



## **CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S INFORMAL COMMENTS ON THE DRAFT 2023 INPUTS AND ASSUMPTIONS (2023 I&A)**

### **I. INTRODUCTION**

California Community Choice Association<sup>1</sup> (CalCCA) appreciates the opportunity to submit informal comments on the *Draft 2023 Inputs and Assumptions (2023 I&A)*, presented at the June 7, 2023 public webinar, held to present and discuss the draft Inputs and Assumptions (Draft I&A Document) for the 2022-2023 Integrated Resource Plan (IRP) cycle and ask for stakeholders' input. The Draft I&A Document for the 2022-2023 IRP cycle will be used for developing the 2023 Preferred System Plan (2023 PSP) and 2024-25 Transmission Planning Process (2024-25 TPP) portfolios for the California Independent System Operator Corporation (CAISO) electric system.

The Energy Division Staff should update the Draft I&A Document to reflect the following recommendations:

- Include Aliso Canyon gas dispatch constraints in IRP modeling (Section 7.2: Local Resource Adequacy Constraint);
- Address inconsistent estimates of the hydro effective load carrying capability (ELCC) (Section 7.1.5 Hydro);

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<sup>1</sup> California Community Choice Association represents the interests of 24 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Energy For Palmdale's Independent Choice, Lancaster Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.



- Expand the range of potential load forecast errors (Section 1.2: Overview of SERV Model);
- Verify the status of generators in Western Electric Coordinating Council (WECC) Anchor Data Set (ADS) (Section 3: Baseline Resources); and
- Maintain the National Renewable Energy Laboratory's (NREL) rate of cost decline for li-ion batteries (Section 5.3 Energy Storage Costs).

## **II. INCLUDE ALISO CANYON GAS DISPATCH CONSTRAINTS IN IRP MODELING (SECTION 7.2: LOCAL RESOURCE ADEQUACY CONSTRAINT)**

The Aliso Canyon proceeding (Investigation (I.) 17-02-002) used detailed gas system modeling to develop constraints on generator dispatch with and without the Aliso Canyon storage.<sup>2</sup> CalCCA and other parties provided testimony stating that the IRP proceeding (Rulemaking (R.) 20-05-003), not the Aliso Canyon proceeding, is the right venue to consider how changes to the electric system can be used to compensate for a reduction in Aliso Canyon storage.<sup>3</sup>

The Draft I&A Document does not describe efforts to include the Aliso Canyon Gas Constraint in Renewable Energy Solutions Model (RESOLVE) or Strategic Energy Risk Valuation Model (SERVM) modeling. Those constraints should be included in RESOLVE and SERV modeling to ensure that the Preferred System Plan will meet reliability requirements with the planned restrictions on Aliso Canyon storage. IRP is the correct forum to determine reliability requirements and inform procurement, rather than making those determinations within the Aliso Canyon proceeding.

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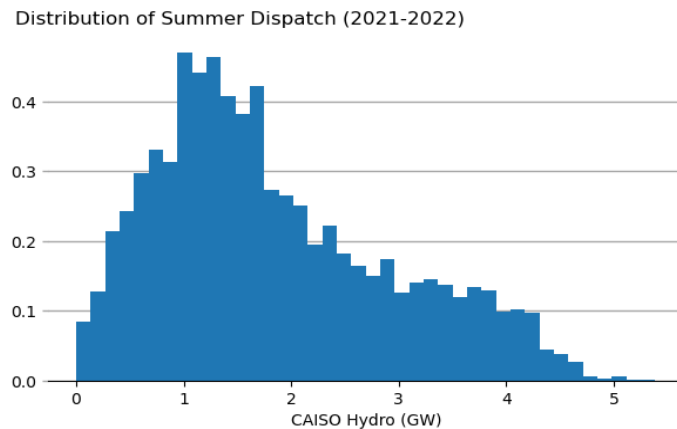
<sup>2</sup> *Aliso Canyon I.17-02-002: Staff Proposal for Portfolio and Next Steps*, I.17-02-002 (Sept. 23, 2022) <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M497/K170/497170154.PDF>.

<sup>3</sup> *Prepared Direct Testimony of Andrew D. Mills, Ph.D. on behalf of the California Community Choice Association in Order Instituting Investigation Pursuant to Senate Bill 380 to Determine the Feasibility of Minimizing or Eliminating the Use of the Aliso Canyon Natural Gas Storage Facility Located in the County of Los Angeles while Still Maintaining Energy and Electric Reliability for the Region*, I.17-02-002 (Dec. 12, 2022).

### III. ADDRESS INCONSISTENT ESTIMATES OF THE HYDRO ELCC (SECTION 7.1.5: HYDRO)

The Draft I&A Document states that the full Effective Load Carrying Capacity (ELCC) of both large and small hydro in 2030 was 4,970 megawatts (MW),<sup>4</sup> which differs from the 3,872 MW portfolio ELCC reported in the June 7, 2023 webinar.<sup>5</sup> Recent hydro dispatch during the summer months (June-September) during drought conditions, shows that maximum summer CAISO hydro was closer to the nearly 5 gigawatts (GW) value in the Daft I&A Document, as shown in Figure 1 below.

