Integrated Resource Planning 2nd Workshop: Reliable and Clean Power Procurement Program Staff Proposal

Energy Division

R.20-05-003

June 23rd, 2025

California Public Utilities Commission

Emergency Information

- In the event of an emergency, please proceed calmly out the exits.
- The evacuation site is the Garden Plaza area between Herbst Theater and the War Memorial Opera House Buildings, on Van Ness
- Exit the building at the Main Entrance at Van Ness and McAllister streets, cross McAllister Street, pass Herbst Theater and enter the plaza.

Purpose of Workshop

- On May 16th, 2025, IRP held a workshop on the RCPPP Staff Proposal.
- The purpose of this second workshop is to:
  - To aid in stakeholders developing a common understanding of the Staff Proposal.
  - To provide an opportunity for stakeholders to discuss key aspects of the Staff Proposal and suggest alternatives to the main design elements of the proposal, if parties have identified places where that should be proposed.
- Opening comments are due July 15th, and reply comments are due August 5th.

Logistics

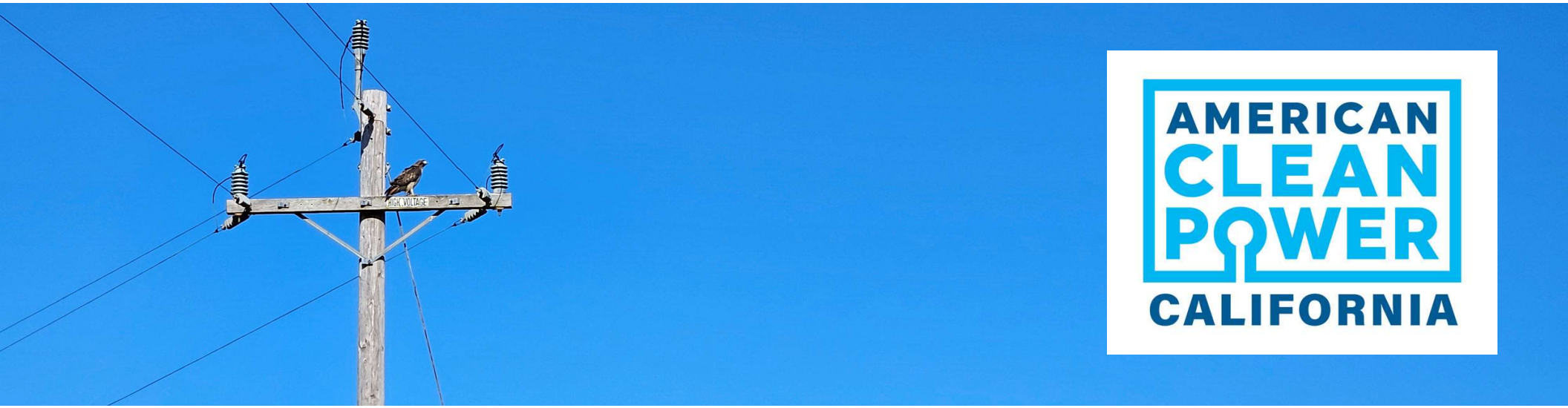
- Workshop slides are available at the Reliable and Clean Power Procurement Program (RCPPP) webpage.
- This workshop **will be recorded**, and the recording will be posted to the same webpage.

Clarifying Questions

- We invite clarifying questions using the "Q&A" feature of WebEx throughout the workshop.
  - Write your question in the "Q-and-A" box and direct it to “All Panelists”.
- All attendees have been muted. At the end of the presentation, stakeholders may ask verbal clarifying questions.

Agenda: Day 1

Monday, June 23rd, 10:00am – 5:00pm	
10:00 – 10:10am	Welcome
10:10 – 11:20am	Presentation Set #1: ACP, CEJA, LSA, Joint Presenters
11:20 – 11:50pm	Discussion on Set #1
11:50 – 12:50pm	Lunch
12:50 – 2:35pm	Presentation Set #2: ACP, SVCE, Hydrostor, PCE, Mainspring, LSA
2:35 – 3:05pm	Discussion on Set #2
3:05 – 3:15pm	Break
3:15 – 4:30pm	Presentation Set #3: Ava, AReM, PGE
4:30 – 5:00pm	Discussion on Set #3



RCPPP – ACP-California Proposals

June 23-24, 2025

ACP-California RCPPP Principles

- **Support Structural Evolution:** RCPPP is a critical step forward to bring structure and orchestration to resource planning and procurement:
  - **Achieve Reliability Goals:** RCPPP must support reliability investments to develop necessary new-build resources and retain necessary existing resources to achieve system reliability
  - **Achieve Emissions Goals:** RCPPP must support decarbonization investments to develop necessary new-build resources and retain necessary existing resources to achieve electric sector emissions targets
- **Forward Planning, Forward Procurement, and Long-Term Contracts Support Least Cost Outcomes:**
  - Extending planning, procurement, and contracting horizons reduces cost and risk for market participants while improving likelihood of successful economic, reliability, and environmental policy outcomes
- **Near-Term Action:** RCPPP frameworks should be well-vetted and structurally sound; near-term procurement action (i.e., 2028-2032 CODs) may be needed as a critical bridge for reliability and clean energy needs as RCPPP is developed and implemented

ACP-California: Summary of Proposals

- **Reliability**
  - **Initiate Near-Term Needs Assessment (ACP-CA/SEIA/LSA)**
  - **Reliability Framework:**
    - **Multi-Year RA with SOD**
    - **New-Build Requirements**
  - **Managing Deliverability Timelines**
- **Emissions**
  - **IRP Integration**
  - **Forward Requirements**
  - **Terms and Eligibility**

ACP-California strongly supports the Commission's efforts to bring enhanced structure and planfulness to the state's resource procurement framework through RCPPP.

Addressing Near-Term Resource Needs

ACP-California / Solar Energy Industries Association / Large-Scale Solar Association

June 23-24, 2025

NP ENERGY

Interim Procurement: Addressing Near-Term Needs

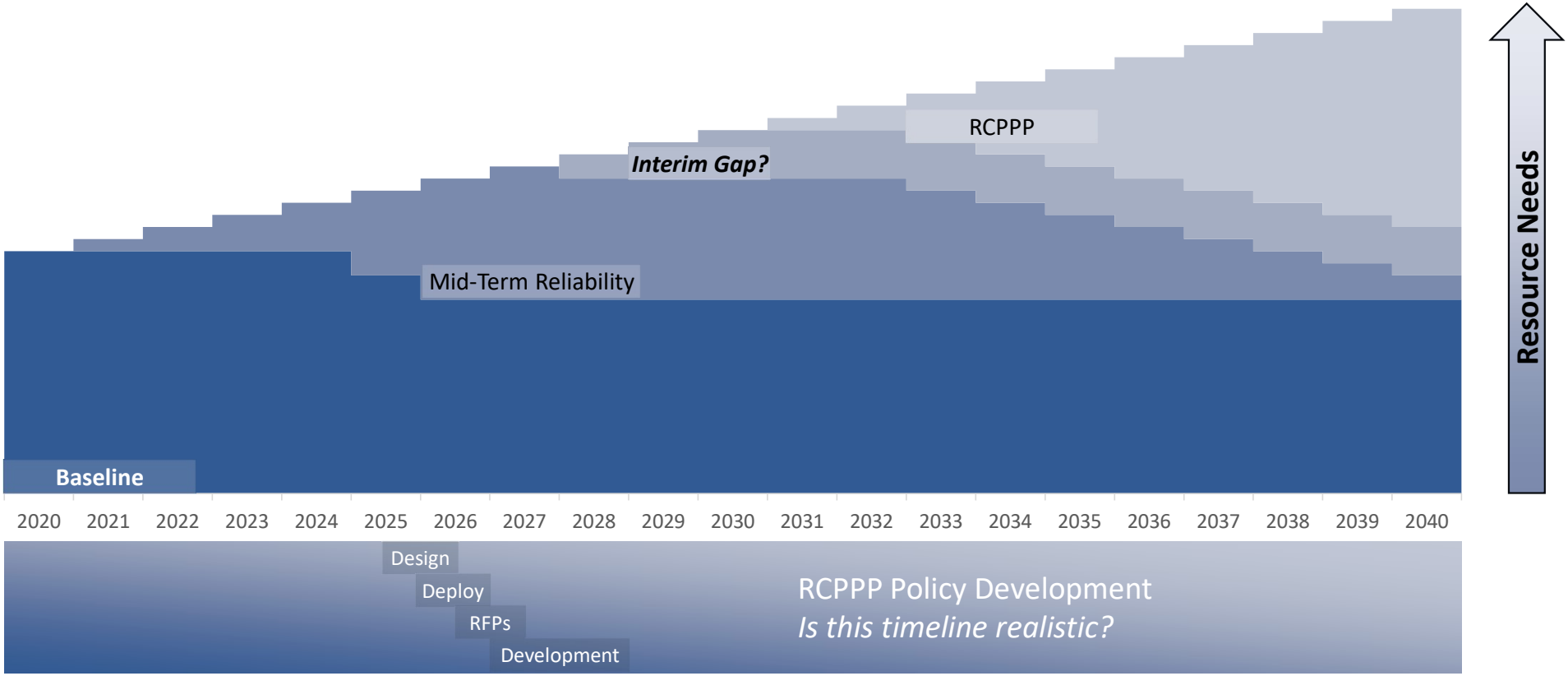
- Recent analysis indicates incremental resources will be needed to maintain reliability and reduce emissions in coming years, with more resources likely necessary to address load growth:
  - 2025-2026 TPP RESOLVE analysis identifies significant incremental capacity and clean energy in excess of LSE 2023 IRP plans (slide 21)
  - The 2022-23 IRP Preferred System Plan found a a need for clean energy production well beyond the SB 100 interim targets (D.24-02-047 at p. 75)
  - 2024 IEPR load forecast revisions substantially increase load forecasts in 2030 relative to 2023 vintage
  - Public, aggregate, up-to-date data on "baseline position" of existing and contracted resources is limited

- A revised needs assessment is critical to identify necessary near-term actions to support development and deliverability allocations for incremental resources needed for 2028-2032 timeframe

The Commission should act immediately to conduct a needs assessment:
- *Identify resource needs for 2028-2032*
- *Assess needs against existing and contracted resources*

A needs assessment will expedite RCPPP deployment and create optionality if RCPPP is delayed.

Timeline: An MTR-RCPPP Procurement Gap?



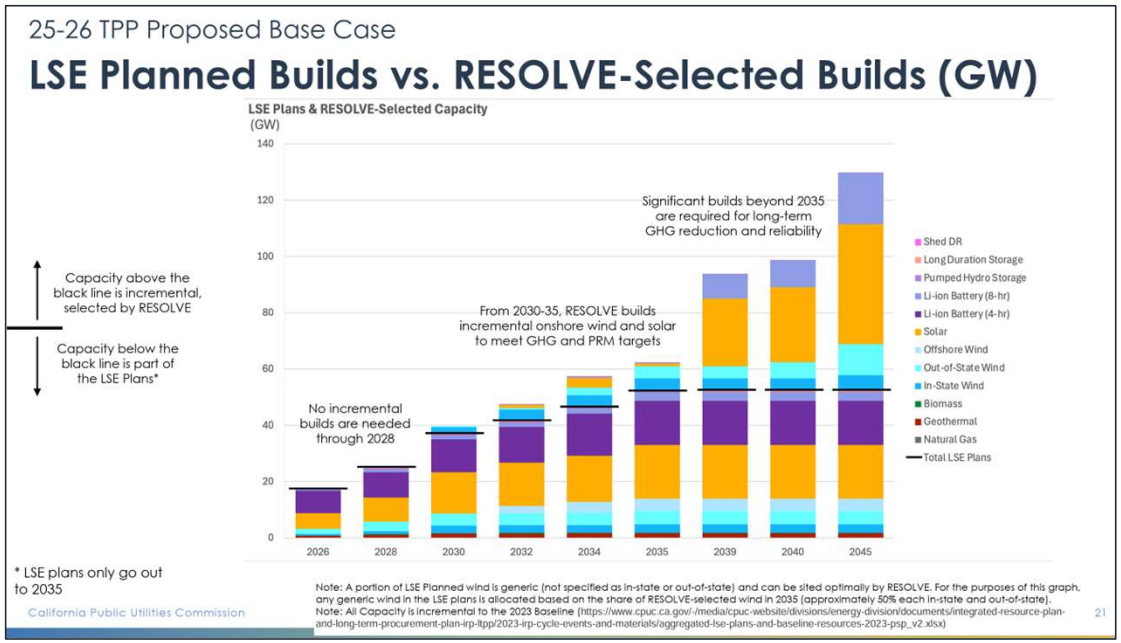
2028-2032 resource needs may require near-term actions ahead of "best case" RCPPP development timeline.

Near-Term Needs: *ACP-California Proposal*

- Energy Division should immediately conduct a needs assessment for 2028-2035:
  - **Update Baseline:** Develop an updated baseline resource list comprising existing and contracted resources through 2035 (T+9 from February 2026)
  - **Update Portfolios:** Develop updated policy-compliant portfolios for 2028, 2030, 2032, and 2035
  - **Identify Gaps:** Identify incremental resources needed to meet reliability and climate policy requirements in study years

- A robust, well-vetted needs assessment creates optionality for the Commission to pursue multiple paths in 2026:
  - **Implement RCPPP:** Establish forward procurement requirements under a finalized RCPPP framework
  - **Order Interim Procurement:** Establish forward procurement requirements under the legacy MTR framework while RCPPP is finalized, with modifications as needed (e.g. resource criteria, allocate by position)

1. What's Under Contract? *Refreshing the Baseline*

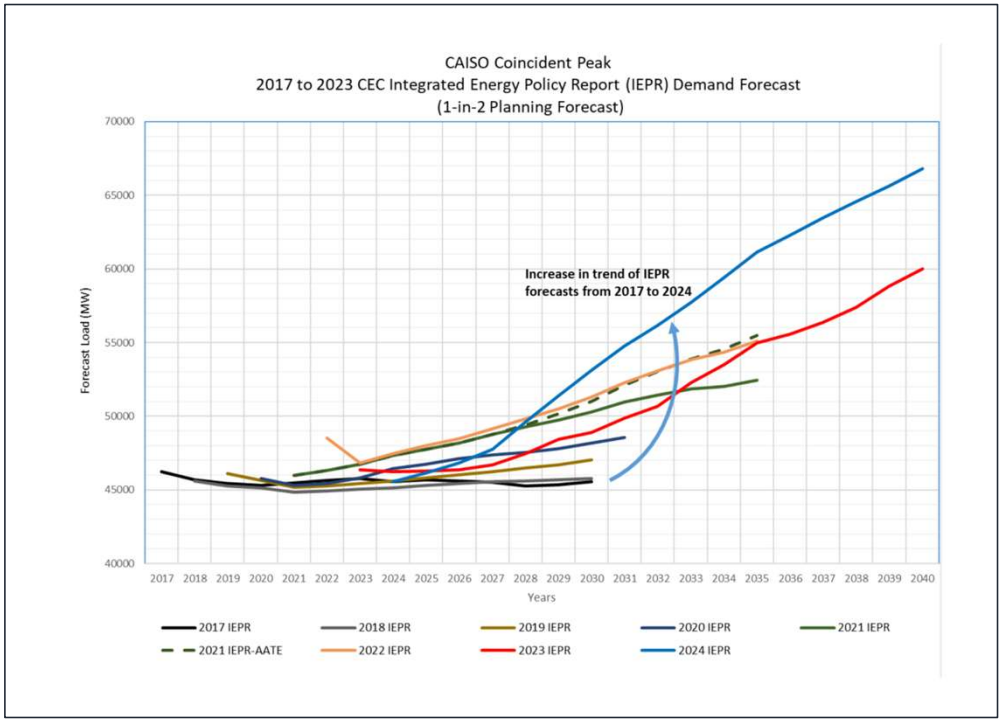


- 2025-2026 TPP analysis identifies incremental needs relative to 2023 IIRPs beginning in 2030
- 2023 IIRPs do not reflect accurate or current baseline:
  - May include "aspirational resources" and/or terminated contracts
  - May exclude incremental contracts (e.g. incremental MTR procurement)
- 2025-2026 TPP built on out-of-date 2023 IEPR load forecast – 2024 IEPR forecasts additional 5GW of peak load by 2032

*Energy Division should develop a refreshed **baseline list** of existing and contracted resources for 2028-2032 for comparison against system needs*

Source: 2025-2026 TPP SERVM and RESOLVE Analysis Results, Energy Division of the California Public Utilities Commission, January 10, 2025

2. What's Needed? *Updating Portfolio Analysis*



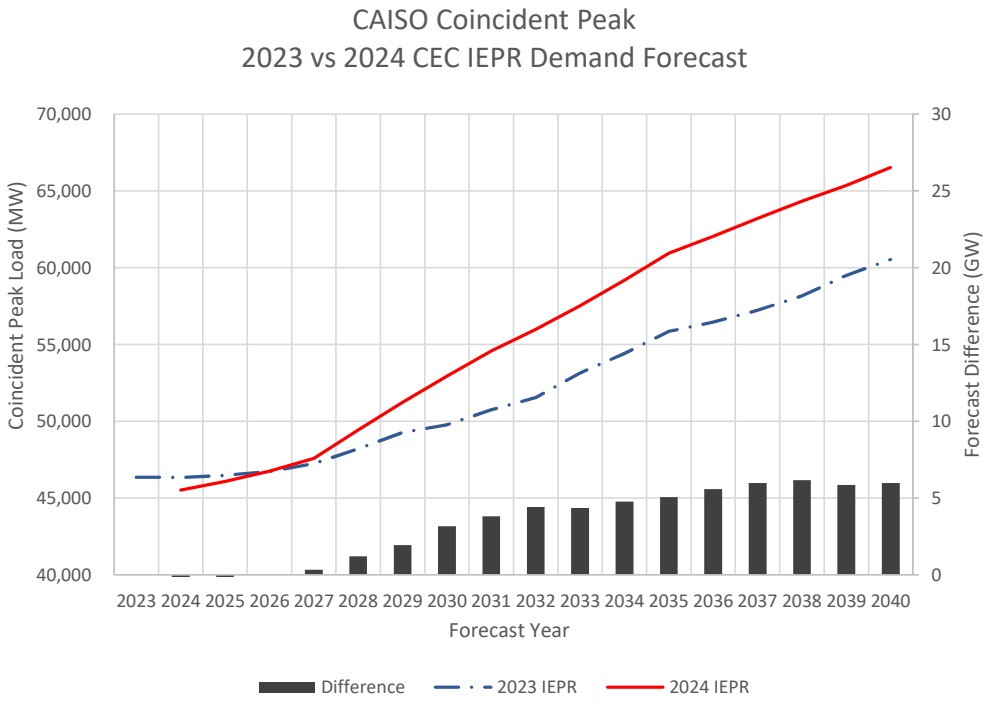
- 2024 draft IEPR forecast increments peak load forecast in 2030 by 4,045 MW (1-in-2) relative to 2023
- Incremental load growth will increase need for both reliability and clean energy requirements
- Regardless of inherent load growth uncertainty, the IRP process must plan for sufficient resources to meet the CEC load forecast

*Energy Division should refresh analysis of **policy-compliant portfolios** for 2028, 2030, and 2032 to determine minimum system needs for reliability and emissions reductions*

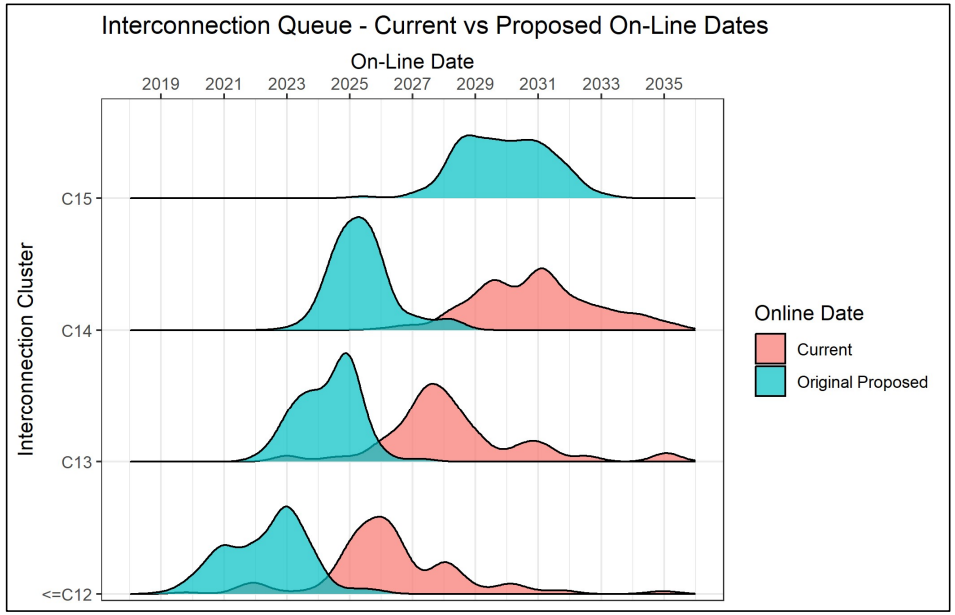
Source: Testimony of Elliot Mainzer, CEO, CAISO, US House of Representatives, March 25, 2025, based on data from Integrated Energy Policy Report, California Energy Commission, 2017-2024

Load Growth in 2024 IEPR

- Draft forecasts in 2024 IEPR significantly augment load growth through 2030, with approximately 5GW higher peak in 2032
- Higher load will drive significant reliability and clean energy needs
- Large new loads may not be clearly visible to LSEs in time for new resource development



3. What's Available? *Interplay with Cluster Studies*



- Cluster 14 and Cluster 15 resources will be necessary to meet any gaps in reliability or clean energy procurement.
- Many C14 resources are at risk of elimination or conversion to EO status without key milestones in 2026, yet may be necessary for near-term needs
- Based on past experience, it is likely that many C15 resource CODs may be delayed, increasing urgency to move necessary C14 resources forward
- A revised needs assessment will support near-term contracting and other actions necessary to move C14 and C15 projects forward on a viable timeframe for near-term needs.

