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Comments on Draft CEC Preliminary 2022 Summer Supply Stack Analysis

Additional submitted attachment is included below.



August 20, 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 Draft 2022 Stack Analysis (“Draft 2022 Analysis”) as presented as Item 4 at the Commission’s August 11, 2021 Business Meeting.

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 (“BESS”) totaling 110 MW and a 100 MW solar photovoltaic system connecting into the same interconnection facilities at MRP-owned generating plants.

Comments

Comments on the Stack Analyses

For ease of reference, MRP includes here as Figures 1, 2 and 3 the three Summer 2022 stack analyses as presented at the August 11, 2021 Business Meeting:¹

¹ The July 2022, August 202 and September 2022 draft analyses were presented on slides 39, 40, and 41, respectively, of the presentation available at this link: <https://efiling.energy.ca.gov/getdocument.aspx?tn=239252>.



July 2022 Draft

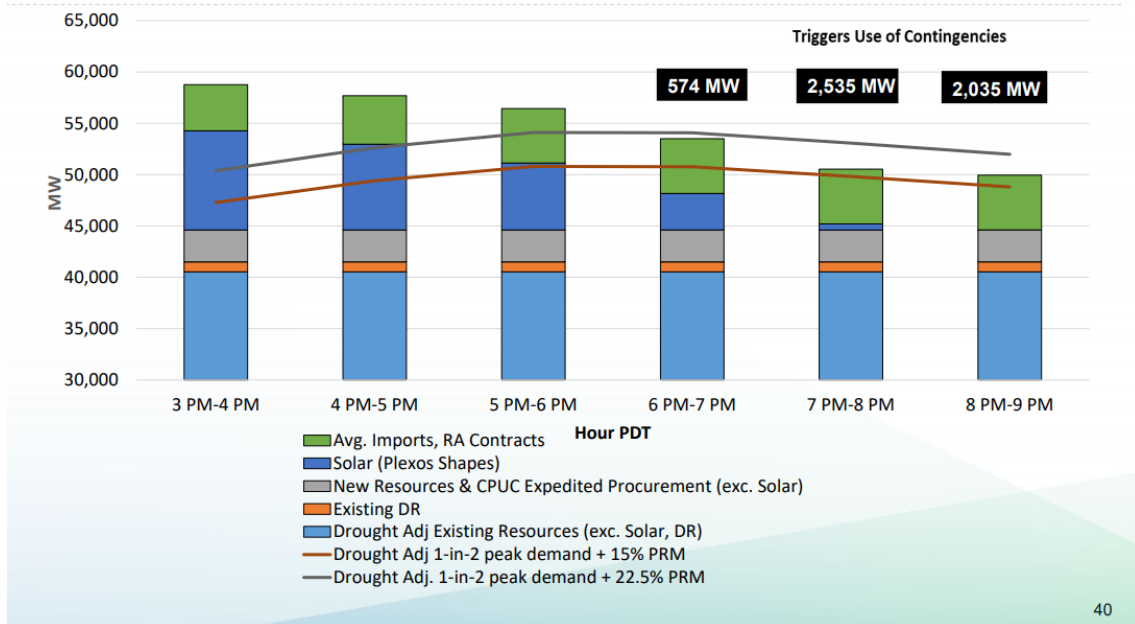


Figure 1 - July 2022 Preliminary Stack Analysis



August 2022 Draft

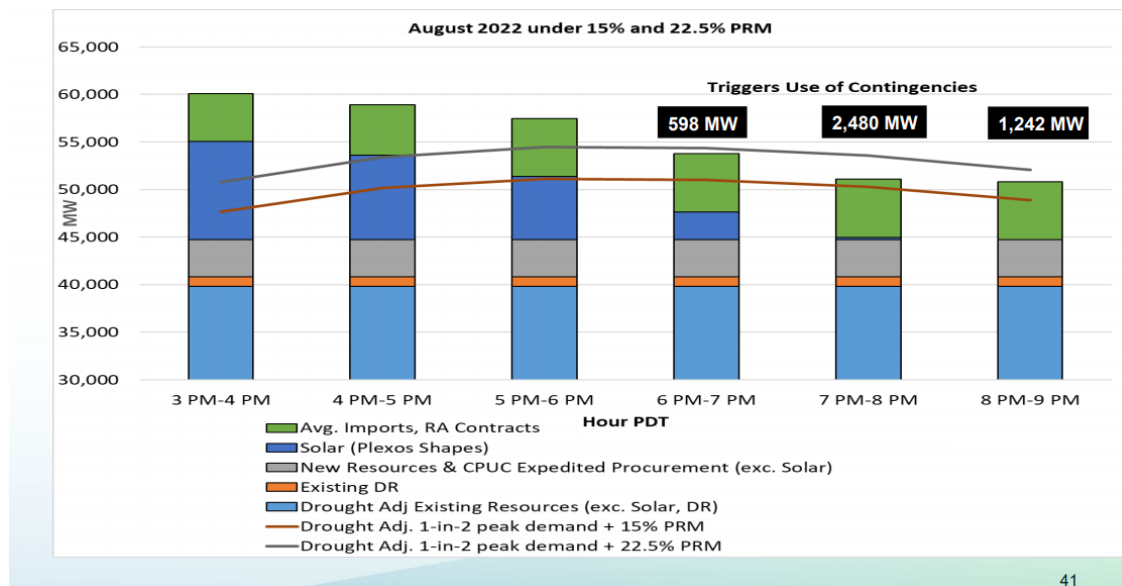


Figure 2 - August 2022 Preliminary Stack Analysis



September 2022 Draft

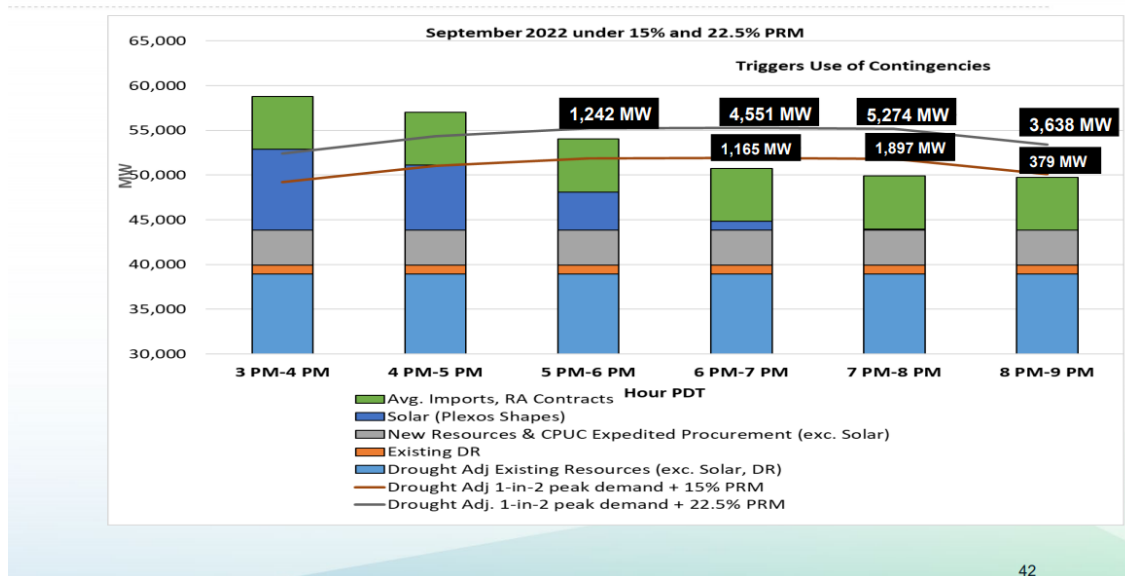


Figure 3 - September 2022 Preliminary Stack Analysis

These charts all project resource deficiencies in Hour Ending 20 (HE20, 7- 8 PM) ranging from 2,480 MW to 5,274 MW using a 1-in-2 drought-adjusted peak demand forecast plus a 22.5% Planning Reserve Margin (“PRM”). Additionally, the September 2022 analysis projects resource deficiencies between 1,165 MW and 1,897 MW in HE19, HE20 and HE21 with a 15% PRM.