*Figure 1: Distribution of CAISO Hydro Dispatch During Summer Months (2021-2022)*<sup>6</sup>



Of similar importance, historical dispatch of hydro during these same summer months (in 2021-2022), shows a clear relationship between hydro dispatch and system conditions, as represented by the hourly net demand (CAISO managed load less solar and wind). Hydro

<sup>4</sup> Draft I&A Document at 146.

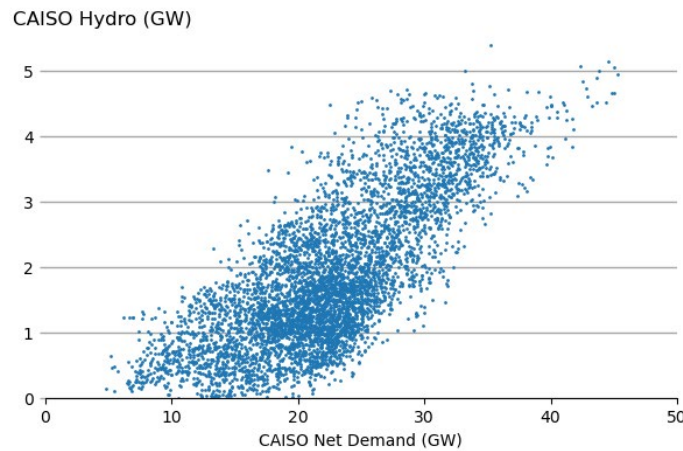
<sup>5</sup> *Draft 2023 Inputs and Assumptions (2023 I&A)* (June 7, 2023) at Slide 135: [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/draft\\_2023\\_i\\_and\\_a\\_workshop\\_slides.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/draft_2023_i_and_a_workshop_slides.pdf).

<sup>6</sup> Data from U.S. Energy Information Administration (EIA) hourly grid monitor for hydro in CAISO, accessed via the EIA OpenData API: <https://www.eia.gov/opendata/browser/electricity/rto/fuel-type-data>.



dispatch approached its highest levels of around 5 GW while the net load reached its highest levels of over 40 GW, as shown in Figure 2 below.

*Figure 2: Relationship Between CAISO Hydro Dispatch and CAISO Net Demand During Summer Months (2021-2022)<sup>7</sup>*



Energy Division Staff should address inconsistencies in the hydro ELCC estimates by using the ELCCs that align most closely with historical dispatch observations.

#### **IV. EXPAND THE RANGE OF POTENTIAL LOAD FORECAST ERRORS (SECTION 1.2: OVERVIEW OF SERVM MODEL)**

Previous Energy Division Staff documentation of the SERVM reliability model indicated that Energy Division Staff derived the range of load forecast errors from a European Central Bank survey of professional forecasters.<sup>8</sup> Where possible, Energy Division Staff should instead base these five points of load forecast errors on California experience with load forecasting. To inform this, CalCCA compared California Energy Commission (CEC) Integrated Energy Policy

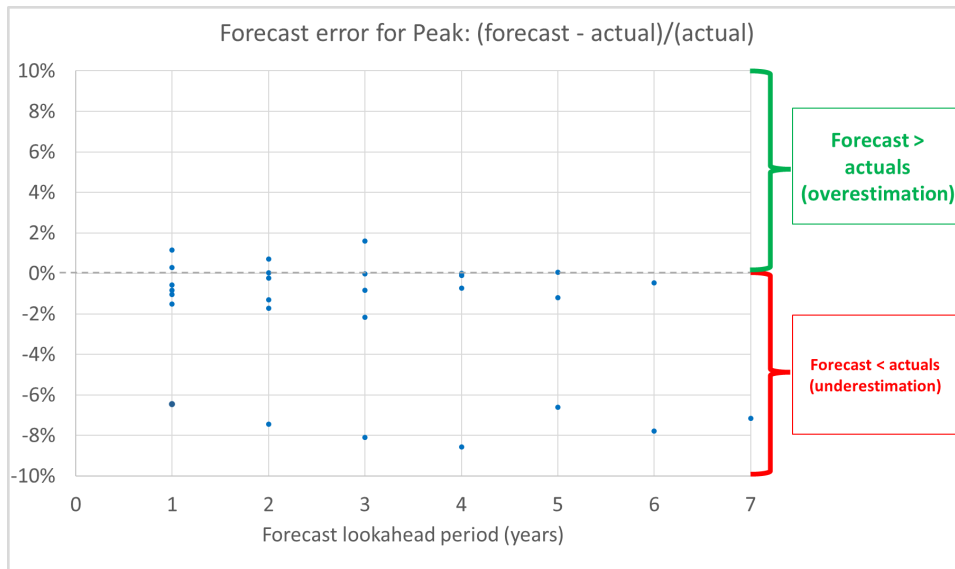
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<sup>7</sup> Load, hydro, solar, and wind data from EIA hourly grid monitor for CAISO, accessed via the EIA OpenData API: <https://www.eia.gov/opa/data/browser/electricity/rto/fuel-type-data> and <https://www.eia.gov/opa/data/browser/electricity/rto/region-data>.