The Commission should ensure procurement directives are executed with sufficient lead time for LSEs and developers to meet reliability and clean energy needs

Source: California ISO Generator Interconnection Reports; note: this analysis does not include resources interconnected outside of CAISO or through the Subscriber Participating Transmission Owner Model)

Cluster 14 timeline misalignment with RCPPP

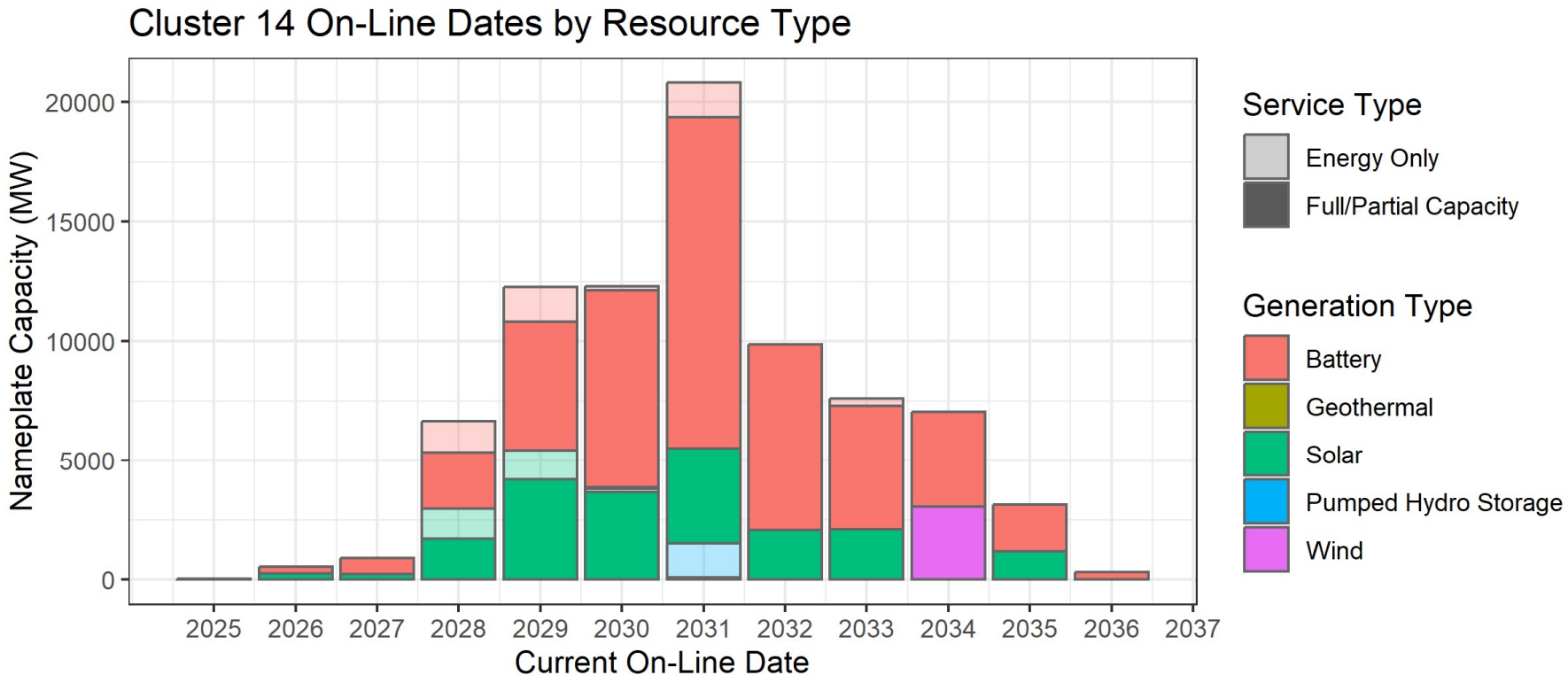
- **Cluster 14 projects are likely crucial to meeting near-term needs in the 2027-2032 timeframe, but they are at risk of being withdrawn from the queue** given the lack of proactive alignment on these processes and delays in RCPPP development

- Cluster 14 resources with TPD allocations **must secure PPAs to retain deliverability through COD**:
  - **Group A:** Have **secured PPA** & may be meeting existing MTR requirement
  - **Group B**: Demonstrated **shortlist for PPA**, must convert to executed PPA by **August 29, 2025**
  - **Group D**: **No PPA**, must demonstrate shortlisting by Aug 29, 2025 & **convert to PPA by Q1 2027**

- **August 29, 2025 affidavit deadline puts projects we may need for RCPPP at risk of losing deliverability**
  - New procurement/PPAs from RCPPP is not viable by the August 2025 deadline
  - Some C14 projects may receive a *new* TPD allocation in the 2025 cycle (for another project that lost it) and that set of projects is expected to have until Q1 2027 to execute a PPA

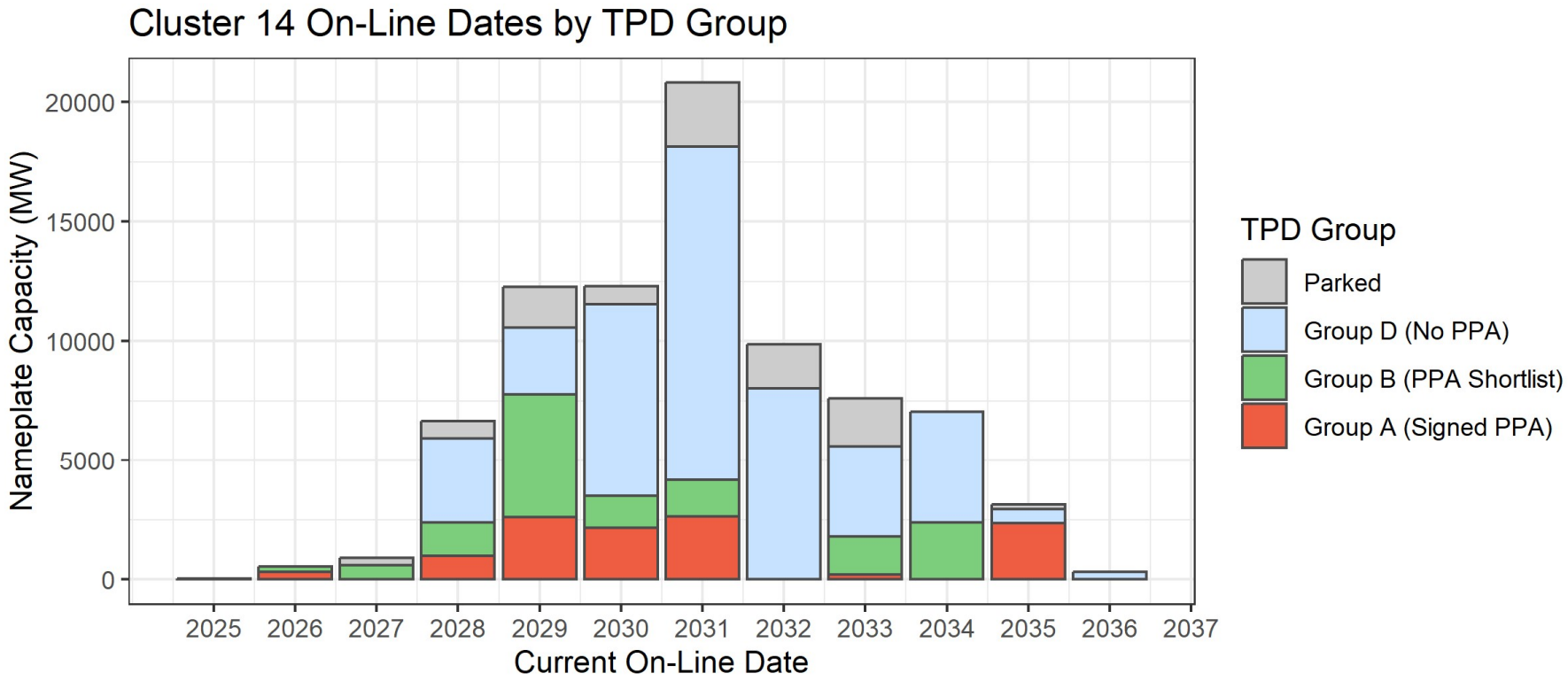
Source: California ISO Generator Interconnection Reports

Cluster 14 Resources by Technology and Online Date



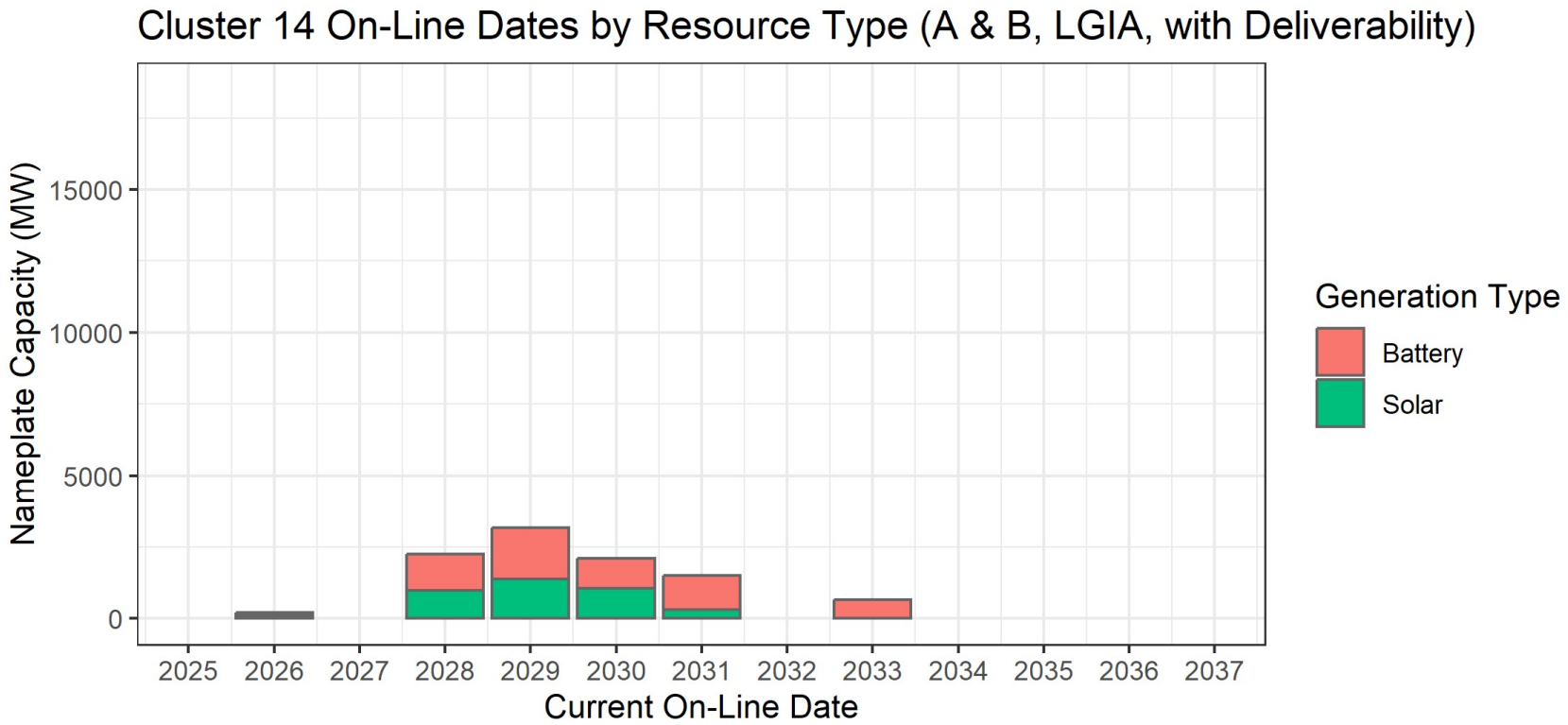
Cluster 14 includes significant near-term capacity and clean energy, however…

Cluster 14 Resources by Technology and Online Date



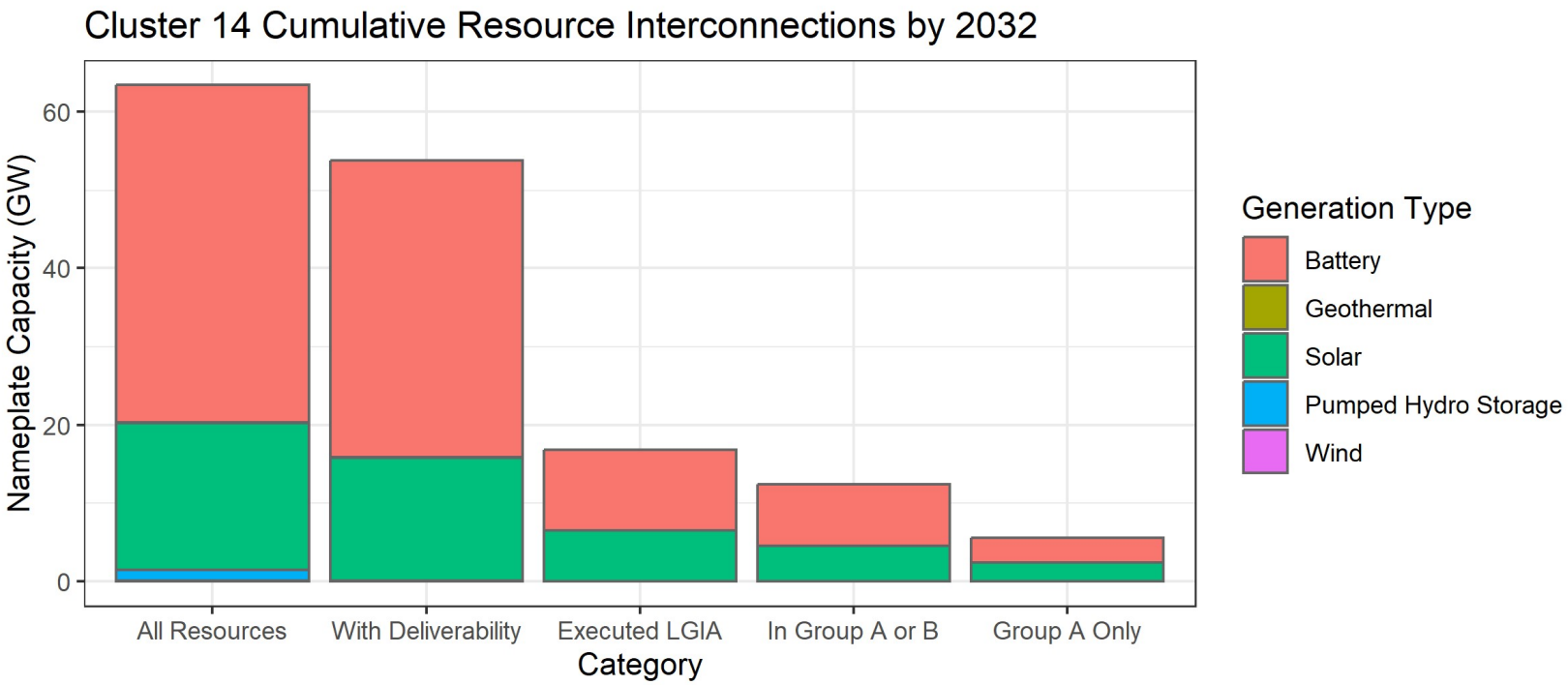
Much of it is at risk if it does not clear contracting or shortlisting milestones by August 2025.

Cluster 14 Resources by Technology and Online Date



A relatively small share of C14 is contracted or shortlisted with TPD allocated and an executed LGIA, which is particularly impactful for nearer-term needs (2028-2029).

Cluster 14 Resources by Technology and Online Date



5.5 GW of C14 storage are contracted through 2032 (3.2 w/ LGIA) – 5.4 GW of storage (4.6 w/ LGIA) are shortlisted but at risk if not converted to contracted by August 2025.

Parallel Exploration of Cluster 14 Process Modification at CAISO

- CAISO Interconnection Process Enhancements was intended to align interconnection with regular, structured LSE procurement (e.g., RCPPP), **but there is a need to consider solutions to address interim needs as these two processes work towards alignment:**
  - August 29, 2025: Group B loses TPD without executed PPA & Group D loses TPD without PPA shortlisting
  - Q1 2027: absent PPAs, C14 projects with FCDS in Groups B & D will lose deliverability
  - Deliverability lost by C14 will be picked up in C15 but this likely delays CODs by ~2.5 years
- As part of successful RCPPP implementation, **there is a need to consider modifications to C14 rules/timelines at CAISO to ensure the availability of projects that are likely to be able to achieve commercial operation in the near-term:**
  - Extend August 2025 affidavit deadline?
  - Additional 2026 TPD allocation cycle (one is not currently planned)?
  - Other solutions?
- **At a minimum, RCPPP targets must be established well before Q1 2027 deliverability allocation deadline so that eligible parked projects can get PPAs and remain in the queue**

Near-Term Needs Recommendations

- **Initiate Needs Assessment:** A robust record of needs and up-to-date LSE positions informs the market on forthcoming resource needs and creates optionality for the Commission to take multiple actions in 2026:
  - **If Reliability Needs Identified:**
    - **Implement RCPPP Reliability Framework:** Establish forward procurement requirements under a finalized RCPPP framework
    - **Order Interim Procurement:** Establish forward procurement requirements under the legacy MTR framework while RCPPP is finalized
  - **If Clean Energy Needs Identified:**
    - **Implement RCPPP Emissions Framework:** Establish forward procurement requirements under a finalized RCPPP framework
    - **Order Interim Procurement:** Establish forward procurement requirements under a simplified clean energy procurement requirement, Order Interim Procurement (e.g., exercise discretion under PUC 399.15 to expand the minimum percentages for eligible renewable energy resources
- **Modified MTR:** Interim procurement methods could incorporate limited modifications, such as a needs-based allocation or specific resource attributes, or simply order generic clean RA capacity with CODs between 2028 and 2032
- **CAISO Study Processes:** Engage with CAISO to better understand queue timelines/deadlines and potential to revise process to retain uncontracted resources likely to be necessary in near-term.