As the accompanying narrative describes, the 22.5% PRM is intended to provide an additional 7.5% capacity margin for 1-in-10 weather year demand variability – a total of 9%, instead of the 1.5% assumed for load variability as part of the “traditional” 15% PRM.²

Before MRP comments on various details of the stack analysis, MRP reiterates its overarching concern that this stack analysis does not ensure whether additional procurement allows the system to meet a 0.1 loss of load expectation (“LOLE”). While the stack analysis attempts to meet 1-in-10 weather year demand, doing so is not the same as meeting a 0.1 LOLE. While the California energy agencies have used a 0.1 LOLE planning standard as a metric to maintain reliability, this near-term analysis does not indicate how any accelerated procurement will or will not achieve this standard over the mid- to long-term. Consequently, this analysis may result in additional procurement that cures resource shortfalls relative to a 1-in-10 weather year forecast demand but does not achieve a 0.1 LOLE. The energy agencies must undertake the more thorough stochastic analysis needed to assess the reliability need and determine what resources are required to meet the 0.1 LOLE standard in the most cost-effective way.

² See *California Energy Commission Preliminary 2022 Summer Supply Stack Analysis* at page 2, available at <https://www.energy.ca.gov/filebrowser/download/3655>.

MRP now comments on various aspects of the stack analyses.

First, MRP supports using a PRM component higher than 1.5% to account for demand variability in the PRM. There is consensus that weather variability is increasing and hotter weather beyond “average” weather is increasingly likely in any given year. In other words, MRP does not believe that a 15% PRM continues to ensure 0.1 LOLE given the supply mix on the grid today. While using a 7.5% adder to account for increasing weather variability is understandable, this adder may or may not ensure a 0.1 LOLE either, especially depending on the type of resources procured to close the deficiencies. Again, without performing a stochastic LOLE analysis, it is not clear whether simply closing the projected resource deficiencies, even to a 22.5% PRM, will result in maintaining a 0.1 LOLE.

Second, the stack analyses all appear to assume that the same amount of demand response (“DR”) that is available at 3-4 PM also will be available at 8-9 PM. MRP questions whether DR program response generally lasts longer than four consecutive hours to allow for such counting in the stack analysis. This seems highly unlikely, and should either be amended or justified.

Third, the stack analyses appears to mix apples and oranges (i.e., capacity and energy) with regards to resource counting. The “drought-adjusted existing resources (excluding solar and demand response)” column, which includes wind and hydro resources, does not change across the six hours presented. It therefore appears to use capacity values for wind and hydro resources rather than the hourly energy profiles used for solar resources. MRP recommends that, for variable resources (i.e., solar, wind and DR programs), the analysis should use conservative estimated hourly profiles rather than static MW capacity values associated with RA net qualifying capacity (“NQC”). For DR, if estimated hourly profiles are not readily accessible, then the next best option is to limit the duration in which DR programs would generally be dispatched.

Fourth, for each of these three months, the figures show the same value for “average imports, RA contracts” across each of the six hours. Inspecting these figures appears to show values of greater than 5,000 MW for imports for these three months in 2022. While the 2022 RA annual showings have not yet been made, MRP respectfully encourages the Commission to use prudently conservative assumptions about the availability of imports. MRP agrees that import values should be based on RA contracts, which should indicate that resources are committed to serving California load, and should not be based spot market import energy sales, which do not indicate whether the backing resources are, in fact, committed to serving California load.

