OPENING COMMENTS OF THE
SAN DIEGO COUNTY WATER AUTHORITY
ON PROPOSED PREFERRED SYSTEM PORTFOLIO AND TRANSMISSION
PLANNING PROCESS RECOMMENDATIONS

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I. INTRODUCTION

Formed in 1944, the Water Authority provides wholesale water supply to 24-member agencies that span the vast majority of San Diego County and serve 3.3 million people and a $222 billion economy. The Water Authority imports approximately 80% to 90% of the water used in San Diego County, builds, owns and operates and maintains large scale regional water infrastructure that includes water storage. Associated with that water storage are energy production facilities.
Sections 5 and 5.1 of the County Water Authority Act (Water Code Appendix, Chapter 545, statutes of 1943) empower the Water Authority to engage in certain electric and gas enterprises and activities, including: (1) transacting in power markets, (2) generating hydroelectric power; (3) purchasing hydroelectric and non-hydroelectric power from any third-party generators the Water Authority chooses, including the United States; (4) selling, providing, and delivering such power to itself (as a public agency), its member public agencies, entities that it relies upon to produce, transport and treat the water it supplies to its member public agencies and customers (Water Contractors), and to third-parties engaged in the sale of power at wholesale or retail (Other Power Purchasers); (5) acquiring, constructing, owning, operating and maintaining power generation, transmission and distribution facilities used to sell, provide, or deliver power to the Water Authority, its member public agencies, and its Water Contractors.

The Water Authority appreciates the opportunity to provide comments and thanks the Commission in advance for its consideration of the following comments.

II. WATER AUTHORITY COMMENTS

Q1. Do you support the staff recommendation that the Commission adopt the hybrid conforming portfolio as the basis for the Preferred System Plan for the 2017-2018 IRP cycle? Why or why not?

The Water Authority supports the adoption of the hybrid conforming portfolio given that adjustments by Commission staff were made to LSEs’ plans that did not include sufficient resources on an energy or capacity basis to conduct a reliability analysis. Additionally, the hybrid conforming portfolio incorporates the 40-year age-based retirement assumption of gas generation and cogeneration as well as satisfying SB 100’s goal of 60% RPS by 2030. However, the hybrid conforming portfolio does not consider local capacity value as a resource and does not replace any local capacity removed by the assumption of the 40-year retirement assumption, so modifications
to the hybrid conforming portfolio should be made to include local capacity to maintain resource adequacy in both the system and in local areas.

Q4. Comment on whether or not the hybrid conforming portfolio is likely to result in a reliable system in 2030.

The hybrid conforming portfolio relies on hydro resources from the Pacific Northwest, citing in-state hydro resources may not be available given drought conditions. Relying on hydro from out of state may result in an unreliable system given aggressive Pacific Northwest goals to move towards carbon neutrality by 2030 (see Washington State bill SB 2115). There is also uncertainty on what energy resources are actually being imported into California, since a majority of cases do not show what exact resources are being imported. This could mean an increase in greenhouse gases from these resources, which would not align with SB 100 goals.

Q5. Are the adjustments made by staff to the geographic resource allocations proposed by LSEs to develop the hybrid conforming portfolio as described in Section 2.1 above, warranted? What modifications would you make to these assumptions and why?

Commission staff made adjustments to regions where new wind or renewable buildout would exceed available transmission capacity in California. The Commission stated that these “adjustments were made to preserve the geographic location…and move resources to nearby locations when the transmission assumptions were exceeded.” Given these adjustments and the assumptions that you can “move resources to nearby locations when transmission assumptions are exceeded”, Commission staff should still run the model assuming these adjustments cannot be made. This will provide a better understanding of grid reliability and the resources that may need to be procured earlier to ensure grid reliability.

Q6. Comment on the implications of the increased reliance on imports represented by the hybrid conforming portfolio.
Relying on imports, especially when some are unknown energy resources, may not provide an accurate picture in terms of grid reliability and reaching carbon neutrality by 2045. If out of state resources are relied on, when California ratepayers are paying for some renewable resources to be curtailed or exported at prices below contract value, then the model needs to be rerun to provide a better understanding if California did not rely on imports, or exports and curtailment of renewable resources. Does that mean more energy storage, more renewables etc.?