RCPPP and CAISO Alignment

RCPPP Workshop Presentation

June 23/24, 2025

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Modify the Deliverability Criteria for the Charging Sufficiency Test

Issue:

- The Charging Sufficiency Test requires LSEs to show sufficient portfolio energy to charge RA storage.
- Charging energy must have deliverability or be located at same POI.
- "Deliverability" means "to the aggregate of load," not to a nearby storage facility.
- "Deliverability" is not needed for charging sufficiency; EO energy should be reliably deliverable to storage in the same study area or behind the same constraint.

RCPPP Implications:

- **EO energy exclusion from charging sufficiency conflicts with EO resource treatment in IRP modeling** - IRP modeling does not exclude EO resources from portfolio ELCC calculations, so IRP resource portfolios may differ from LSE procurement portfolios causing transmission-procurement misalignment.
- Requiring charging energy to be deliverable adds unnecessary costs without adding reliability.

Potential Solution:

- Remove deliverability requirement from Charging Sufficiency Test energy and replace it with a locational requirement (e.g., same study area). Work with CAISO to define an electrically related locational requirement using existing study zones and/or a simplified test.

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Assess the Impact of CAISO Deliverability Reservations

Issue:

Projects can't enter the CAISO queue unless there is deliverability at the proposed location

Deliverability reserved for Long Lead-Time and locationally constrained resources delays the ability of other projects to enter the queue

Risks:

Solar and storage resources may not be available for future RCPPP compliance when needed

Potential Mitigations:

Assess the impact of deliverability reservations on the pool of resources available to meet RCPPP need

Approval of additional transmission on a conditional basis to serve as an "insurance policy" for achieving reliability/climate goals

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Note: LSA is not arguing against deliverability reservations but emphasizes the need for risk assessment of this novel approach.

Deliverability Reservations as of the 2024-25 Transmission Plan

CAISO reserved deliverability for almost 12,000 MW of long lead-time generation resources to ensure that policy-driven transmission projects are used to deliver resources specified in CPUC resource plans

- Wyoming wind (Eldorado)
  - 2034 – 2,905 MW
  - 2039 – 3,000 MW
  - Current deliverability reservation at Eldorado: 1,500 MW[12]
- Wyoming wind (Tesla)
  - 2034 – 0 MW
  - 2039 – 1,500 MW
  - Current deliverability reservation at Tesla: 0 MW[13]
- Idaho wind (Harry Allen)
  - 2034 – 1,060 MW
  - 2039 – 1,060 MW
  - Current deliverability reservation at Harry Allen: 1,060 MW
- New Mexico Wind (Palo Verde)
  - 2034 – 2,131 MW
  - 2039 – 3,099 MW
  - Current deliverability reservation at Palo Verde: 3,099 MW.
- Offshore wind (North Coast)
  - 2034 – 931 MW
  - 2039 – 1,607 MW
  - The ISO will reserve deliverability for 1,607 MW on the North Coast[14]
- Offshore wind – Central Coast (Diablo Canyon)
  - 2034 – 2,924 MW
  - 2039 – 2,924 MW
  - Current deliverability reservation at Diablo Canyon: 2,924 MW
- Geothermal - Imperial Irrigation District (Mirage and Imperial Valley)
  - o 2034 – 950 MW
  - o 2039 – 950 MW
  - Current deliverability reservation from Imperial Irrigation District: 950 MW

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Potential Impacts of Deliverability Reservations

Example: A 300 MW LLT resource and a 300 MW Solar + Storage resource seek interconnection at Palo Verde substation. Deliverability reserved for the LLT resource delays other resources for many years, creating a question of whether LSEs will have a viable pool of resources to meet future RCPPP needs.

Date	Action	LLT Resource (COD 2034)	Solar + Storage (COD 2034)
Oct 2026	Apply to Enter Cluster 16 at Palo Verde	Development activity	Application rejected because all available deliverability is reserved for future LLT resources
Oct 2028	Apply to Enter Cluster 18 at Palo Verde	Application accepted because of 3,099 MW of deliverability reserved for LLT resources	No progress
Jan – May 2029	Cluster 18 Study Process	Upgrade costs identified	No progress
Dec 2030	Project fails for any reason	LLT resource is eliminated from the queue	No progress
Oct 2031	Re-apply to enter Cluster 21 at Palo Verde	No progress	Application potentially accepted because LLT resource has exited the queue (CAISO process undefined), but online date is now 2039
June 2034	LSE RCPPP compliance report for 2034 online sufficiency	Not available	Not available

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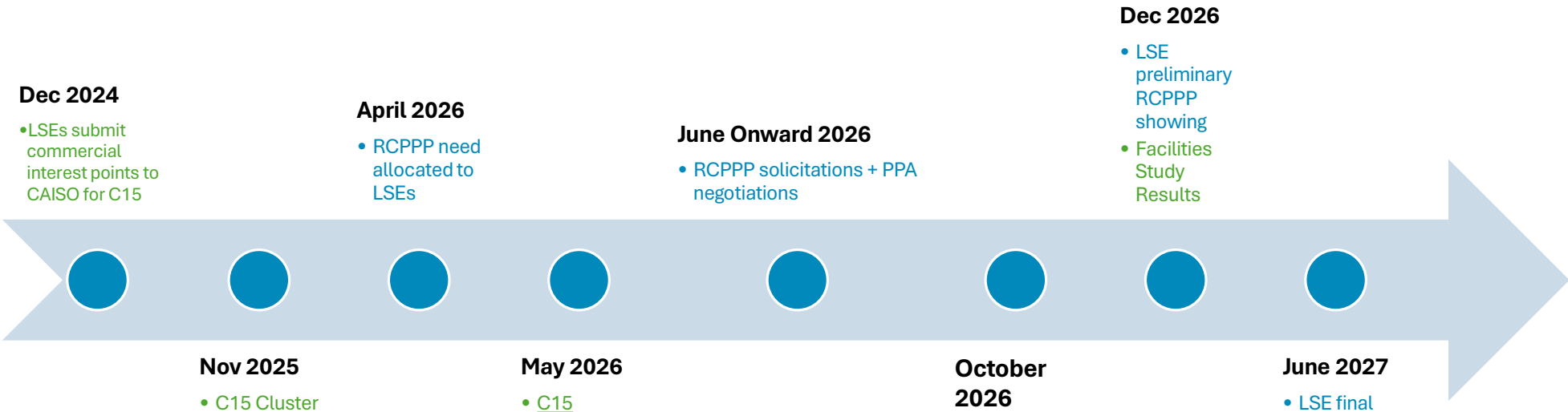
Align the RCPPP with CAISO Processes

- *LSEs should have interconnection cost cap data from CAISO's May reassessment study before they sign PPAs*
- *LSEs should know their RCPPP need allocation before they assign commercial interest points for CAISO's intake process in October of each year*
- *The LSE interest point allocation process needs more oversight*



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- **CAISO Process**
- **RCPPP Process**

Local Capacity Area and Air Quality Compliance Concerns

RCPPP Workshop - June 23 and 24, 2025

Shana Lazerow (she/her)
Legal Co-Director
Communities for a Better Environment
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On behalf of the California Environmental Justice Alliance

CEJA and Sierra Club represent communities impacted by gas plants throughout California

Sierra Club is an environmental grassroots organization with hundreds of thousands of members located throughout California, covering 13 chapters.

CEJA is an alliance of ten grassroot environmental justice and equity groups throughout California representing low-income and disadvantaged communities.

Summary of CEJA & Sierra Club Concerns

The RCPPP Reliability Proposal fails to address air quality and reliabilitv in local areas.
The proposed RCPPP:

1. Fails to consider local capacity areas, looking only at system-wide need
2. Creates inconsistency with RA by not using Slice of Day
3. Fails to consider air quality or reduce reliance on emitting resources in local areas
4. Fails to minimize emissions of criteria pollutants with a priority for Disadvantaged Communities

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Statutory Mandates for IRP Procurement

Through IRP, the Commission must ensure procurement:

- for system and local reliability, in coordination with RA
- that strengthens diversity, sustainability and resilience of systems in local communities
- to minimize localized air pollutants, prioritizing DACs
- includes consideration of existing renewable resources, DERs, and storage
- that supports reliability for all hours, including (but not limited to) net peak
- that provides air quality and economic benefits to communities

The IRP process must “incorporate not duplicate” other Commission processes.

Resource portfolios must substantially reduce reliance on gas plants in local capacity areas.

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Commission Mandates

- From inception, the Commission specified that the IRP proceeding must focus on reducing and retiring gas generators with a priority on DACs and local air pollutant emissions; original scoping memo committed to carry forward specific analysis of local areas and air quality.

- As recently as December 2024, the Commission instructed that the RCPPP would be the place to focus on aligning procurement targets, incentive design, and locational targets.

- In response to Sierra Club-CEJA's RA Track 2 proposal to displace fossil fuel generation and reduce costs, the Commission specifically pushed the issue to THIS proceeding.

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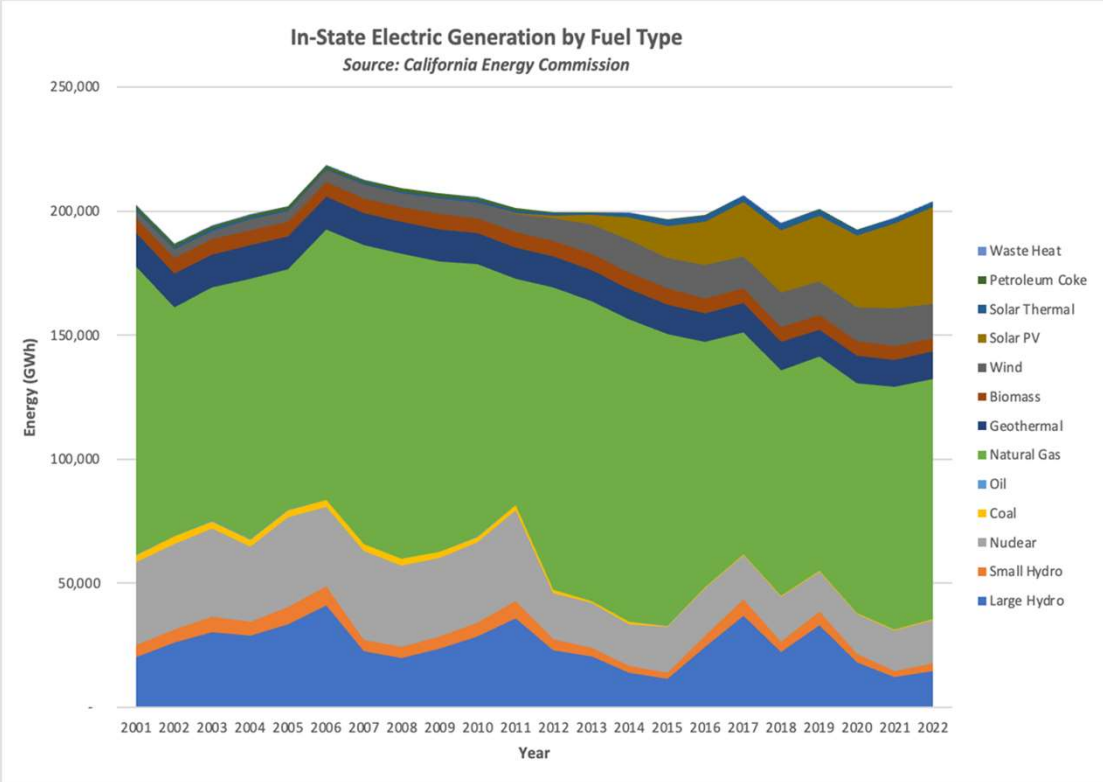
Why focus on local capacity areas & air quality?

Despite renewable energy growth, grid still relies on gas plants (disproportionately sited in DACs) for local capacity needs, resulting in **increases** in gas plant generation since 2017.



Renewable energy generation grew from 95 GWH to 125 GWH from 2017 to 2022.

Battery storage capacity grew from 250 MW to 5,000 MW from 2019 to 2023.

DESPITE THIS, gas plant generation increased. In 2017, gas-fired generation was about 90 thousand kwh, 38 percent of in-state generation, in 2022, gas-fired generation was about 97 thousand kwh, 39 percent of in-state generation.

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RCPPP Must Address Local Reliability Yet the Proposal *Only* Assesses System Reliability

- Public Utilities Codes section 454.52(a)(1) provides that the IRP process must "ensure system and local reliability".

- Under Public Utilities Codes section 454.57(e)(4), IRP must identify resources "…to substantially reduce, no later than 2035, the need to rely on nonpreferred resources in local capacity areas…. [the analysis s]hall include …energy storage resources, renewable energy resources, or zero-carbon resources that are located within the local capacity areas."

- Under Public Utilities Code section 454.52 (d), the IRP process "shall incorporate, and not duplicate, … other planning processes of the commission."

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RCPPP Must Address Local Reliability Yet the Proposal *Only* Assesses System Reliability

- The Proposal sets a Reliability Procurement Need (RPN) based on ELCC and a system-wide portfolio with an additional 2.5% buffer. The need is allocated based on LSE pro-rata share of load.

- It does not reduce reliance on non-preferred resources in local capacity areas, so it fails to meet the requirements of SB 887 (Pub. Util. Code 454.57.)

- It does not ensure local reliability, so it fails to meet the requirements of SB 350 (Pub. Util. Code 454.52.)

- It uses a different, inaccurate reliability standard that is incompatible with RA, and therefore does not meet the SB 350 requirement to incorporate, not duplicate. (Pub. Util. Code 454.52.)

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RCPPP Must Address Local Reliability Yet the Proposal *Only* Assesses System Reliability

- The Commission has specifically designated IRP as the place to coordinate IRP and RA to ensure procurement of the necessary resources. That is impossible without local capacity area analysis and with different reliability standards.

- If the RCPPP fails to address local areas OR to apply the same reliability metric, ratepayers will have to pay to procure both local and system resources, exacerbating the affordability crisis.

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The Commission should synchronize IRP and RA by determining local needs, building on the Slice of Day metric, and providing local procurement adders.

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CEJA / Sierra Club Reliability Proposal

1. **Analyze Need by Local Capacity Area and Remaining System Need:** The Commission should establish final Reliability Procurement Need (RPN) by local capacity area as well as at system level.

2. **Require LSEs demonstrate compliance using Slice of Day:** Using the Resource Adequacy Slice of Day metric rather than the ELCC system will ensure programmatic alignment across IRP and RA, while also encouraging LSEs to develop clean resources to meet every hour of every day. We expect this to incentivize new clean energy resources and reduce reliance on nonpreferred resources.

3. **Apply a locational adder:** Having determined local and system needs, set Reliability Procurement Requirements and apply a locational adder to encourage LSEs to deploy DERs, demand response, renewables and storage to local capacity areas, reducing reliance on thermal resources.

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Locational Adder Proposal - The Problem

The Problem: In the Resource Adequacy Track 2 workshop, Sierra Club & CEJA showed that neither the RA or IRP proceedings are incentivizing local procurement or reducing gas-fired generation.

IRP Generally & RCPPP Reliability Proposal: IRP procurement to date has included no local need analysis or procurement requirements, despite requiring over 10 GW of procurement.

- As a result, resources are not sited in optimal locations, leading to inefficiencies and higher overall costs.
- The Reliability Proposal continues this deficiency.

Resource Adequacy: As the Central Procurement Entity Report describes, the current RA local procurement incentives have failed to lead to new procurement.

- Developers are choosing IRP contracts over CPE contracts; and
- The LCR-RCM (Local Capacity Requirement Reduction Compensation Mechanism) incentives have failed to result in new resource development through CPE contracts.

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Locational Adder Proposal - The Solution

After identifying local capacity area Reliability Procurement Needs, develop additional incentives for clean local procurement to make sure those local needs are met.

1. **Require Long-Term Contracts** – Local procurement of clean and renewable resources should receive long-term contracts that fulfill IRP procurement requirements.

2. **Local Adder** – Local procurement of clean and renewable resources should receive an adder based initially on the 85% value in the most recent Resource Adequacy report, which is similar to, but higher than, the LCR-RCM currently used by the CPE. This adder should apply to the first five years of the resource's operation.

3. **Distributed Resource Adder** – Clean and renewable resources Distributed resources should receive an additional adder based on the avoided costs.

CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE SIERRA CLUB

The RCPPP must minimize air emissions, particularly in Disadvantaged Communities.

CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE

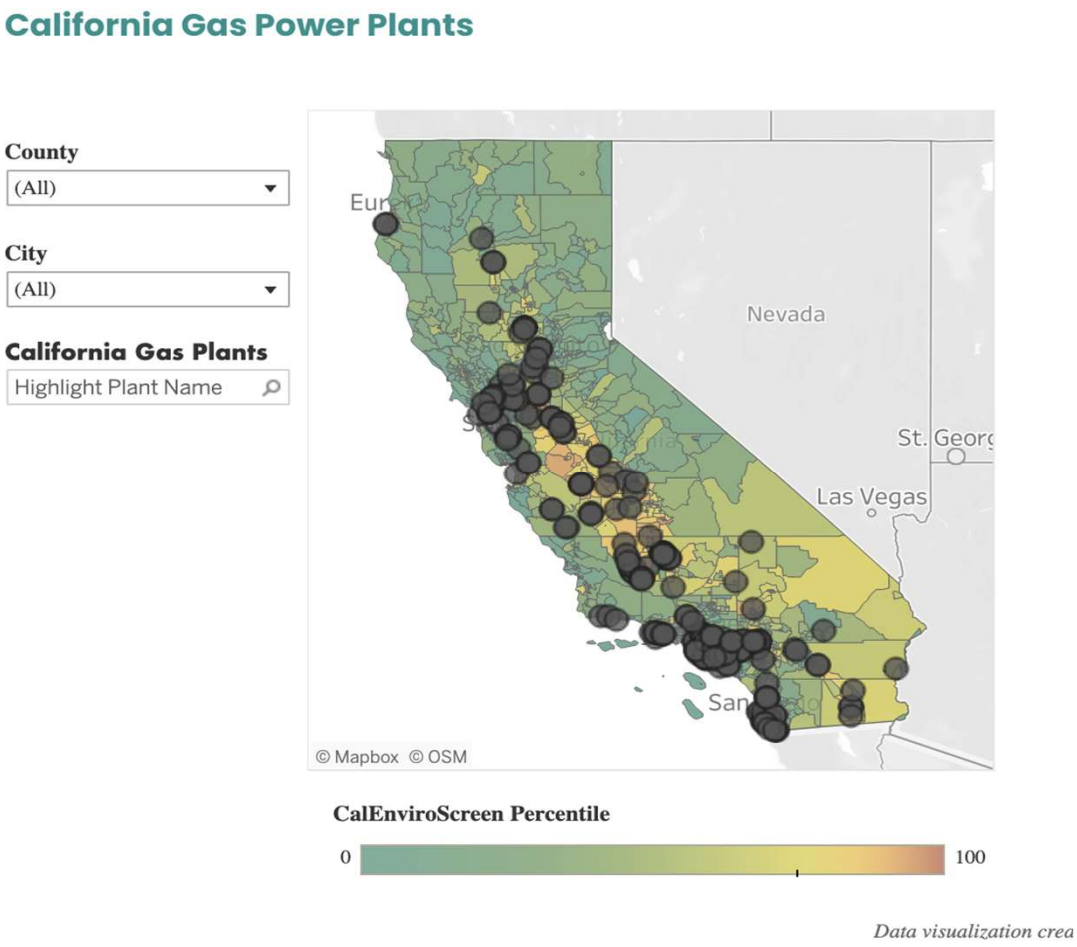
SIERRA CLUB

Continued reliance on gas plants in DACs

California has over 191 gas plants with capacity greater than 10 MW (CEC)

Compared to 213 gas plants in 2017

Most of the retired gas plants were due to Once-Through-Cooling requirements, not resource planning through the CPUC



For Local Areas, RCPPP Must Reduce Reliance on Gas-Fired Generation and Minimize Air Emissions

- Public Utilities Codes section 454.52(a)(1) provides that the IRP process must "Minimize localized air pollutants and other greenhouse gas emissions, with early priority on disadvantaged communities …."