Further, assuming that California will have access to historically “average” levels of imports even based on RA import contracts may be an unwise assumption. MRP notes that the CAISO was a net *exporter* across its peak gross demand on July 9, the day on which the CAISO observed its peak demand for 2021 to date. As Figure 4 shows, the CAISO’s net imports were in the range of only 2,000 – 2,500 MW across its net peak demand time that same day. MRP acknowledges that multiple factors limited imports this day, including high temperatures in the Pacific Northwest (which caused high demand in other western load centers) and wildfire-driven reductions in transfer capability on both the California Oregon Intertie and the Pacific Direct

Current Intertie. Nevertheless, these factors (increased competition for fewer resources across the west and wildfire-induced resource and transmission restrictions) suggest that it would be unwise to place undue reliance on out-of-state resources whose energy must be delivered on long-haul transmission.

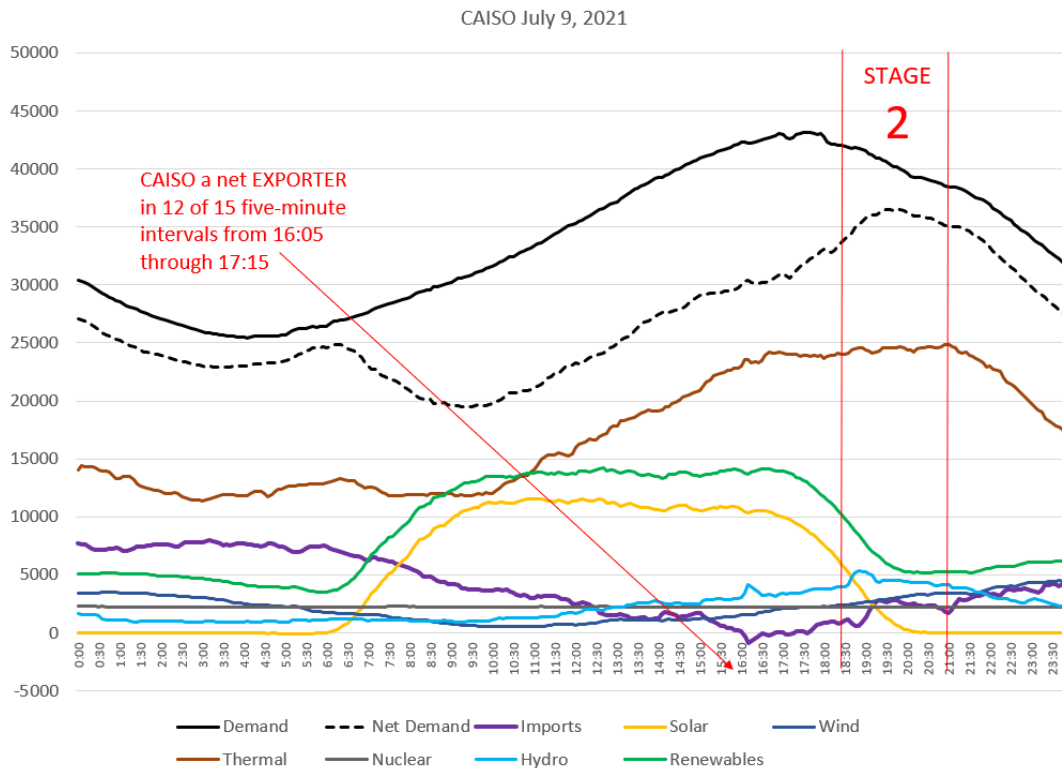


Figure 4 - CAISO Five-Minute Data from July 9, 2021

Source – CAISO Five-Minute Data available at <http://www.caiso.com/TodaysOutlook/Pages/supply.html>.