<sup>8</sup> *Unified Resource Adequacy and Integrated Resource Plan Inputs and Assumptions – Guidance for Production Cost Modeling and Network Reliability Studies* (Mar. 29, 2019), at 30: [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2019-2020-irp-events-and-materials/unified\\_rairp\\_ia\\_final\\_20190329.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2019-2020-irp-events-and-materials/unified_rairp_ia_final_20190329.pdf).

Report (IEPR) 1-in-2 peak demand forecasts between future years and the current IEPR year to estimate load forecast errors unrelated to weather (i.e., all peak loads are based on the 1-in-2 weather conditions resulting in forecast errors from macroeconomic or other structural factors). CalCCA’s comparison found that the standard deviation of the California load forecast error over the past eight years was around three percent of peak demand, with forecast errors resulting from the demand update in the 2022 CEC IEPR exceeding seven percent, as shown in Figure 3.

*Figure 3: CalCCA Analysis of CEC IEPR Load Forecast Errors for California Peak 1-in-2 Demand<sup>9</sup>*



These high load forecast errors impact the reliability of the system and can increase the requisite Planning Reserve Margin (PRM). Energy Division Staff should, therefore, base load forecast errors on California experience with load forecasting where possible.

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<sup>9</sup> Data from CEC IEPR Forecasts from 2015-2022.



**V. VERIFY THE STATUS OF GENERATORS IN WECC ADS (SECTION 3: BASELINE RESOURCES)**

CalCCA found about 1500 MW of new capacity in the WECC ADS (Anchor Data Set) 2032 that may not exist or is no longer planned. Energy Division Staff should evaluate whether the following resources still belong in the non-CAISO baseline:

- **16 combustion turbine generators named Gas (Peaking) 5GT50 through Gas (Peaking) 20GT50 in SRP** - (total of 800 MW) - this is likely the Coolidge Expansion Project which was rejected by the Arizona Corporation Commission<sup>10</sup>
- **AES Westwing Energy Storage in SW\_AZPS** - 200 MW battery with a COD of 2022-12-31
- **Front Range-Midway1BA50 in RM\_PSCO** - a 50 MW battery with a COD of 2022-12-31
- **San Juan Storage-1 in SW\_PNM** - a 100 MW battery with a COD of 2023-03-01
- **Sandia Peak Grid Storage-11BA100 in SW\_PNM** - a 100 MW battery with a COD of 2023-04-01
- **Brunswick in SW\_NVE** - a 125 MW battery with a COD of 1959-12-01
- **Goldstrike Grid BESS in SW\_NVE** - a 50 MW battery with a COD of 2022-05-02
- **Goldstrike Grid BESS 2 in SW\_NVE** - a 30 MW battery with a COD of 2021-05-01

The battery projects listed here all have commercial operation dates (COD) prior to the date of this filing but are not operational and not planned according to the EIA's monthly electric

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<sup>10</sup> See <https://www.theguardian.com/us-news/2023/mar/20/they-keep-coming-back-a-black-town-in-arizona-battles-power-expansion-plans-again>.



generator inventory.<sup>11</sup> Energy Division Staff should evaluate whether these resources still belong in the non-CAISO baseline.

## **VI. MAINTAIN NREL’S RATE OF COST DECLINE FOR LI-ION BATTERIES (SECTION 5.3 ENERGY STORAGE COSTS)**

Energy Division Staff updated the data source to set the initial value for li-ion battery cost assumptions from Lazard to NREL ATB (Annual Technology Baseline). After setting the initial value using NREL ATB, the cost assumptions would not then follow the NREL ATB forward projections to allow several years for the market to adjust to high demand.<sup>12</sup> The commodity costs for lithium-ion batteries are volatile. While costs did increase at the end of 2022, commodity costs are again falling to levels observed in 2021.<sup>13</sup> Energy Division Staff should consider using NREL ATB projections and evaluating the impact of cost uncertainties through sensitivities.

## **VII. CONCLUSION**

CalCCA urges Energy Division Staff to update its Draft I&A Document to incorporate the recommendations herein.

Date: June 21, 2023

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<sup>11</sup> U.S. Energy Information Administration, *Preliminary Monthly Electric Generator Inventory (based on Form EIA-860M as a supplement to Form EIA-860)*: <https://www.eia.gov/electricity/data/eia860m/>.

<sup>12</sup> *Draft 2023 Inputs and Assumptions (2023 I&A)* (June 7, 2023), at Slide 33: [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/draft\\_2023\\_i\\_and\\_a\\_workshop\\_slides.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/draft_2023_i_and_a_workshop_slides.pdf).

<sup>13</sup> See [https://data.imf.org/?sk=2e0d4098-6df7-4483-9da3-3f59028724cd&hide\\_uv=1](https://data.imf.org/?sk=2e0d4098-6df7-4483-9da3-3f59028724cd&hide_uv=1).