- Public Utilities Codes section 399.13(a)(8)(A) requires that procurement "give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases." This section operates in tandem with section 454.57's mandate to reduce reliance on non-preferred resources in local areas.

CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE

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For Local Areas, RCPPP Must Reduce Reliance on Gas-Fired Generation and Minimize Air Emissions

- Despite Commission requirements, the Reliability Proposal does not mention criteria air pollutant emissions from generation in local areas, or provide a process to assess procurement impacts on emission of criteria air pollutants

- Despite Commission requirements, the Reliability Proposal does not mention benefits to communities from procurement of renewable resources or reductions in reliance on non-preferred resources in local areas, and does not provide a process to assess procurement impacts on communities or operation of non-preferred resources in communities.

CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE

SIERRA CLUB

CEJA / Sierra Club Proposal

To ensure that RCPPP procurement minimizes air pollution with a priority for disadvantaged communities, it should:

- model current and projected resources emissions impacts;
- follow all prior Commission mandates regarding local area analysis and procurement;
- require LSE reporting of how requirements are met.

CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE

SIERRA CLUB

Slice of Day Accounting in RCPPP

Joint Stakeholders Presentation

Shared Principles for SOD Accounting

The joint stakeholders collectively support the need for the RCPPP to improve on the forward planning process and endorse the use of Slice of Day accounting rules for portfolio reliability assessment.

Multiple counting methodologies and compliance requirements are administratively burdensome, add unnecessary confusion, and result in inefficient procurement outcomes, higher costs, and no additional reliability benefits.

Unified accounting rules provide clear market signals and allow for cost-effective procurement.

SEIA Solar Energy Industries Association®

PIONEER COMMUNITY ENERGY

CalWEA

PG&E Pacific Gas and Electric Company®

PENINSULA CLEAN ENERGY

AREM Alliance for Retail Energy Markets

HYDROSTOR

CPA CLEAN POWER ALLIANCE

AMERICAN CLEAN POWER CALIFORNIA

SDGE™

Ava Community Energy

SILICON VALLEY CLEAN ENERGY

Shared Principles for SOD Accounting for Portfolio Reliability Assessment

SOD should be used for compliance as it offers the same benefits of marginal ELCCs without the known challenges

SOD offers similar benefits to marginal ELCCs:

- Timely and predictable market signals for LSEs to procure a diverse portfolio of resources that effectively address reliability
- Clear indications of shifting reliability conditions (e.g., energy sufficiency, nighttime hours, winter) because of its granularity

SOD avoids many of the challenges with marginal ELCCs:

- Volatility of marginal ELCCs creates significant challenges for both LSEs and developers
  - It is difficult to transact, structure deals and build a stable portfolio with changing resource values
  - ELCCs are not predictable; this may increase as LOLE risk spreads
  - "Bounded ELCCs" add additional complexity at best, potential reliability issues at worst

Key Items to Address for RCPPP

The joint stakeholders are engaging collaboratively on resolution to these issues with emphasis on resolution under a Slice of Day based portfolio reliability assessment.

Specific to SOD:

- Whether to require showing for all hours
- Whether to require showing for all months

For any RCPPP design:

- Binding or floating load forecast and RA accounting/accreditation rules
- Percent showing required each year and number of years
- Penalty structure
- Inter-play with the multi-year local RA program
- Resource eligibility (e.g. should imports count absent a multi-year MIC allocation process, should energy only resources count towards the charging sufficiency test)
- Establishing requirements for in-development resources to count for a MYARA showing
- Implementation timeline

Discussion (30 minutes)

Lunch Break (1 Hour)

SVCE SOD and MYARA Framework Proposal

Maren Wenzel
Director of Regulatory Policy and Planning
June 23, 2025

SILICON VALLEY CLEAN ENERGY

Using SOD accounting rules is most aligned with affordability and economic efficiency

- Using both ELCCs and SOD establishes two values for the same resource in the market, challenging efficient procurement.
- Adding an additional constraint to procurement optimization can never result in a lower total requirement, or cost, versus having fewer constraints.
- If the RA program is appropriately set to achieve .1 LOLE, any new constraint can only add costs without any justified offsetting reliability benefit.
- As shown on the next slide, LOLE studies combined with SOD accounting can be used to efficiently signal the marginal value of resources to the system.

SOD can provide effective signaling for resources necessary to meet loss of load expectation (LOLE)

Hourly Expected Unserved Energy (EUE) is a more direct translation of need from LOLE results than marginal ELCCs.

Step 1: Determine expected LOLE without new build
Step 2: Calibrate system to .1 LOLE
Step 3: Delta between EUE in each hour provides required new build for each hour (Reliability Procurement Need (RPN))
Step 4: Allocate RPN to LSEs (option II)/ Provide system need signal to market (option I)
Step 5: LSEs show compliance based on SOD accrediting rules for each hour (option II)

	Hour Ending															
	1	2	...	12	13	14	15	16	17	18	19	20	21	22	23	24
Baseline EUE	0	0	0	0	0	0	0	0	0	50	150	100	20	100	5	0
.1 LOLE calibrated EUE	0	0	0	0	0	0	0	0	0	0	50	15	3	25	0	0
New Build Need	0	0	0	0	0	0	0	0	0	50	100	85	17	75	5	0

Aligning RA and IRP accounting for reliability is more important than alignment with RPS or existing IRP

- D.23-08-003 (RPS proceeding) modified D.19-09-043 to broadly remove requirements that IOUs conduct a joint study to determine ELCC values and established that the IOUs will use capacity values from the IRP proceeding for RPS solicitations. This may not be limited to marginal ELCCs.
- Using ELCCs in IRP because of its historical use is not justified, especially given challenges with ELCCs even within MTR compliance.
  - If the Commission is concerned with aligning metrics in the planning process with those in the compliance process stakeholders should explore options for using SOD in LSE IRPs.
- Given this is a *reliability* planning metric it is most important that there is alignment between IRP and RA.

Overview of SVCE's RCPPP Proposal

Use SOD accounting rules under a MYARA program to show compliance T+0 – T+4; monitor system and issue CPE orders in T+5 and beyond

Compliance Horizon | *Planning Horizon*

	T+0	T+1	T+2	T+3	T+4	T+5	T+6…T+9
RA showing requirements	100% (T+45)	90% (10/31)	80% (10/31)	65% (10/31)	50% (10/31)		
New/ Repower Build Contract Milestones	COD	Milestone data submitted on 4/15 & 10/15			*Signed contracts	LSE RFOs released	
CPUC Modeling	CPUC monitors new build expected and contracted existing resources vs. total need determination (using LOLE studies)						
CPE Actions	CPE issues project updates					CPE allocation announced	CPE ordered

- Neither forecasts nor accounting rules would be binding; LSE showings would always be based on the latest IEPR load forecast and SOD accounting rules.
- LSEs would be allowed to show all CPE (local and DWR) allocations and count them toward requirements.

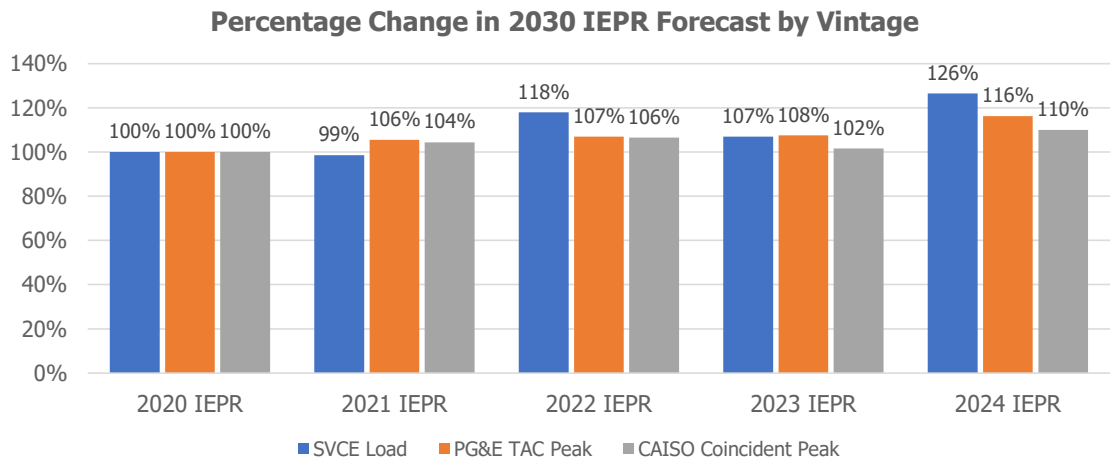
** Recommended, not binding. Intended to show relationship between CPE and LSE actions as well as current reasonable timeline for new build.*

Developing MYARA Requirements

Requirements should be lower in outer years when uncertainty is greater

Compliance Horizon

	T+0	T+1	T+2	T+3	T+4
RA showing requirements	100%	90%	80%	65%	50%



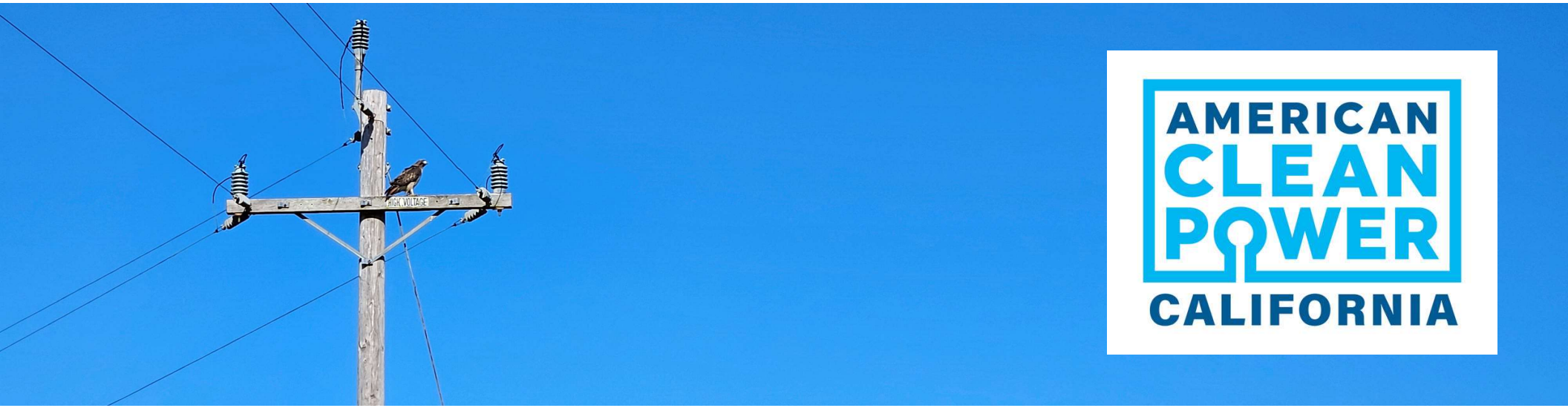
- Important to adjust for key uncertainties:
  - Forecast error
  - Accounting rule changes in RA program (e.g. PRM)
  - Load migration
- A very large requirement several years out risks stranded costs to LSEs

Challenges with new build requirements

The baseline resource list introduces significant barriers to fair and efficient procurement

- **Baseline resource list presents fundamental challenges**
  - Incorrect retirement and online dates
    - Difficult to determine accurate new requirement
    - Creates issues for repowering
  - Opportunity for gaming and market power
  - Suboptimal investment decisions for existing fleet
  - Lack of stable, transparent rules

- **Recognize potential "free-rider" problem**
  - SVCE suggests exploring program design structures that could address this issue



RCPPP Reliability Framework

ACP-California RCPPP Workshop Presentation 2

June 23-24, 2025

Reliability Framework: Multi-year RA + New Build

- ACP-California strongly supports establishing a structured reliability framework to formalize and normalize resource planning to support system reliability, including:
  - **Multiyear Resource Adequacy:** Extend forward procurement requirements using the resource adequacy construct to more effectively manage and contract for existing resources.
  - **New Build Directives:** Establish new build requirements allocated to LSEs to ensure new build resources are planfully contracted for and developed with sufficient time for development and interconnection.

- **Accreditation Frameworks:** Reliability accreditation should be fair, predictable, stable, transparent, and reflect long-term reliability contributions for resources – ACP-California supports SOD for multiyear RA and new build requirements
  - *PJM-style floating marginal ELCC frameworks fail multiple threshold criteria for planning and procurement*

The Commission should establish a two-pronged reliability framework:
- *Multiyear Resource Adequacy using Slice of Day*
- *Forward New Build Requirements using Slice of Day*

New Build Resource Requirements

Achieving Reliability Policy Goals Necessitates an Orchestrated Approach to New Build Resources

Source: California ISO Generator Interconnection Reports; note: this analysis does not include resources interconnected outside of CAISO or through the Subscriber Participating Transmission Owner Model)

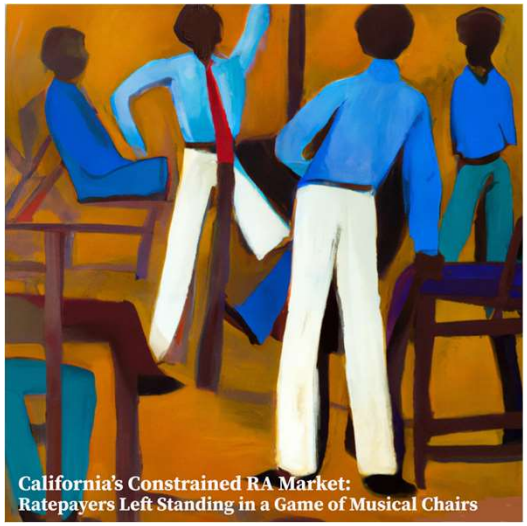
Dual Policy Goals, Dual Policies: New and Existing

- **RCPPP must be designed to address dual reliability goals:**
  - **New Build:** Ensure sufficient new resources are developed to meet reliability and emissions goals on a more planful development timeline
  - **Existing Resources:** Ensure policy structures support retention of cost-effective, policy-aligned resources to provide more foresight to system planners and manage exit risk for needed generation
- **Can Multiyear RA Do Existing and New? *Probably not.***
  - Multiyear RA will be a powerful tool to improve foresight and reduce prompt year concerns for both policymakers and market participants
  - However, multiyear RA can only be an effective forward planning tool for new resources with full showings in out years (e.g. 100% in T+3), which (as conveyed to ACP-California) may interfere with portfolio optimization, load migration management, and access to short-term resources (e.g. unspecified imports)
  - With requirements below 100%, new build inevitably falls within the slack enabled in partial showings
  - Multiyear RA alone will not inherently support financing for new build projects, which require long-term contracts

An explicit new build requirement (+ multiyear RA) achieves similar intent with a more direct approach while leaving LSEs to optimize their full portfolio within the RA program.

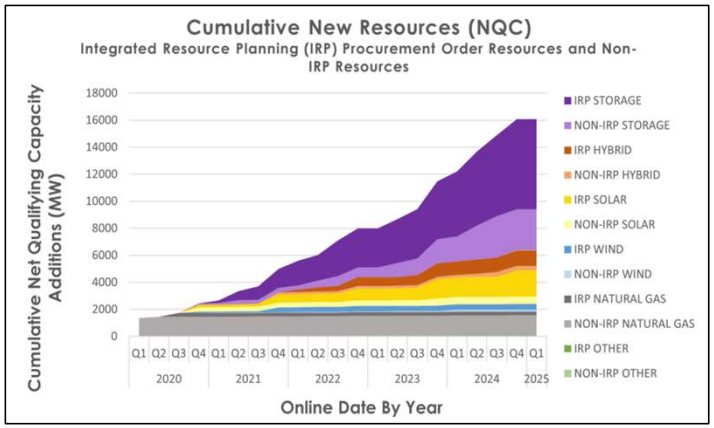
Identifying and Executing New Build Requires System-Level Analysis and Direction

- Identifying and addressing system-level resource gaps is the primary function of Integrated Resource Planning in a restructured market.
- Without collective action, LSEs must make under-informed assumptions regarding the availability of market resources (e.g. uncontracted thermal, imports) which may fill their net position.
- Varied perspectives on market fundamentals, risk tolerances, and aversion to long-term investments have historically led to underinvestment relative to requirements – a partial forward RA showing will leave gaps unidentified until after the development window has closed.
- Penalty risk for LSEs which underinvest on the assumption that market resources will be available do little to improve reliability outcomes.



Adapting the MTR Framework to RCPPP Goals

- **RCPPP should leverage the best attributes of MTR…**
  - Clearly defined procurement requirements
  - Explicit allocations to and requirements for LSEs
  - Stable, predictable accreditation
  - Trading and flexibility to manage compliance and delays
  - Long-term contracting requirement supported TPD affidavit requirements and investments in network upgrades
- **…while evolving to address limitations:**
  - Allocate requirements based on LSE net compliance position, using contract status rather than development year for baseline analysis
  - Extend planning and procurement horizons to facilitate successful procurement
  - Structurally link procurement magnitudes and attributes to reliability studies
- **ACP-California supports further investigation of new build requirements expressed in Slice of Day accounting**



MTR has been very effective at driving resource development to address a pressing reliability gap at a pace few could have predicted would be possible. RCPPP should leverage its best attributes with evolutions where needed.

New Build Policy Construct: Overview

- **Overview:** The Commission should establish new build procurement requirements intended to directly identify and drive contracting to achieve reliability requirements rather than leaving new build as an uncoordinated, LSE-level planning decision.
- **Requirements:** Requirements for forward showings for new build requirements should be relatively high to reflect the realities of resource development, deliverability study, interconnection, and other timelines:
  - Percent of New Build Req Shown: T+1, T+2: 100%; T+3: >80%; T+4: >60%; T+5: >40%
- **Attributes:** Reliability requirements should be expressed in SOD accounting methods; requirements may merit adjustment based on identified need, e.g. specific hours, energy vs capacity, etc
- **Baseline Rules:** Baseline resource rules should be updated to allow recontracts and repowers of existing capacity to count so long as the resources is carbon-free or RPS-eligible and excluded from the baseline analysis.
- **Term:** New build requirements should require long-term contracts, with longer minimum terms than MTR to support improved financing outcomes (>10 year minimum)
- **Showings Process:** Showings should be integrated with existing showings (e.g. RDT) to eliminate duplicative filings.
- **In-Development:** Forward showings to include resources in development using MTR “milestones” construct.
- **Compliance Teeth:** Failure to demonstrate required progress toward requirements would incur penalties.