**Q7. Comment on the hydroelectric feasibility analysis conducted by staff. Should the Commission require additional or different approaches to reliance on hydroelectric resources? What are your specific recommendations?**

The Commission should not put more emphasis on Pacific Northwest hydro than on in-state hydro. If out of state hydro becomes unavailable because those states are using the resources for themselves, then the Commission has planned an unreliable system. The Commission instead should model the potential of future hydro projects in the state. This will help hydro projects that are in the planning phases and the potential for these projects to move forward and help with a more reliable system.

**Q8. Comment on any actions the Commission should take to mitigate drought risk, especially for in-state hydroelectric resources.**

The Commission should look at hydro resources where existing reservoirs that are used for emergency storage in drought conditions could also be used for energy storage. The Water Authority, in partnership, is exploring a potential 500 MW pumped energy storage project that utilizes an existing reservoir that is also used for emergency storage (San Vicente Energy Storage Facility-SVESF). Utilizing resources like SVESF would help mitigate drought conditions, ensure grid reliability and reach California’s ambitious climate goals.

**Q9. Comment on the potential for WECC-wide resource shuffling and how the Commission should address it.**
The Commission should include an analysis of non-specified system resource imports to California from interconnected states as well as imports into those states throughout the Western Electricity Coordinating Council (WECC). By including an inclusive WECC wide analysis the Commission can gain an understanding of the resources that are imported as non-specific system resources being imported as low carbon energy into California. To the extent possible non-specific system imports and RECs separated from energy should be reduced to enable better visibility into the resources being imported into California.

**Q10. Comment on additional hydroelectric analysis that should be conducted in the future.**

The hybrid conforming portfolio assumes a reduction in in-state hydroelectric and pumped storage resources and an increase in Pacific Northwest Hydropower imports. The Commission should include a review of renewable and greenhouse gas reduction measures currently being considered in Washington and Oregon and what effects those initiatives may have on Pacific Northwest Hydropower availability for California. A sensitivity analysis should also be considered for adding new long duration pumped storage capacity to the system to allow for integration of in-state renewable energy and the potential to reduce unspecified out of state system imports.

Additionally, pumped storage should be reviewed for regional planning areas similar to the Gas-Electric Reliability Coordination for Southern California study conducted by the CAISO during the 2018/19 TPP process to ensure reliability issues are not created.

**Q15. Comment on the curtailment results of analyzing the hybrid conforming portfolio.**

Curtailment decreases with the hybrid conforming portfolio, but that assumption is due to increased energy imports. Assuming no increased energy imports, the Commission should rerun its model to show how much curtailment would occur without these imports.
Q16. Should the Commission place additional or tighter requirements on LSEs filing IRPs in the next IRP cycle? Suggest specific requirements and explain your rationale.

Yes, LSEs should be required to file IRPs that plan resources out towards 2045 instead of 2030 if it is the State’s intent to reach carbon neutrality by 2045.

Q18. Should the hybrid conforming portfolio be analyzed as the reliability base case in the 2019-20 TPP? Why or why not? What changes would you recommend?

The hybrid conforming portfolio does not appear to be the best model for a reliability base case analysis. As described, the hybrid conforming portfolio does not appear to include an analysis of resource adequacy or operating reliability needs as defined by North American Electric Reliability Corporation (NERC) for the reliability needs of the bulk power system. Additionally, the hybrid conforming portfolio does not include an analysis of the forecasted loss of capacity resources currently providing NERC reliability standard services for primary voltage and frequency response required for grid reliability. The intent of NERC reliability standards is to deliver an adequate level of reliability (ALR) and the hybrid conforming portfolio does not appear to provide this level of analysis.

Q19. Should the hybrid conforming portfolio be analyzed as the policy-driven base case in the TPP? Why or why not? What changes would you recommend?