Fifth, MRP notes that most analyses assume that the entire thermal fleet – with the possible exception of the once-through-cooled resources - will be available at the current levels for the indefinite future. MRP cautions against relying on that assumption under the current one-year system RA program. MRP has been approached, and expects other California suppliers have been approached as well, by load-serving entities outside the CAISO balancing authority area offering multi-year contracts to in-CAISO resources to serve as supporting resources for exports from the CAISO BAA. To the extent internal generation is contracted to serve load outside of the CAISO BAA, the staff analysis should account for those commitments and should not automatically assume that in-state generation will be available to serve CAISO load.

Sixth, the analysis indicates that nearly 5,000 MW of new resources will be available for August 2022. MRP questions if the Commission assumed correctly that such new resources, which MRP expects will be four-hour battery resources, are truly available for the entire six-hour duration of HE 16 through HE 21. To the extent that such new resources are primarily four-hour storage resources, the analyses should only reflect the reliability contribution towards the hours of most need. Better shaping the new resource stacks to reflect four-hour availability may

reveal deficiencies in other hours as well. For example, it is possible a deficiency may occur during HE 21 if the new four-hour resources are all used up by HE 20. Likewise, if the four-hour resources are “saved” for HE 18 through HE 21, then deficiency may occur at HE 17 during September in this stack analysis, though such deficiencies are less likely because of the additional solar production at HE 17. In any case, given the expectation that many of the new resources procured will be four-hour battery resources, the stack analysis should not assume those resources are available for a six-hour strip.

With regards to new resources, the analyses seem to indicate that nearly 5,000 MW of new resources will be available for August 2022, but that approximately only 4,000 MW of new resources are expected to be available for September 2022. Given the presumption that any new resources that is available for August will also be available for September, the difference between these August and September values, if they are, in fact, capacity values, is unclear. If the values are not capacity values, but energy values, then it is not clear why the values would be same for all six hours and not shaped, especially if the underlying resources have solar components.

Finally, to reiterate, while these stack analyses identify projected gaps between deterministic demand and supply projections, MRP respectfully urges the Commission to swiftly move beyond the simplistic stack analyses to the data-rich stochastic LOLE analyses that must be performed to determine whether any short-term procurement undertaken to cure the stack analysis gaps will, in fact, ensure California achieves a 0.1 LOLE, and will do so without incurring unnecessary expense to drive system reliability beyond 0.1 LOLE.

MRP cautions that while the analysis may result in higher procurement targets, the results cannot be directly translated to “revised” requirements associated with the RA program. This is because the RA program allows LSEs to count the capacity value of all resources, specifically, that of solar resources, to meet the HE19 to HE20 net peak requirements to which the CEC analysis shows little, if any, contribution. As such, under current RA program rules, resources procured to cover the HE19 and HE 20 net load peaks will also count towards meeting RA program requirements, which are based on gross load peaks. Because the resource stacks for the gross load peaks may not be deficient, capacity procured to meet the net load peaks may lead to a surplus of capacity procured to meet the gross load peaks, which could displace capacity needed to meet both the gross and net load peaks. Because the CEC analyses do not fully align with RA program targets and counting methodologies, they require additional steps to be converted to RA program requirements. Again, to reiterate, merely covering the projected deficiencies will not ensure that resulting system meets the 0.1 LOLE target; more sophisticated analysis is required to assess that.

Request for Supporting Data

The stack analyses are presented in graphs without any accompanying numerical data. To better allow entities to use and validate the analysis and to conduct their own analysis, MRP respectfully requests that the Commission provide underlying data tables, with as much resource type-specific information as possible, for this analysis and for any future analyses.

Conclusion

MRP thanks the Commissions for the opportunity to submit these comments on the Preliminary 2022 Stack Analyses. MRP respectfully urges the Commissions (1) conduct the robust stochastic analysis needed to thoroughly assess the proposed procurement, including its cost-effectiveness, and (2) convert its recommendations to align with RA program counting rules and methodologies to ensure that the CPUC applies the appropriate reliability targets so that no existing capacity is unintentionally displaced. Finally, MRP requests that the Commission provide the numerical information underlying these analyses and all future analyses.

Respectfully submitted,

/s Brian Theaker

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