New / Existing or Contracted / Uncontracted?

- **Baseline Method:** Transitioning from a "New/Existing" baseline method (MTR) to a "Contract Status" baseline method in which carbon-free uncontracted resources are excluded from the baseline (and eligible for filling procurement requirements) would have several benefits:
  - **Supports Fair Allocations:** Facilitates straightforward assessment of LSE position long-term contracts, recognizing past investments
  - **Recontracting:** Supports recontract / repower of resources coming off contract
  - **Definitions:** Avoids deadline "cusp" issues and debates about repower definition

- **Analytical Method:** New build requirements would be established based on the delta between a policy compliant portfolio (meets reliability standard) and a "baseline":
  - Assess baseline portfolio in SERVM / augment in RESOLVE until reliability standard achieved
  - Net baseline resources, uncontracted fossil, and import assumption from reliable portfolio to determine reliability requirement
  - Allocate requirement to LSEs based on net compliance position using parallel accounting framework (e.g. Slice of Day)

- In contrast to full portfolio RA requirements, a "new build" requirement including uncontracted resources would ensure collective action to drive new resources, support repowers, and facilitate recontracting while leaving LSEs flexibility to optimize and manage portfolios in the RA program.

RA-IRP Alignment

- ACP-California supports continued alignment between the RA and IRP programs:
  - Alignment of reliability study methods, inputs, assumptions, and results (e.g. portfolio need determinations)
  - Implementation of probabilistic resource accreditation in Slice of Day conceptually aligned with ELCC methods
  - Equitable treatment of Energy Only resources for charging sufficiency in Slice of Day paralleling IRP methods (i.e. EO resources provide energy sufficiency in IRP)
- To the extent IRP and RA analysis and methods must differ, divergence should be intentional and explicitly articulated.

Further discussion of ACP-California's IRP-RA alignment proposals is available Track 3 Proposal, Track 3 Proposal Slides, Track 3 PD Comments

RA-IRP Alignment Example: Energy Only

- In implementing SOD-based accounting, RCPPP (in parallel with RA reforms) must address key RA-IRP alignment issues, such as the treatment of reliability contributions from Energy Only resources:
  - In IRP, EO resources contribute to charging sufficiency in RESOLVE and SERVM outside of peak hours, supporting their selection as EO resources without identifying deliverability upgrades in the TPP
  - In RA, EO resources are excluded from charging sufficiency unless co-located, despite being available without transmission constraints for the majority of their charging contributions

- EO resources are one of several modeling and accreditation issues which span proceedings and should be reformed in parallel, with the necessary urgency to support near-term investments which can support charging reliability without further constraining deliverability requirements

Reliability Accreditation

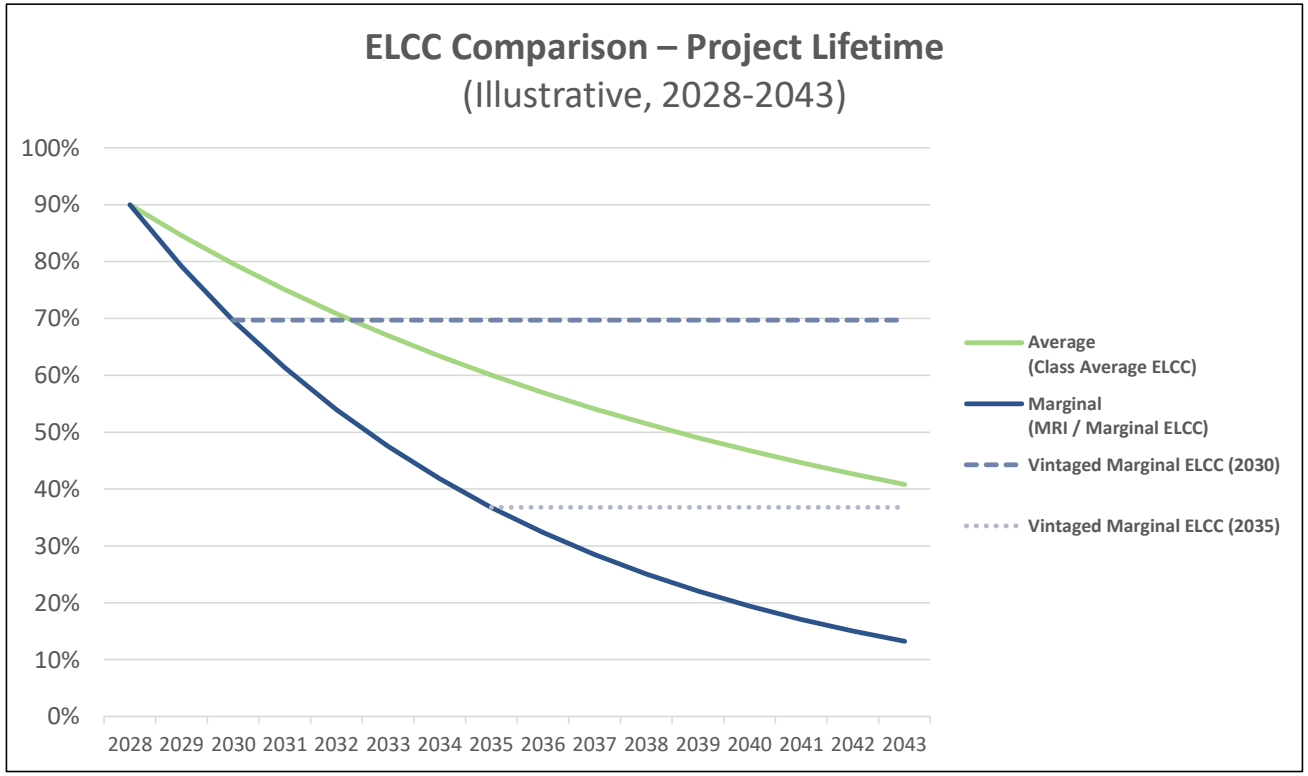
Establishing clear, stable, fair, predictable resource accreditation

Reliability Accreditation

- The RCPPP accounting framework must be accurate, fair, transparent, and actionable to drive long-term investments from market participants:
  - While mELCC can be a useful planning metric, assessing portfolio compliance with non-vintaged mELCC raises insurmountable equity, stability, and transparency concerns
  - Purported accuracy and efficiency benefits of a non-vintaged mELCC framework are theoretical - and are unlikely to be sustained in the face of the complex realities of planning, procuring, financing, and developing new resources.

- ACP-California supports SOD for portfolio assessment (e.g. multiyear RA) and new build requirements
  - Slice of Day has been robustly designed by market participants over several years with a structural focus on clear, transparent, stable procurement signals

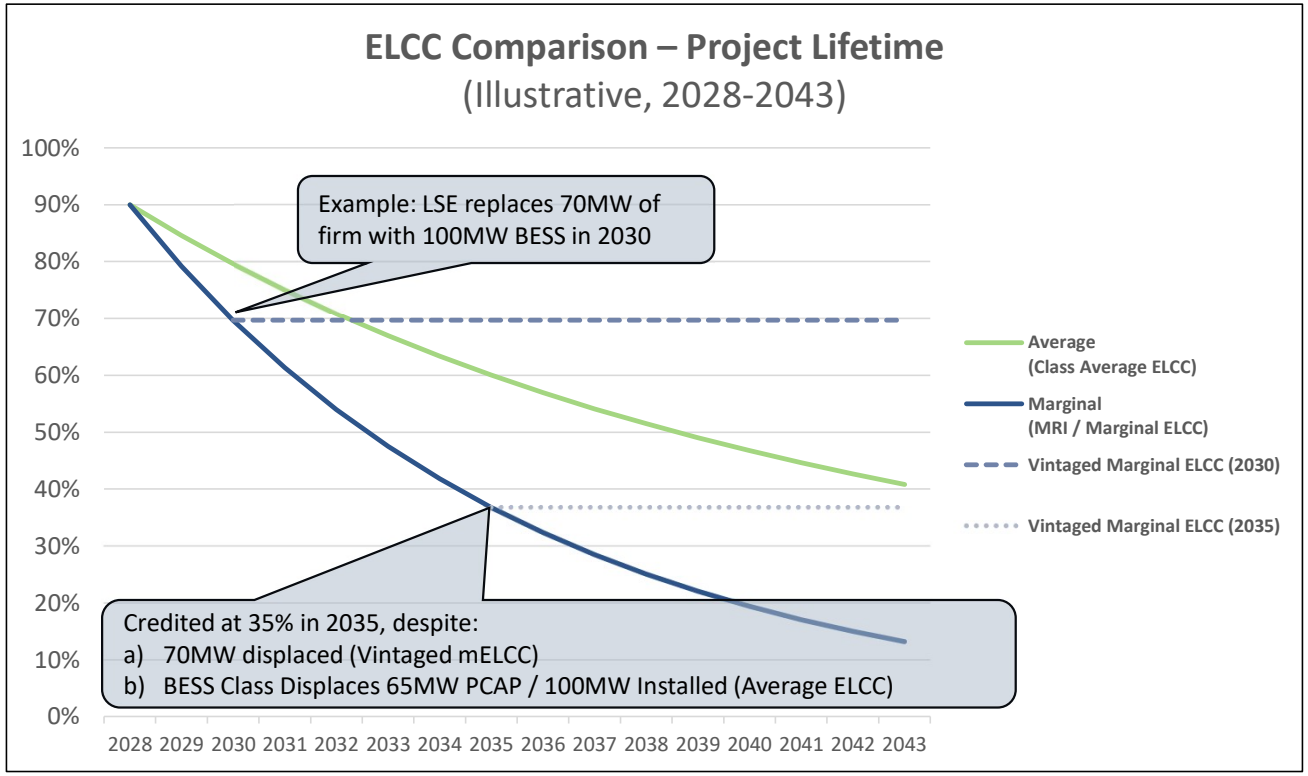
“Option I mELCC” *is not* “MTR mELCC”



RCPPP proposes to transition from Vintaged Marginal to Non-Vintaged Marginal:

- Values refresh for each compliance year – all resources receive “next in” value
- Total valuation for resource class significantly lower than contribution (undercompensated), with difference socialized across all LSEs
- Capacity valuation for solar, wind, and storage is volatile and structurally reduced – providing significant disincentive for new resource investment

Example: 100MW BESS Investment



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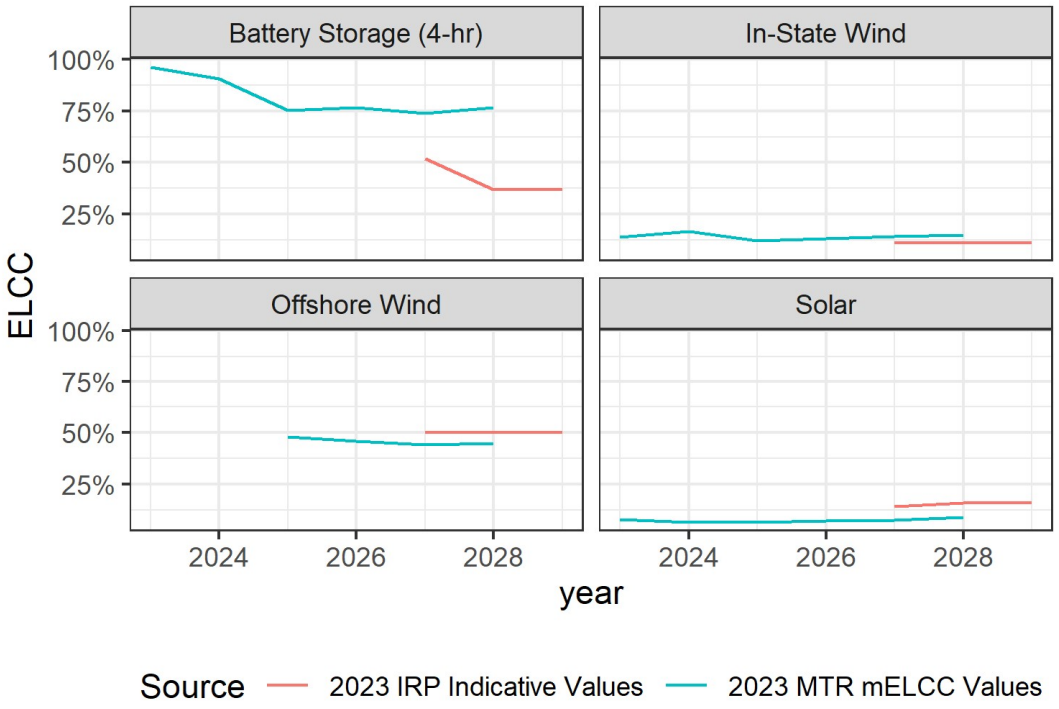
mELCC Stability Concerns



- mELCC is – by design – subject to rapid and significant swings based on evolving reliability risk
- In two parallel studies conducted in 2023 (MTR, IRP), mELCC values diverge substantially for the same study year
- While the fundamentals shift in parallel for all accounting methods, these changes are substantially more dramatic and less predictable under mELCC

Unpacking Instability on the Knife's Edge of mELCC

Known Knowns

- **Saturation Effects:** Risk shifts to later as solar saturates, then to longer afternoon-evening blocks as storage saturates, then eventually to nights and mornings
- **Seasonality:** Electrification may eventually drive winter risk – flipping reliability valuation for VERs and storage
- **Portfolio:** Portfolio expected to evolve and shift in both composition and timeline
- **Load:** Magnitude and shape of load growth over time; load flexibility

Known Unknowns

- **Weather Uncertainty:** Revised view of weather risk, extreme events, probabilities, hydroelectric risk
- **Operational Uncertainty:** Revised view of resource performance, interactivity between resources, or other system dynamics not fully understood in planning horizon
- **Regional Uncertainty:** Import availability (if modeled dynamically) can significantly shift risk profiles

Uncertainty and risk are inherent in forward planning in the uncertain world of the energy transition. However, impacts of instability can be much more extreme, acute, and unpredictable with mELCC.

Addressing Network Upgrade Delays

Incorporating Flexibility for Delayed Deliverability

Addressing Network Upgrade Delays

- A long-term forward contracting requirement should account for recent changes in the interconnection process and ongoing risks of transmission deliverability delays.
  - Interconnection Customers must show PPAs many years in advance of delivery in order to secure deliverability.
  - Interconnection Customers continue to face changing timelines for network upgrades that can materially delay deliverability timelines.
  - Some projects affected by network upgrade delays will still be able to achieve deliverability upon COD, through the Interim Deliverability allocation process. However, Interim Deliverability is allocated close to COD and is only allocated for one year at a time, so it cannot easily be used for RCPPP compliance.

- ACP-California proposes creating flexibility in evaluating the exact timeframe for achieving FCDS as part of the multi-year forward requirement and expressly allow LSEs to count projects as part of forward showing requirements even though deliverability may be delayed.
- If there is a compliance gap due to delays in FCDS status for resources in development with TPD allocations, LSEs should be exempt from RCPPP penalties, with reliability addressed through the Resource Adequacy program.

RCPPP Reliability Framework Recommendations

- The Commission should:
  - **Multiyear RA:** Establish multi-year forward reliability requirements using the Slice of Day accounting framework.
  - **New Build Requirement:** Establish defined procurement requirements for new build resources aligned with modeled new build resource needs using Slice of Day accounting
  - **Reject Floating mELCC:** Decline further exploration or development of a non-vintaged marginal ELCC framework.
  - **Deliverability Timelines:** Incorporate flexibility into RCPPP to avoid unnecessary and unproductive penalties for deliverability upgrade delays for projects under development.

HYDROSTOR

Reliable Clean Power Procurement Program – June Workshop

June 24, 2025

Gabe Murtaugh
Director of Market Development

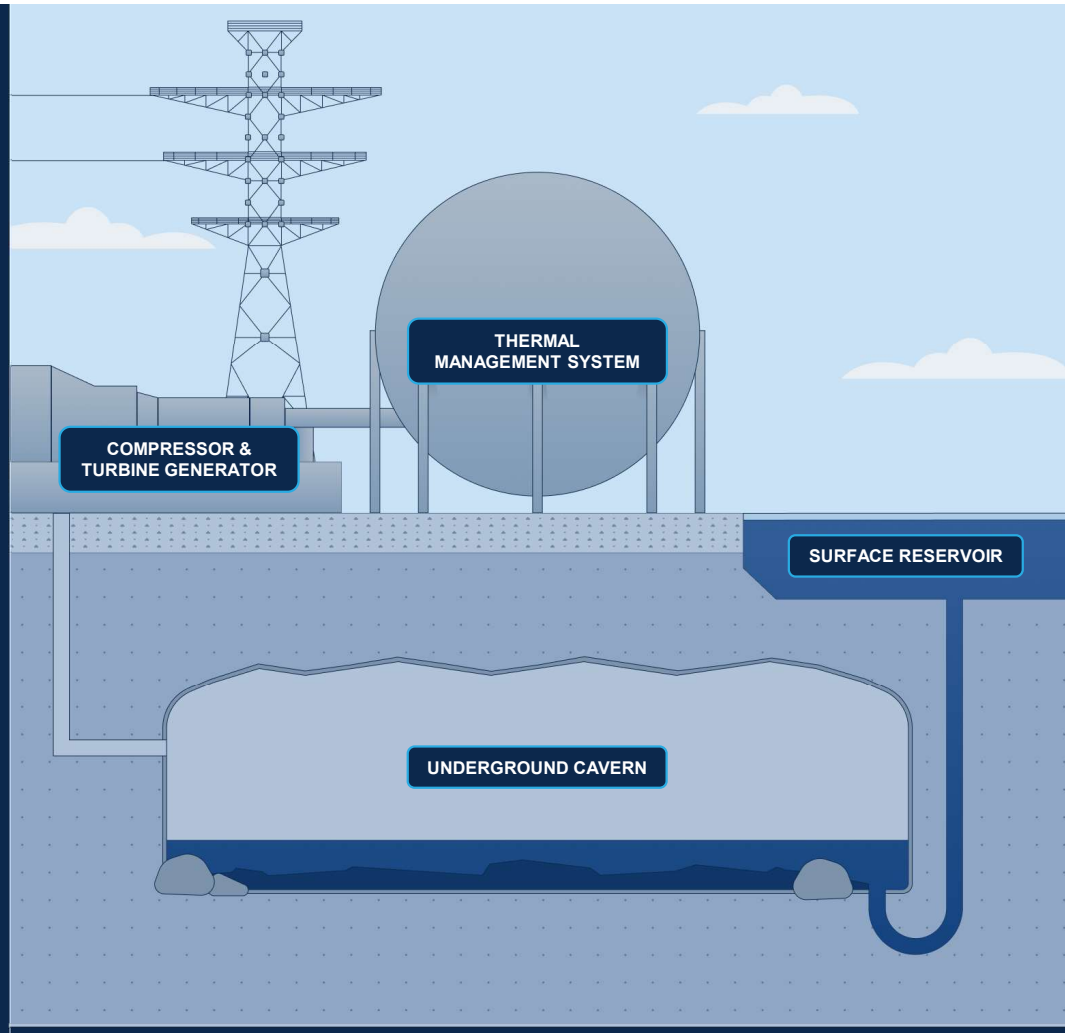
Agenda

1. Introduction to Hydrostor
2. Tools for procurement in California
3. Proposal Extension: Include a mechanism for long lead time resource procurement
4. Challenges with the current staff proposal
    - Need allocation
    - Central procurement and the collective capacity reserve
    - Penalties
5. Closing comments

ABOUT HYDROSTOR

Underground energy storage using advanced compressed air

- Air is compressed and stored to deliver energy when the grid needs it most through emissions-free operation.
- More than $500 million in financing, including backing from Goldman Sachs, the Canadian Pension Plan and Canadian Growth Fund
- 100+ employees and three global offices



WILLOW ROCK
ENERGY STORAGE

Kern County, CA

500 MW project in Kern County to help meet California's requirement for utilities to procure 1,000 MW of long-duration storage resources.