The hybrid conforming portfolio may be used as a policy-driven base case in the TPP. The inclusion of policy related energy and greenhouse gas reduction goals by the LSEs into their IRPs make the hybrid conforming portfolio a good candidate for a policy driven analysis. However, because of uncertain project, permitting, and infrastructure needs, several cases should be considered to develop a range of likely resource assessments. Policy portfolios should also incorporate reliability policy objectives similar to those recommended by NERC’s 2018 Long-
Term Reliability Assessment.\textsuperscript{1} Some of these observations for California include:

- Additional flexible resources to aid with the continued growth of distributed solar resources.
- The CAISO’s three-hour ramping needs have already exceeded 14,777 MW earlier than previous projections and is expected to exceed 17,000 MW by 2021.
- Better representation of Distributed Energy Resources in load models.
- Additional bulk power storage has the potential offer much needed capabilities to maintain grid reliability and stability.

At a minimum, two different case studies should be considered in line with the staff recommendation of Case B and C.

**Q20.** What are the potential implications if the CAISO analyzes the hybrid conforming portfolio and takes transmission investments to the CAISO Governing Board, if the resource procurement by LSEs between now and 2030 turns out to be significantly different than the hybrid conforming portfolio suggests? If this is a concern, suggest potential remedies or other analysis or actions that could be taken.

If resource procurement by LSEs between now and 2030 is significantly different, LSEs would be required to make up for lack of resources by procuring other energy sources. These costs would then be passed onto California ratepayers. To help mitigate this, the Commission should model the potential with no out of state resources since they hybrid conforming plans rely heavily on those resources.

**Q21.** Do you support the staff recommendation to transmit two policy-driven sensitivity scenarios (Case B and Case C) to the CAISO for further analysis as policy-drive sensitivity scenarios? Why or why not? What changes would you make?

Case B should be transmitted for further analysis. Case B shows energy storage beyond three hours and includes a larger amount of pumped storage. Case B is important for moving towards carbon neutrality by 2045 given the fact that massive amounts of renewables will need to be incorporated into the electric grid. Case C has minimal pumped storage and shorter battery

duration.

Q23. Comment on any other aspects of the Commission’s recommendations to the CAISO for TPP purposes.

For purposes of TPP and reliability analysis it is recommended that the hybrid conforming portfolio model be compared to the WECC’s MAVRIC model results for WECC-CAMX region to better identify changes and differences in the model’s outputs for reliability. For example, the results from the WECC probabilistic model show a sharp increase in LOLH (hours/year) in year 2022 to 2.3 up from 0.13 in 2020 and 0.0 in 2020 from the 2016 ProbA results. These differences should be reconciled prior inclusion in the CAISO TPP analysis.

Q24. What further policy or procurement actions should the Commission take as a result of the analysis presented in this ruling? Explain your recommendations in detail.

Bulk energy storage projects like pumped storage have long lead times. These important projects can integrate massive amounts of renewable energy. However, without early procurement of these resources, developers and financers are unlikely to take such risks if there are no early offtaker agreements. Procuring bulk energy storage early allows these projects to move forward and in turn help California meet its ambitious climate goals.

Q25. Is an increase in the RPS compliance requirement, beyond 60 percent RPS in 2030, warranted? Why or why not?

No, if reaching carbon neutrality by 2045 can come from nuclear, hydro or more renewables then compliance beyond 60 percent in 2030 is not needed. However, if LSEs are relying on more renewables to reach the carbon neutrality goals, than more planning is needed for energy storage.

Q26. Acknowledging that near-and mid-term reliability issues have been addressed in comments in response to a separate ruling in this proceeding, should the Commission order any resource procurement in the context of the IRP proceeding at this time? How much? Explain your rationale.
The Water Authority respectfully requests the Commission to order 2000 MW of pumped storage with greater than four hours storage duration in the context of the IRP. Pumped storage in this amount accounts for the lack of grid reliability in Southern California according to the hybrid conformance portfolio. It also allows developers and financers to move forward in developing such projects.

III. CONCLUSION

The Water Authority thanks the Commission for its attention to the matters discussed herein.

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Respectfully submitted,

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