,000
Imports - Specified	1,981	1,981	1,981	1,592	1,600

For all other hours, imports are capped at the Maximum Import Capability ("MIC") limit of 10,800 MW.

While, given the tightening supply conditions in the West, it is reasonable to adopt conservative assumptions for imports, MRP does not believe that allowing for as much as 5,000 MW of unspecified imports across the net load peak hours aligns with the MTRA's philosophy of assessing reliability based on the resource adequacy fleet rather than considering all resources. MRP recommends that for purposes of this analysis, Staff should use a relatively conservative percentile of the distribution of the recent average of *net* imports into the CAISO during the net load peak demand hours in these months. Doing so will help ensure that the MTRA reflects the evolving interactions between the CAISO Balancing Authority Area ("BAA") and the rest of the Western Interconnection, namely, tightening supply conditions and resources within the CAISO BAA serving load outside the CAISO BAA. Ideally, any analysis projecting California's ability to import power should use a holistic look at the supply/demand balance in the Western Interconnection; without that view, any estimate of California's import capability runs the risk of being too optimistic.

Reserves. MRP supports the MTRA's approach of "independently" modeling reserve requirements. MRP notes that the MTRA allowed between 1,000 and 2,000 MW of battery energy storage to provide reserves.[6] MRP understands that the MTRA did not allow battery energy storage resources – or any other resources, for that matter – to provide reserves while they were simultaneously providing energy. This is a rational and necessary limitation, but it may be too simplistic to allow battery energy storage systems to provide reserves in all hours in which they are not charging or charging, as, in the real world, those reserves will be called upon to produce energy from time to time, which will affect their ability to provide a continuous discharge across the net load peak hours.

Demand Response. The MTRA allowed demand response ("DR") to provide four continuous hours of response with an energy "budget" of 80 hours per year. MTRA questions whether this is an overly optimistic estimate of DR capability in two ways. *First*, MRP questions whether DR can provide four hours of continuous dispatch within the net load peak hours (i.e., Hours Ending 17-22), given that DR is often tied to industrial or commercial processes that may not be operating across those hours. Given that the graphs on slide 38 indicate that the outages occur in HE 16-21, MRP expects that is likely when the model would call on the DR to operate. *Second*, MRP asks whether it realistic to think that DR would respond with four hours of continuous dispatch on the 20th call (i.e., hours 77-80) in the same year, or whether the DR response would be attenuated in the later calls during the year due to "DR fatigue".

[6] Presentation at slide 23.

Results

The MTRA presentation provides a table of Loss of Load Expectation and shortfalls on slide 33. The IRP PSP's SERVM Analysis of the 38 MMT Core Portfolio shows an LOLE of 0.054 for 2026. It is unclear why the MTRA's 2026 LOLE for scenario 9, which MRP understands to best corresponds to the 38 MMT Core Portfolio, is 0.012 while the LOLE for the same year for the 38 MMT Core Portfolio is 0.054, especially given that the MTRA focused only on the peak demand months, for which it would be reasonable to expect the LOLE to be higher. It would be helpful if Staff can provide some insight into these different results.

MRP recommends that Staff consider calculating the level of planning reserve margin ("PRM") for both the gross load peak and net load demands that would be required to achieve 0.1 LOLE. Such information would be of tremendous value to the CPUC's Resource Adequacy ("RA") proceeding, which is currently modifying the RA program design to address net demand peak requirements. MRP requests different PRM values for the gross and net load peak demand periods because different sets of resources must be used to meet the different peak demands (i.e., solar resources are not producing across all the net peak demand hours).

Comments on the "secondary question"

The "secondary question" to which the MTRA was supposed to speak is this: *Does new gas capacity improve reliability compared to a portfolio of new preferred resources with equivalent NQC values?* The MTRA suggests that the answer to this question is "no".[7] As staff explained at the August 30 workshop, applying a forced outage rate to gas resources while assuming the forced outage rates are subsumed in the preferred resource portfolio profiles is the likely reason for this outcome.

MRP also observes that the question itself tees up another issue, namely, that it requires many multiples of nameplate additions of some preferred resources to achieve an NQC equivalent to the NQC provided by a much smaller amount of gas resources. So, while the modeling may indicate that the answer to the narrow LOLE question may be "no", the question also should be considered in the broader context of the vastly different sizes of fleets required to produce the same NQC.

[7] Presentation, slide 32.

Conclusion

MRP thanks the Commission for the opportunity to comment on the MTRA. MRP sees this effort as a valuable complement to the stochastic modeling that the CPUC is conducting in the IRP process.

Respectfully submitted,

/s Brian Theaker

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