- 500 MW / 4 GWh of storage capacity
- Permitting and financial close in 2025, construction completion in 2030
- Land permitting complete, interconnection complete, late stage engineering
- 200 MW of capacity contracted for

This proceeding allows for an opportunity to evaluate drivers for resource procurement

The staff proposal acknowledges a need for a program to have "clear regulatory obligations … to meet reliability and GHG reduction goals at least cost"

- Hydrostor appreciates this goal and agrees that this is something that the state should pursue
- Hydrostor also appreciates the energy and effort from CPUC staff in developing the proposal for this program and looks forward to collaborating with staff and other parties to continue to develop this program

This is a good crossroads to for broader program evaluation

- Load serving entities desire clear consistent requirements for procurement now and signals for the future
- Developers want consistent procurement and contracting aligning with interconnection and development timelines
- Parties understand the drivers of greenhouse gas reduction and are focused on least cost procurement
- Any program designed should allow for procurement of all resources needed for decarbonization, including long lead time resources

The staff proposal does introduce an additional layer of compliance for load serving entities, with a design that is dissimilar from existing programs

Hydrostor encourages this group to consider ideas "outside of the box" during the workshop to deliver a program that will meet these goals

There are benefits and challenges to SoD and ELCC approaches to procurement

The staff proposal requires load-serving entities to comply with two programs

- The further ELCC based targets for RCPPP
- The near-term target slice of day for resource adequacy
- In the May 16th workshop there was discussion on how there could be oscillation between the “binding” program

1

Hydrostor suggests potential consideration of a single program for compliance and ensuring appropriate signals for least cost forward procurement

2

Hydrostor worked with Silicon Valley Clean Energy to develop a joint recommendation for potential methods to address this concern

Either compliance program has challenges, and this group should continue to consider solutions

SLICE OF DAY		ELCC	
Pros	Challenges	Pros	Challenges
• Reliability – Resources procured can deliver to a specific load shape • Framework already exists in the RA program	• Compliance is complicated (24 slices) • Selecting the right load profile • Potential inefficient procurement	• Relatively easy compliance • Elegant solution – with feedback from resource effectiveness	• Reliable outcomes • Variable ELCCs • Heavy reliance on input assumptions • Less visibility into modeling assumptions • Potential inefficient procurement

The IRP process flags that long lead time resources are a critical to meet SB 100 goals

The staff proposal states that "RCPPP is primarily needed for mid- and long-term planning … and procurement". However, the RCPPP does not include procurement timeframes for long lead time resources, which are five years or more.

- Long lead time resources are needed to achieve California's SB 100 goals (D.24-08-064)
- Decisions in the IRP proceeding establish that long lead time resources provide important resource diversity, renewables integration and system reliability benefits. (D. 21-06-035)

The RCPPP framework must be extended to accommodate long-term procurement necessary to bring long lead time resources to California

Hydrostor will advocate for the RCPPP to include specific requirements for procurement of long lead time resources, on a regular basis

Hydrostor requests that a framework for long lead time resource procurement be included in RCPPP

Such a frameworks could consider:

Six year advance procurement from the current compliance year

I.e. If the current compliance year is 2028, the RCPPP program would include a requirement for long lead time resource procurement for 2034

Long lead time targets set for every other year, and advisory long lead time targets set for 8 years in advance and 10 years in advance of the compliance year

I.e. For compliance year 2028, advisory long lead time targets would be announced for 2036 and 2038

Similar to today's IRP procurements, specific nameplate (MW) targets could be included for specific long lead time technology

Hydrostor requests that a framework for long lead time resource procurement be included in RCPPP

Such a frameworks could consider:

Compliance for procurement will be directed to specific LSEs

Employ a mechanism similar to RCPPP allocation (load share basis) to signal procurement requirements for specific LSEs

The central procurement entity (or potentially the investor owned utility*) should be responsible for procuring capacity that is not contracted by the LSEs

Similar to previous suggestions regarding centrally procured resources:

- If system level – aggregate – requirements are met, there should be no capacity procured by the central procurement entity*
- If capacity is procured because of deficiencies, those costs should be allocated only to the entities that were short on their capacity first

Requirements (framed here with Option 1 from the proposal) may be specified as follows:

JUNE SHOWING	T+0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9	T+10
RA requirements	100%	90%									
Offtake contract			Y	Y	Y						
Percent of procurement			100%	75%	50%						
Interconnection agreement			Y								
Commercial operations											
Percent of LLT							100%				
LLT Advisory Values									Y		Y

The IRP process flags that long lead time resources are a critical to meeting SB 100 goals

The staff proposal states that “RCPPP is primarily needed for mid- and long-term planning … and procurement.”

To accomplish this the RCPPP framework may need to evolve to better accommodate long-term procurement, particularly long lead time resources

The RCPPP should include requirements for procurement of long lead time resources, that are specified with sufficient time in advance at regular intervals

HYDROSTOR

e-ZINC

Need allocation to for requirements to LSEs is a problematic component of the proposal

Allocating needs to individual LSEs will disproportionally and adversely impact those with less emissions, less retirement, and more stable loads

- This impact may be even more overstated within option 2
- Developing a program where load-serving entities are required to reliably serve load in their footprint and comply with decarbonization targets may be a better focus for the program
- The joint proposal led by Silicon Valley Clean Energy could effectively achieve this target

SIMPLE EXAMPLE:

Suppose there is a system with two similarly sized load serving entities (LSE1 and LSE2) and a 100 MW resource retires from LSE1's profile, load assumptions remain constant.

> **In this case** both LSE1 would be required to procure 50 MW and LSE2 would be required to procure 50 MW

Hydrostor requests deeper examination of the role of CPE and the collective capacity reserve

The target and the need for the collective capacity reserve should be grounded in empirical data

- Preventing loss of load, and ensuring that – in aggregate - resources procured will result in reliable outcomes is imperative for his program
- If there is a clear demonstration that the collective capacity reserve – at a certain percent – drives those outcomes, then evidence of that should be used to set a specific target
- The process of setting a collective capacity reserve must be transparent

All load serving entities should have the ability to procure collective capacity reserve

- Procurement should not be required by a central procurement entity

Penalties for non-compliance should be assessed, but go toward recovering costs for shortfalls

Hydrostor supports LSE adherence to a well thought out program incentivizing and ensuring procurement. Hydrostor also supports market mechanics that help ensure that resources needed to reliably operate the grid and meet state decarbonization goals are procured.

- System level evaluations should be performed annually to ensure that resource procurement aligns with reliability needs and decarbonization goals
- If system deficiencies are identified in a system evaluation, the CPE* should immediately procure to cure those deficiencies
- If CPE procurement occurs, costs should be allocated to market participants based on sound market principles
  - Entities that failed to comply with targets should be penalized first and assessed penalties used to recover costs for curing to maintain system compliance
  - If there are additional costs for procurement, those costs should be allocated out to all entities
  - Penalties should likely be aligned with costs of actual procurement
  - Penalties should not go to the state's general fund

Some other key considerations for discussion in this workshop

If an “ELCC methodology” is adopted, how and when are ELCC values updated?

If penalties are used as an enforcement mechanisms, how are penalty prices set and updated?

- I.e. How are the values for CONE calculated, for what resources and how often are they updated?

Some analysis was referenced in the staff workshop on May 16th

- Hydrostor requests that the underlying work that went into that analysis and input/output assumptions from work to calculate parameters, such as ELCC, be provided for public consumption
- Additional analysis may help evaluate efficacy of alternative proposals

HYDROSTOR

Powering a reliable and resilient grid

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PENINSULA CLEAN ENERGY

Three Proposals:

- Non-discriminatory CCR
- Streamlined filing
- Incentivizing early procurement in Option 2

PENINSULA CLEAN ENERGY

Non-discriminatory Collective Capacity Reserve

Problem Statement: Collective Capacity Reserve (CCR)

The Collective Capacity Reserve is not well-designed.

- The 2.5% RPN buffer and the CRR are duplicative.
- CCAs have a statutory right of self procurement.
- Exclusive IOU backstop fails to leverage market diversity.

Problem Statement : Collective Capacity Reserve

RPN buffer and CCR are duplicative.

- **Both hedge against the same risk of contract failure.**
- **The RPN buffer won't hedge against lumpy contract failure.**
- **If LSEs are successful, the system will be overprocured.**
  - Increases costs for ratepayers
  - Increases prices of all IRP procurement because of increased demand.

Problem Statement : Collective Capacity Reserve

CCAS have a statutory right of self-procurement.

- **Cal. Pub. Util. Code 454.51(d)**

  "The commission shall… [p]ermit community choice aggregators to submit proposals for satisfying their portion of the renewable integration and diverse resources need identified…."

- **Cal. Pub. Util. Code § 366.2(a)(5)**

  "A community choice aggregator shall be solely responsible for all generation procurement activities on behalf of the community choice aggregator's customers, except where other generation procurement arrangements are expressly authorized by statute."

- **RCPPP procurement falls under these provisions.**

Problem Statement : Collective Capacity Reserve

RCPPP should leverage market diversity

- California has market diversity: over 40 LSEs.
- RCPPP should take advantage of LSE diversity in procurement strategies and requirements.
- Early decarbonizing LSEs should be rewarded

- Example: CCAs have backstopped IOU shortfalls in MTR.

LSE Type	Requirement Tranche 1	Online as of 8/1/21	Excess or Shortfall 2021	Requirement Tranche 2	Online as of 8/1/22	Excess or Shortfall 2022	Requirement Tranche 3	Online by 8/1/23	Excess or Shortfall 2023	Adjusted Obligation	Online after 8/1/23	Excess or Shortfall total
CCA	403	423	20	605	1,135	530	807	1,300	493	807	1,307	500
ESP	93	118	25	139	187	48	186	225	39	186	225	39
IOU	1,154	743	(411)	1,731	1,350	(381)	2,308	2,264	(44)	2,308	2,321	13
Grand Total	**1,650**	**1,284**	**(366)**	**2,475**	**2,621**	**146**	**3,301**	**3,739**	**438**	**3,301**	**3,803**	**552**

Collective Capacity Reserve Principles

- **Any LSE with procurement above their requirement should be able to provide CCR capacity.**

  LSEs with excess capacity should be first option as backstop.

- **Early movers should be compensated for providing backstop.**

- **CCR capacity should not result in overprocurement.**

  Ratepayers should only pay for what is needed for actual shortfalls and no more.

- **Customers of LSEs that aren't short should not pay for capacity to backstop LSEs that are short.**

Collective Capacity Reserve: Proposal 1

Proposal 1:

1. LSEs with excess capacity self-show in any RPN vintage.
2. IOU CRR amount is reduced by shown amount.
3. LSE customers are exempted from CRR costs.

✅ Leverages LSE long positions

✅ Compensates early movers with reduced customer costs

❌ Does not address overprocurement

✅ Avoids double charges for backstopping LSE customers

Collective Capacity Reserve: Proposal 2

Proposal 2:

1. **CPUC determines target CCR need.**
2. **LSEs with excess capacity bid into CCR pool.**
3. **LSE total short positions establishes how many bids are taken.**
4. **LSEs with accepted bids are paid at clearing price out of penalties.**
5. **If the total CCR pool is less than the shortfall, IOUs procure the difference for the next year.**

- ✅ **Leverages LSE long positions**
- ✅ **Compensates early movers with reduced customer costs**
- ✅ **Addresses overprocurement**
- ✅ **Avoids double charges for backstopping LSE customers**
- **Fairly complex with additional development needed.**

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Compliance filing streamlining

Compliance Filing Stream-lining

- **CPUC jurisdictional LSEs can have HUNDREDS of compliance filings each year. (PCE has over 200 per year.)**
- **Energy Division is struggling to keep up with the MTR filings.**
- **RCPPP data is duplicative of filed IRPs, RPS, and RA filings**
- **RCPPP proposed cadence is more granular than changes in contracting and development status.**

Compliance Filing Stream-lining

Needed data:

-List of contracted resources and Online date/status

-Planned future contracting.

Compliance Filing Stream-lining

Odd years: Use the IRP filing, modifying as needed to obtain needed data.

Even years: Use a simplified filing listing eligible resources under contract for each vintage

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Option 2 improved baseline

Option 2 Improved baseline

Proposed 10-year window in Option 2:

- Penalizes early moving LSEs
- Forces duplicative procurements by LSEs
- Does not follow cost causation

Option 2 Improved baseline

Proposal:

Build for the needs of the 2045 SB100 portfolio.

Count any contracted resource as incremental toward SB100 portfolio if:

1) Is a clean resource
2) Expected online in 2045
3) Any 30 year-old (or 30 years since repower) resource is eligible to be repowered as incremental.

Questions?

Mainspring

Initial Feedback on Staff Proposal

Spurring Procurement of High ELCC, RPS-Eligible Resources

CPUC RCPPP Workshop 2
June 2025

Agenda

1. High ELCC, RPS-Compliant Resources Exist Today
2. California Procuring Primarily Low ELCC Assets
3. Recommendations: Additional Principles
4. Initial Views on Staff Paper Options 1 and 2
5. Summary

High ELCC and RPS-Compliant Resources Exist Today

- Mainspring Energy is a Bay Area-based manufacturer of state-of-the-art linear generators
- Mainspring Linear Generators have a number of characteristics needed by California's grid:
  - High ELCC
  - 100% renewable fuel(s) capability
  - Near zero NOx emissions
  - Fully dispatchable (fast ramping)
  - Long-duration/seasonal storage capability

CA installation with a municipal utility
Lathrop Irrigation District

CA Recent IRP Landscape

Where are the high ELCC resources?

New MWs Online - Nameplate

By Year and Resource Type

Data includes projects online as of April 9, 2025

Technology Type	2024 MW	2025 MW (to date)	2020-2025 Cumulative MW
SOLAR	2,227	70	**8,039**
STORAGE	3,678	802	**10,719**
HYBRID (SOLAR + STORAGE)	503	68	**1,841**
WIND	260	27	**1,145**
GEOTHERMAL	41	0	**41**
HYDRO, BIOMASS, BIOGAS	0.5	0	**39**
Subtotal Total New SB100 Resources, IN-CAISO	**6,709**	**966**	**21,825**
NATURAL GAS, incl. Alamitos & Huntington Beach	63	0	1,539
Total New Resources, IN-CAISO	**6,772**	**966**	**23,364**
New Imports, Pseudo-Tie or Dynamically Scheduled	280	0	1,883
Total New Resources, including Imports	**7,054**	**966**	**25,247**

California Public Utilities Commission 53

New MWs Expected - Nameplate

By Year and Resource Type, including imports

Data includes projects expected/under contrac as of February 13, 2025

Resource Type	2025	2026	2027	2028	Total
Solar	1,057	1,345	322	150	**2,874**
Battery Storage	3,468	3,399	3,789	890	**11,546**
Paired/Hybrid	765	1,085	1,209	70	**3,129**
Wind	71	1,435	250	0	**1,756**
Geothermal	10	126	163	435	**734**
Biomass/Biogas	10	0	0	0	**10**
Totals	**5,381**	**7,389**	**5,732**	**1,545**	**20,048**

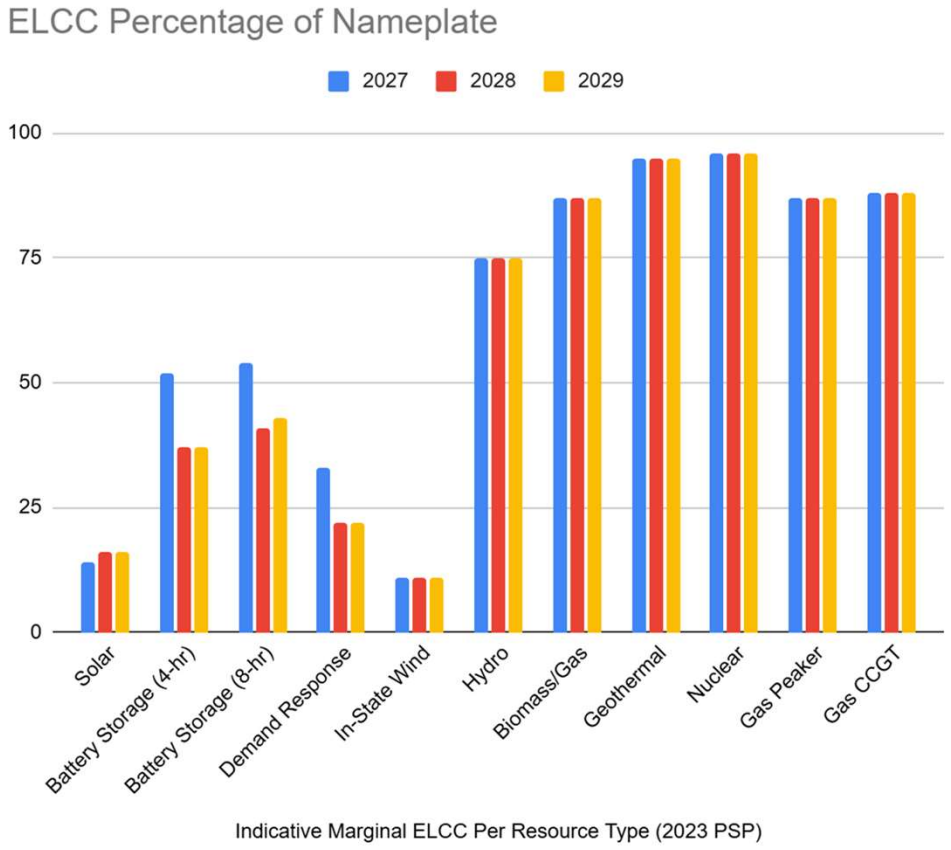
- Over 20,000 MW nameplate of future contracts are expected to meet CPUC's procurement order obligations.
- Majority of new resource MWs are expected to be battery storage.
- Other types of resources are eligible to meet orders and may be contracted in the future.

California Public Utilities Commission 61

Source: 2025 CEC Summer Reliability Workshop

Principle 1: RCPPP design should enable rapid entry from high ELCC, RPS-eligible resources

- Linear generators and fuel cells have high ELCC like nuclear and gas
- Dispatchable and fuel-secure (LDES) class options
- Can run on RPS-eligible fuels (i.e. directed biogas, qualifying hydrogen)
- ELCC is useful currency, but may not be sufficient



Indicative Marginal ELCC Per Resource Type (2023 PSP)

Principle 2: Adopt minimum requirement for high-ELCC, RPS-compliant, dispatchable generation

- Are ELCC + SOD sufficient currencies to address dispatchability, long-duration capacity and other attributes needed in a high renewable system?
  - Probably not. Setting a minimum requirement level (e.g. 50%) of new entry from resources with individual high ELCC (e.g. 75%) would offer added "insurance"

- Are there checks needed to ensure that new or replacement thermal generation build do not become stranded assets?
  - Yes. Establishing criteria that the new generation must be capable of meeting the RPS is one approach to avoid stranded assets

- Are there other benefits to this minimum requirement approach?
  - Yes. Storage ELCCs quickly decline with saturation. Setting minimum requirement protects against storage over-build and stranded low ELCC capacity

Pros/Cons/Other Issues

Pros	Cons	Other Issues
Option II sets transparent req's on new gen procurement	Neither Option has minimum requirements for high-ELCC, RPS-compliant, dispatchable generation	Retirement assumptions have a big impact and are unclear
		Collective Capacity Reserve target could use explanation and likely more flexibility to manage uncertainty
Option II has advanced procurement timelines and creates enhanced certainty to market	Option I does not set transparent req's for new gen procurement	Need enhanced ELCC accreditation process for new generation types
		Demand Response ELCC should be segmented between generation-backed and non-generation backed

Summary

- Key recommended update:
  - CPUC should add a minimum requirement for procurement of individual high ELCC, dispatchable, RPS-eligible resources

- On initial review, Mainspring prefers Staff Paper Option II over Option I

- Mainspring remains open to feedback and exploring additional proposals

Questions/Comments?

- Affordable
- Dispatchable
- Clean

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Mainspring

RCPPP and CAISO Alignment

RCPPP Workshop Presentation

June 23/24, 2025

LSA
LARGE-SCALE SOLAR ASSOCIATION

Modify the Deliverability Criteria for the Charging Sufficiency Test

Issue:

- The Charging Sufficiency Test requires LSEs to show sufficient portfolio energy to charge RA storage.
- Charging energy must have deliverability or be located at same POI.
- "Deliverability" means "to the aggregate of load," not to a nearby storage facility.
- "Deliverability" is not needed for charging sufficiency; EO energy should be reliably deliverable to storage in the same study area or behind the same constraint.

RCPPP Implications:

- **EO energy exclusion from charging sufficiency conflicts with EO resource treatment in IRP modeling** - IRP modeling does not exclude EO resources from portfolio ELCC calculations, so IRP resource portfolios may differ from LSE procurement portfolios causing transmission-procurement misalignment.
- Requiring charging energy to be deliverable adds unnecessary costs without adding reliability.

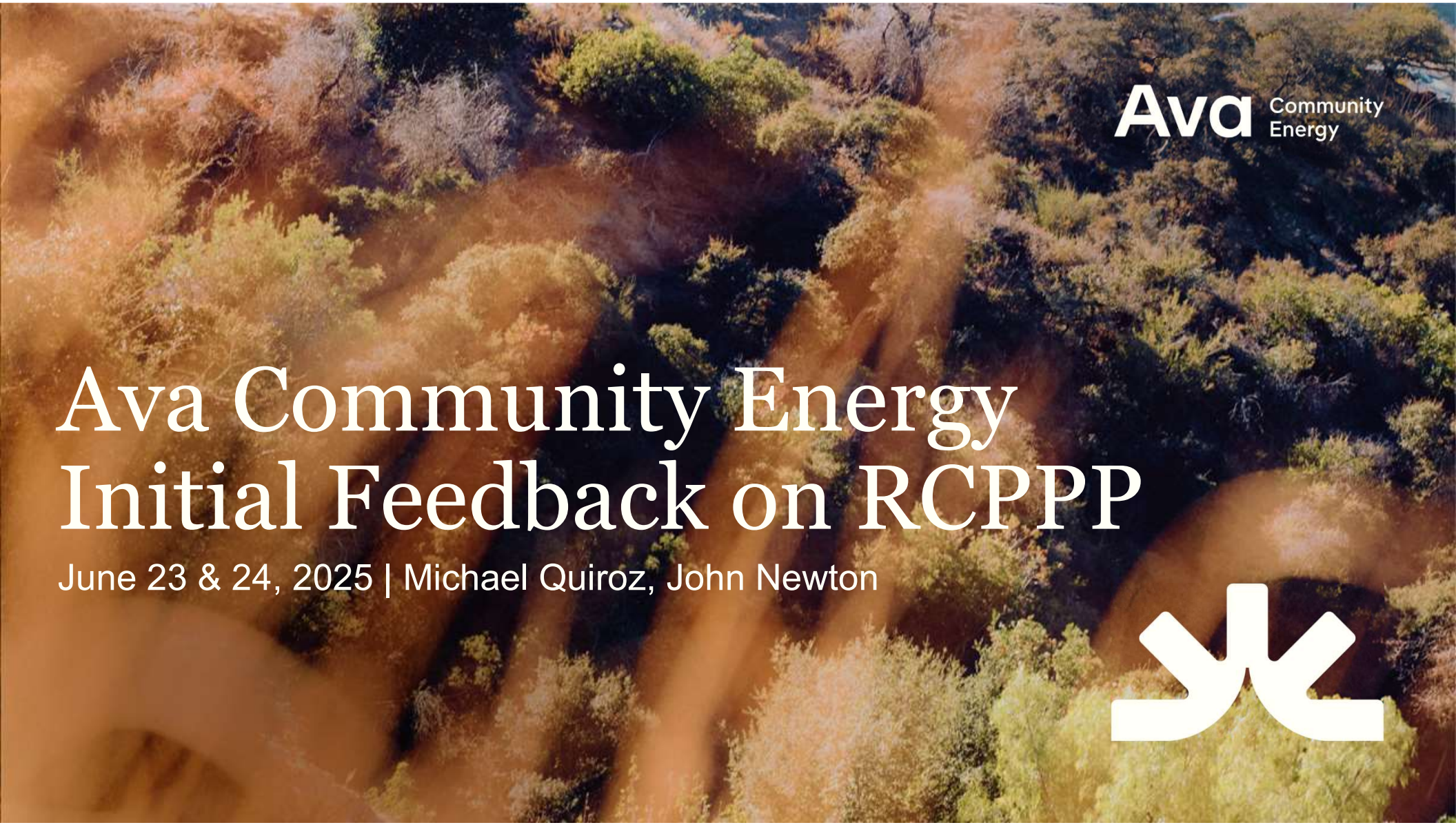
Potential Solution:

- Remove deliverability requirement from Charging Sufficiency Test energy and replace it with a locational requirement (e.g., same study area). Work with CAISO to define an electrically related locational requirement using existing study zones and/or a simplified test.

LSA
LARGE-SCALE SOLAR ASSOCIATION

Discussion (30 minutes)

Break (10 minutes)


Ava Community Energy
Ava Community Energy
Initial Feedback on RCPPP
June 23 & 24, 2025 | Michael Quiroz, John Newton

Roadmap

1. Resource Counting Methodology
2. Reliability Options I and II
3. Reliability Procurement Need Buffer and Collective Capacity Reserve

Resource Counting Methodology

Ava Recommendation

- Adopt a single, unified resource counting methodology for IRP Compliance
- Slice of Day (SOD) framework for need identification, allocation, and procurement compliance
- Current proposal creates fragmentation across RA and IRP compliance
- A single method promotes simplicity, transparency, and cost efficiency

Advantages of a SOD Only Framework

Ensures alignment between IRP and RA Programs

- Eliminates risk of misaligned long, mid, and near-term procurement incentives
- Long- and mid-term portfolios optimized around ELCC may not align with SOD requirements
- Procuring to two different standards can increase costs to ratepayers

Prevents cost shifts while ensuring system reliability

- ELCCs reflect system-wide (rather than LSE specific) reliability needs
- A resource with high ELCCs may not align with what that LSE needs to meet its own peak
- Misalignment can lead to cost shifts for LSEs with needs that diverge from the system
- When each LSE procures to meet its own hourly load shape under the SOD framework the system's aggregate reliability needs are inherently met

Advantages of a SOD Only Framework *(continued)*

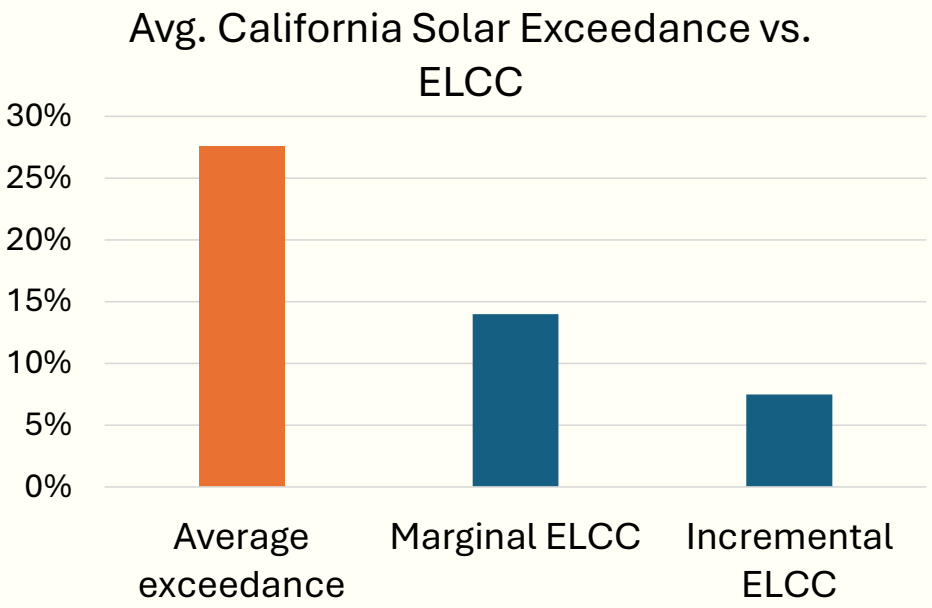
Eliminates risk of unpredictable ELCC changes

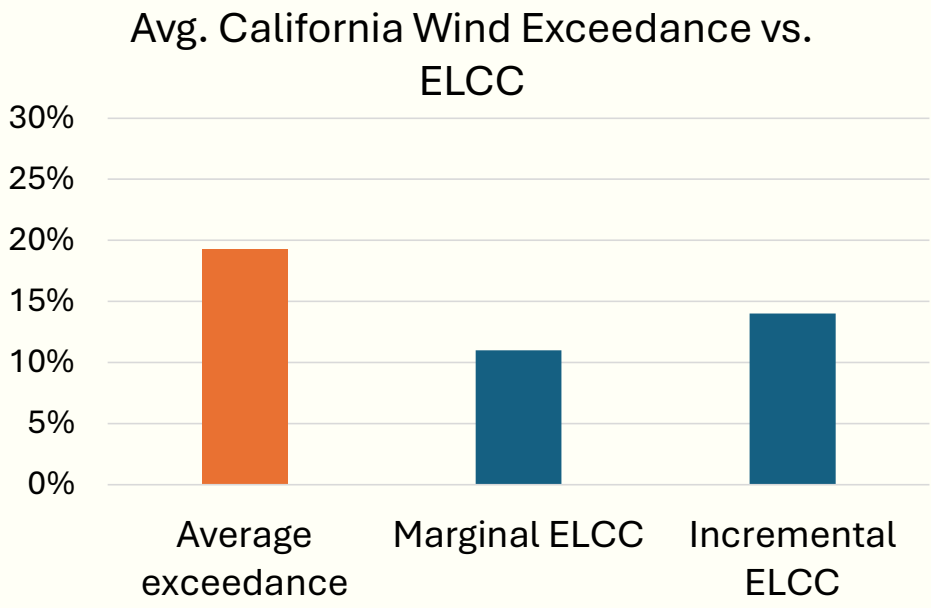
- Significant changes to ELCCs could undermine procurement planning & portfolio valuation
- SOD obviates the need for "bounding" ELCC values, which mutes intended effect

More nuanced capacity valuation than annual ELCCs

- 24-hr SOD exceedance provides more temporal/locational granularity than annual ELCCs
- Better reflects storage contribution by accounting for charging and discharging energy
- More transparent and easier to interpret than probabilistic ELCC modeling

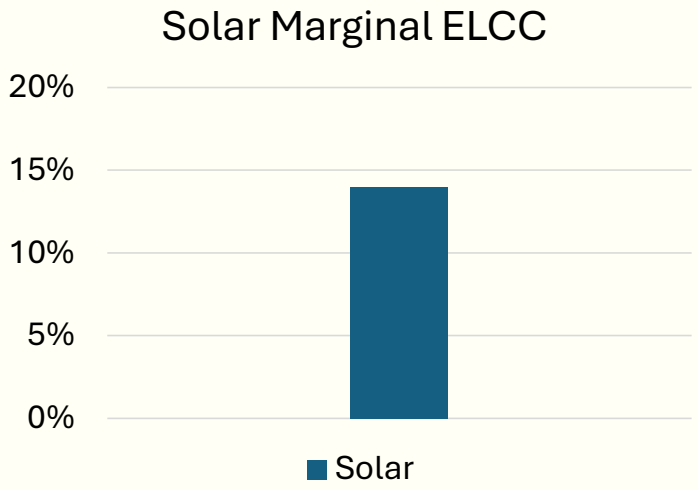
ELCC and Exceedance Values Can Diverge

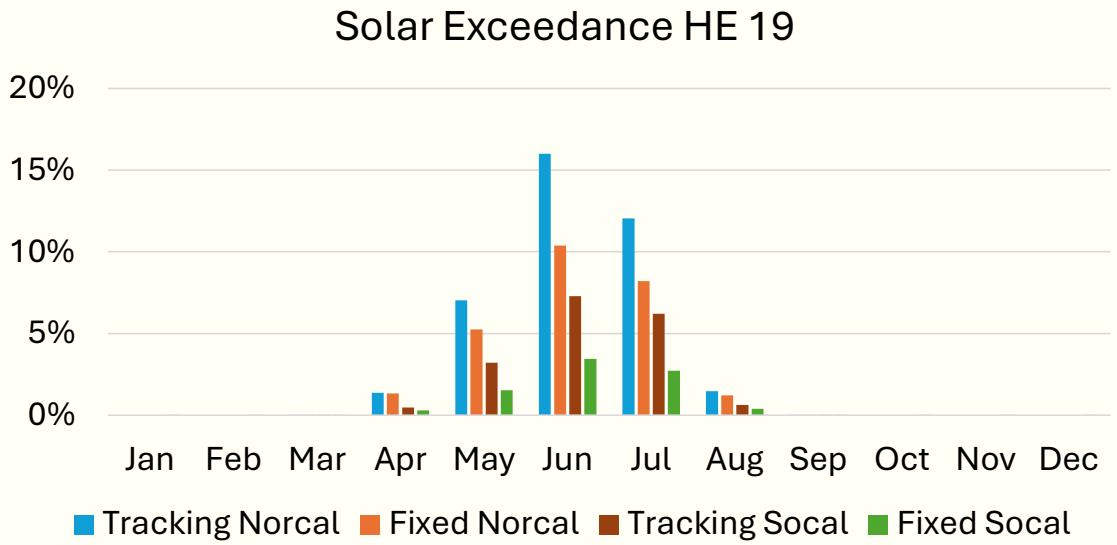




Diverging ELCC and exceedance values leads to conflicting valuations of the same resource

SOD Provides Greater Transparency





- SOD exceedance provides higher temporal and regional granularity than annual ELCCs
- Transparent valuation of resource contribution to reliability during peak hours
- ELCCs developed through a non-transparent process, making them hard to predict; exceedance more accessible and subject to a clear revision process

Need Identification, Allocation, and Compliance

Need identification

- IRP modeling identifies incremental "perfect" capacity need in hours of risk to maintain .1 LOLE

Need allocation

- Incremental capacity need allocated (by slice) to LSEs based on pro rata hourly load share

Compliance Demonstration

- LSEs submit contracts consistent with SOD exceedance, showing coverage of allocated slices

- **Flexible:** unlike multi-year ahead RA, where RA attributes must remain in the LSE's RA portfolio, LSEs can "right size" their RA positions while fully satisfying their IRP obligations
- **Transactability:** LSEs should be able to exchange allocations of need (load share) or shown capacity by slice (supply side) for RCPPP compliance demonstration purposes
- **Precise:** Identifies gaps in capacity across seasons/days and helps prioritize when/where procurement is needed

Recommendations

1. Adopt a single resource counting methodology (SOD) for procurement demonstration
2. Adopt SOD-based need identification, allocation, and LSE demonstration
3. Incorporate transactability
4. Begin pilot testing and template development in 2025 IRP cycle
5. Consolidate reporting
    - Eliminate monthly data response
    - Evaluate need for multiple filings per year

Reliability Options I and II

Option 1 Facilitates Fairness, Simplicity, Efficiency

	Option 1	Option 2
Potential for Cost Shifts	Better aligned with cost-causation principles	Counting existing vintage capacity against RPN need prior to allocating RPN to LSEs would shift costs to those supporting existing resources
Administrative Complexity	RA and IRP compliance in separate years streamlines resource demonstration	Administering rolling vintages is burdensome and error-prone, as seen in D.19 (NTR) and D.21 (MTR) IRP procurement
Duplicative Penalties	Minimizes risk of duplicative penalties	Risk of duplicative penalties due to RA and IRP overlap and diverging resource accounting
Integrated Consideration of Entire Portfolio	Incents repowers and retention of older resources	Distorts value proposition for existing and new vintage resources
Sufficient Incentive for New Build	Driven by reliability and GHG-reduction portfolio requirements, consistent with statute	Over incents new build. New resources would only be IRP-eligible within 10 years of COD (a fraction of typical plant useful life)

Reliability Procurement Need Buffer and Collective Capacity Reserve

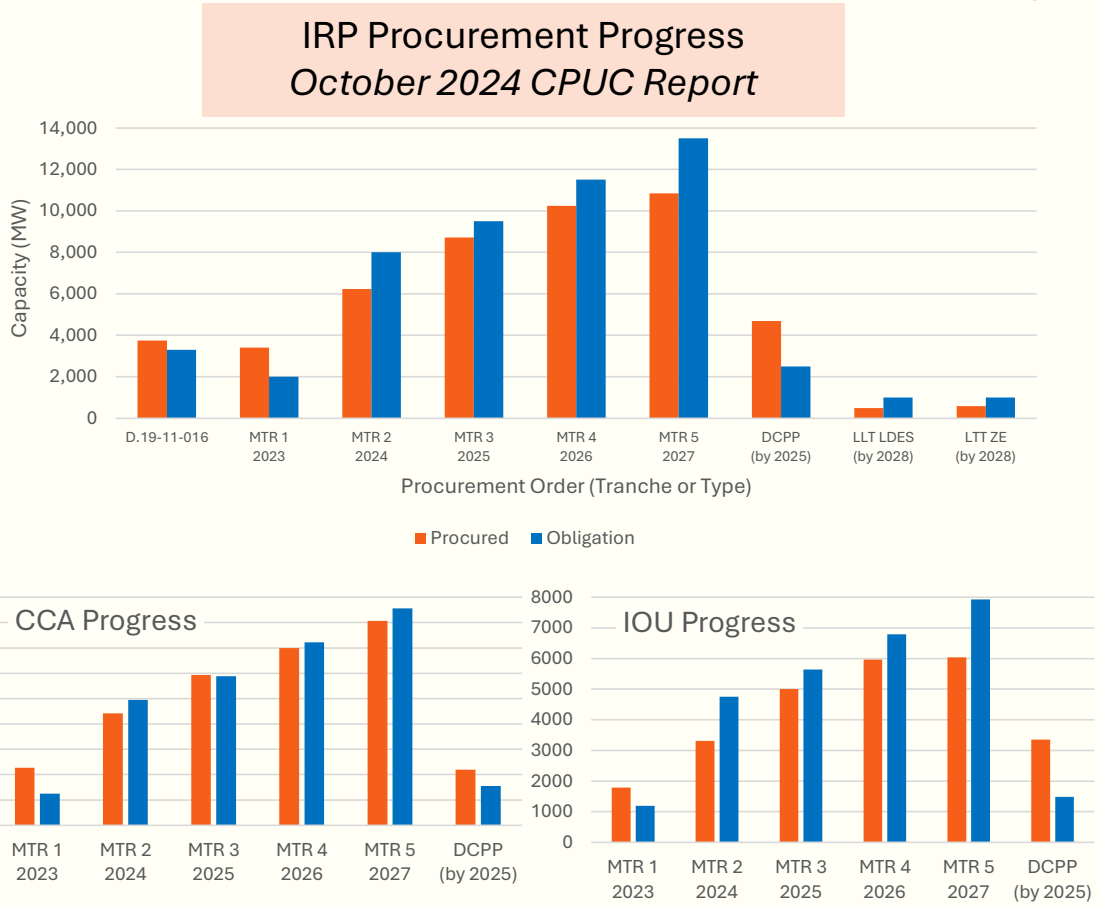
RPN Buffer and CCR are not Sufficiently Justified

- Procuring 2.5-5.5% above a .1 LOLE portfolio is not justified with historical data
- Over-procurement can significantly increase costs to ratepayers
- LSEs best positioned to manage risk of delays; penalties provide adequate incentive for hedging
- If the CPUC prescribes a 2.5% buffer, it should be a no-penalty surplus obligation. Penalties above 100% of reliability need are unreasonable
- State agencies should work to address structural issues behind delays (supply chain, interconnection, etc.) rather than order over-procurement

LSE IRP procurement shows CCR is Unnecessary

- LSE IRP has been reasonably effective, precluding the need for a collective capacity reserve

- The CPUC should defer consideration of a permanent RCPPP CCR/CPE
- To the extent central procurement is contemplated, an independent, neutral third party should be chosen *in lieu of a retail supplier*
- If an LSE RCPPP-CPE is authorized, any required capacity used should not be eligible to be shifted into or out of an LSE's IRP portfolio



Alliance for Retail Energy Markets

RCPPP: AReM Then and Now

June 23, 2025

CPUC RCPPP Stakeholder Workshop

R.20-05-003

Rewind the Clock…

- AReM one of six parties that offered a procurement design option in 2022 in response to Staff Options Paper
- Overarching theme of the AReM Proposal: No new procurement program, just modify the existing ones: RPS and RA
  - Save so much time
  - Prevent conflicting requirements
  - Reduce administrative burden

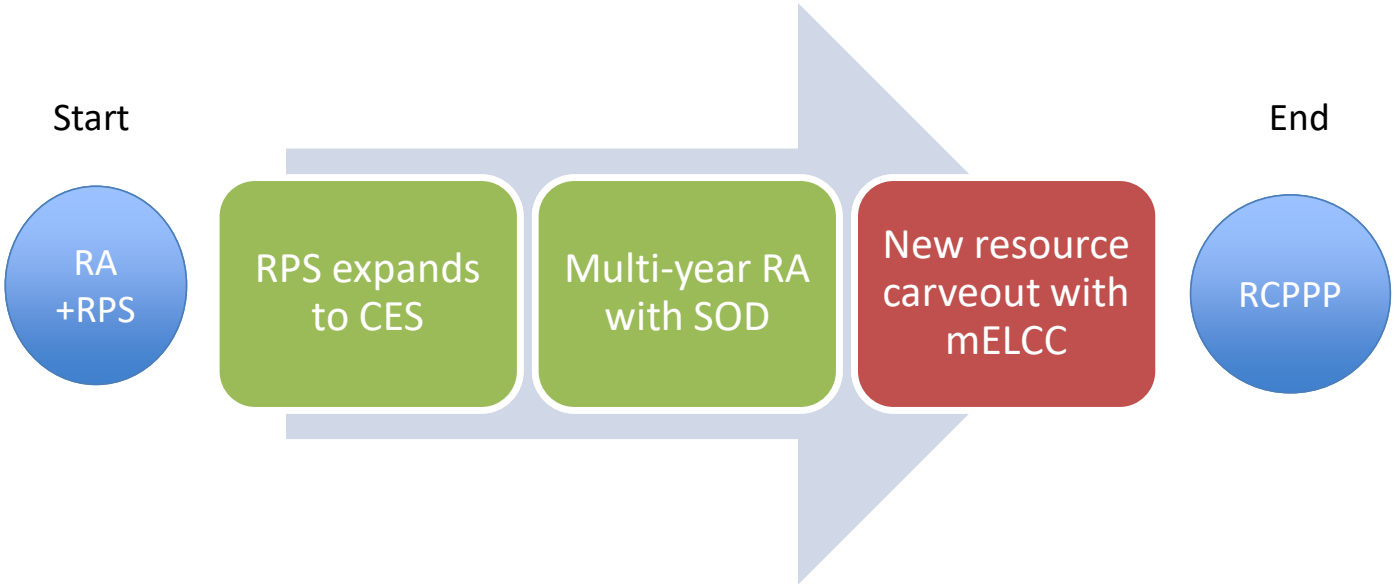
- AReM Proposal
  - Expand RPS to CES to account for non-RPS clean energy
  - Multi-year RA with SOD for reliability + new resource standard using SOD accounting (close to current Staff Option 2)

RA Product Definition Importance

- AReM will not support a bifurcation or redefinition of the RA product
  - Massive amount of work and burden to LSEs
- If new resource carveout is included in RCPPP, needs to stay within RA framework which marginal ELCCs does not

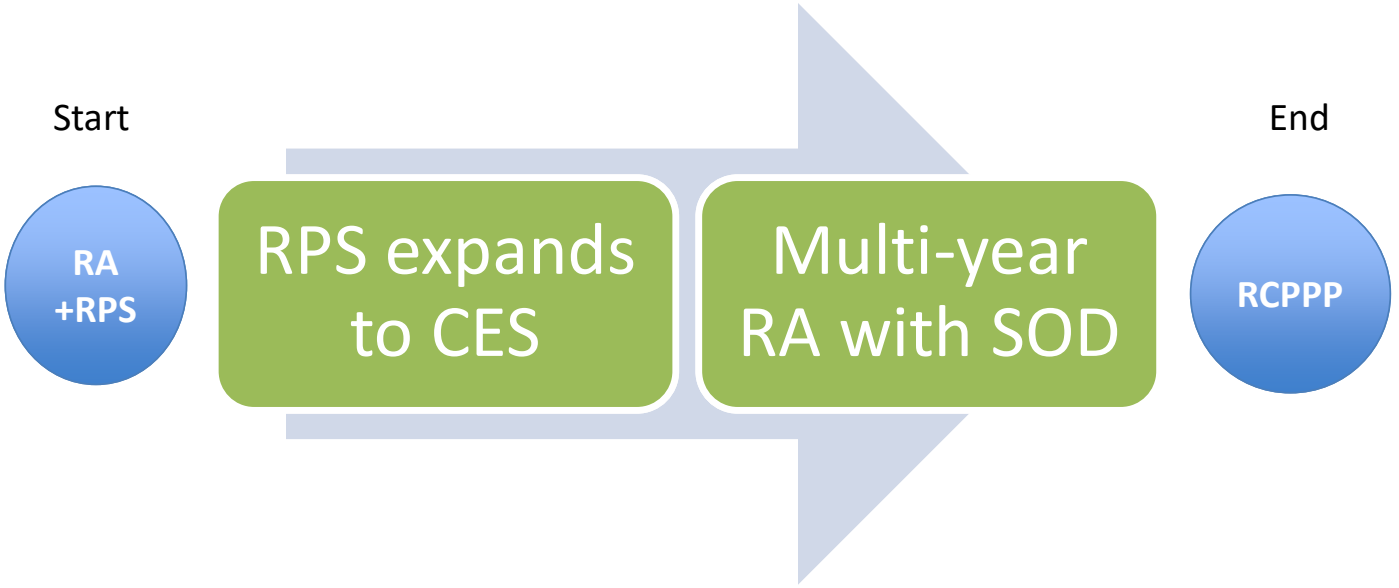
RA Product
• Load forecast • Setting PRM • Resource counting • Import definition • System/local/flex • Use of CPE • Must offer requirement • Outages and substitution (UCAP and MURA) • Showings and Compliance • CAISO Backstop

Staff Proposal (Option 2)



- Problem: ELCC-based product is not the RA product
- Marginal ELCCs are only "slightly" different-then why do this?

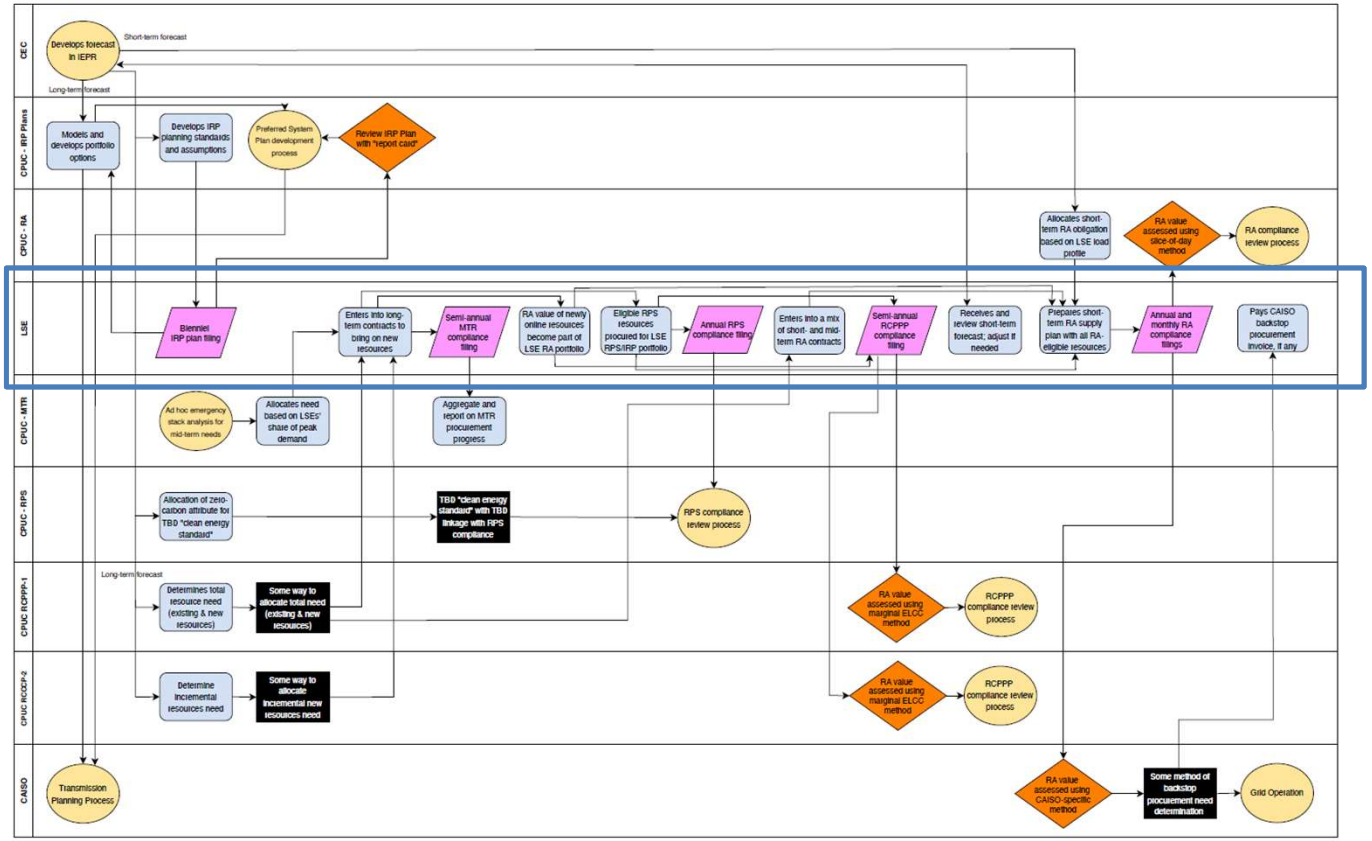
One Path Forward…



Can we just get rid of the marginal ELCC/new resource component?

SOD works

Current Process Problems



Path Forward

- Expand RPS to CES
  - ZEC product adds non-RPS clean resources
- Expand RA program multi-year
  - Use SOD resource counting
- No marginal ELCC
  - Create unified standards and reporting
- Next Steps…

APPENDIX

Reliability: AReM Proposal vs Staff

	2022 AReM Proposal	Current Staff Option 2
Term	Five Years	Five Years
Need Determination	0.1 LOLE	0.1 LOLE + 2.5% Buffer
Need Allocation	Extend RA Program to T+4	Extend RA Program to T+3
New Resource Carveout	Option to specify % of RA must be from new resources in T+4 with binding showing in T+3	Marginal ELCC-based new resource requirement with rolling 10-year vintage starting T+4
Backstop Provision	IOUs backstop new resource carve out	IOU Collective Capacity Reserve (CCR)
Long Lead Time Resources	IOUs act as CPEs	DWR CPE
Procurement Targets	T+1: 100% T+2: 100% T+3: 100% + New Build T+4: 60% + New Build Specified	T+1: 90% T+2: 80% T+3: 70% T+4: 60% of New Build T+5: New Build Specified

PG&E's Proposal for a Programmatic Approach to Achieve California's Reliability Targets

June 23, 2025

PG&E's Guiding Principles Towards a Programmatic Approach

PG&E supports the adoption of a programmatic approach to long-term planning and procurement to avoid "just-in-time" procurement orders and that:

1. Maintains a Level of Predictability and Procurement Autonomy

- Provides signals to drive long-term planning and procurement by LSEs that is fair, within reasonable timeframes, is transparent, and allows LSEs commercial/procurement autonomy.

2. Drives Efficient Procurement and Integrates with Other Programs

- Affordably meets California's reliability and clean energy targets and blends seamlessly with other compliance programs to prevent costly and duplicative procurement.

3. Is Easy to Implement

- Should not be overly burdensome to implement or create administrative roadblocks.

Using the SOD Framework is Effective for Long-Term Planning

A single set of compliance rules should be used. Doing so will lead to better procurement outcomes, lower costs, and provide consistent market signals.

Benefits of SOD

- Provides a simple, clear and transparent market signal for LSEs.
- Better identifies reliability needs.
- Ensures LSEs bring charging sufficiency for energy storage.
- Reduces complexity and administrative burden by avoiding a dual set of compliance rules.

Challenges with ELCCs

- Leads to leaning issues.
- Volatile and opaque.[1] This makes LSEs' planning and developers' valuation difficult.
- No valuation for co-located/hybrid resources.
- Can create mismatches in value during critical reliability hours.

[1] For example, the MTR mELCCs published in 2023 valued 4-hour storage at ~75% (2028) while the Staff Paper valued them at 37%.

Overview of PG&E's Programmatic Approach to Reliability

1. Multi-Year RA Program Using the Slice-of-Day (SOD) Structure

- Use the existing SOD structure for reliability planning that extends to T+4.
- Modifications to resource eligibility for in-development resources and to account for limitations on the import allocation rights process.

2. No Distinct New Build Requirement

- Increasing clean energy targets should drive new resource development.
- Avoid additional complexity and administrative work to maintain a baseline portfolio.

3. IRP Procurement Orders Should Focus on Needs Best Suited for Central Procurement

- Procurement orders focused on emerging technologies and location-specific procurement needs identified by Staff.

4. No Reliability Buffer but Allow for the Use of a Collective Capacity Reserve (CCR)

- The CCR volumes would be determine every two years as part of Staff's LOLE/PRM study process.
- Eligibility for the CCR should mirror today's effective PRM framework.

Key Design Elements for a Programmatic Approach

The Staff Paper provides key elements when designing a programmatic approach, specifically:

1. Need Determination	2. Need Allocation	3. Compliance	4. Enforcement
• The use of technical analysis to specify the needed quantities of resource	• Specifying what quantity of the resource attributes each LSE should be	• LSE data filing requirements and resource counting metrics that allow for monitoring of	• Financial penalties to address an LSE's failure to meet its procurement

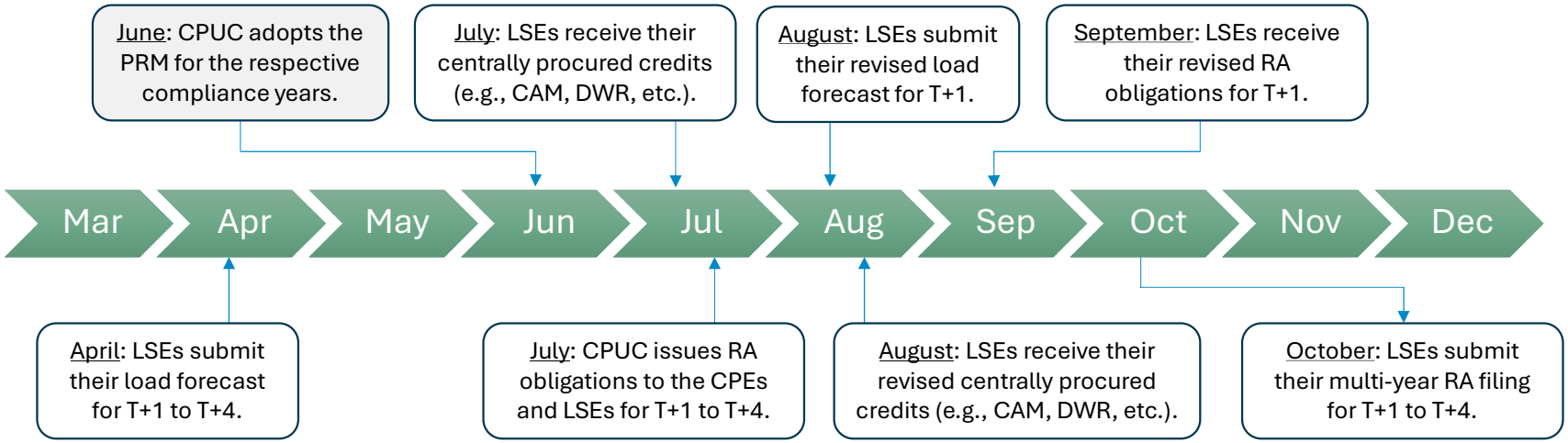
1. Need Determination and 2. Need Allocation

1. Need Determination

- Staff completes LOLE study, which determines the PRM and evaluates the need for a Collective Capacity Reserve (CCR) procurement order for the next two years.

2. Need Allocation

- RA obligations will be allocated based on the existing SOD methodology.
- No changes will be made for T+2 to T+4 compliance obligations.



3. Compliance – Forward Years and Percentages

- The number of years and their percentages should balance: 1) the time needed for new build to come online, 2) the use of RA imports and its dependencies, 3) changes in load forecast, and 4) DWR's procurement.
  - Time for New Build: It takes roughly 3-4 years for a new resource to come online.
  - Use of RA Imports: The import allocation rights process is generally done on a prompt year basis, so RA imports may not be secured or deemed eligible in T+2 to T+4 until process changes are made.
  - Changes in Load Forecast: The California Energy Commission's load forecast has changed roughly 10% in a given previous year in the mid-term time-horizon.
  - DWR's Procurement: Procurement authority is roughly 13% of the estimated need in 2029.

For T+1 to T+4, a compliance showing would only be required for the summer months of May through September.

	PG&E's Proposed Multi-Year RA Requirements					
Year	T+0	T+1	T+2	T+3	T+4	T+5[1]
System RA	100%	90%	**80%**	**70%**	**70%**	DWR is Expected to Have Long Lead-Time Contract(s) Signed by T+5
Local RA	-	100%	100%	50%	**TBD**	

Assembly Bill (AB) 1373 states that DWR's procurement must have "a construction and development lead time of at least five years."

3. Compliance – Resource Eligibility and Counting

- The CPUC would continue to maintain, with modifications, a Master Resource Database (MRD) for eligible resources, including both existing and in-development resources.
  - *In-Development Resources* in T+2 through T+4 will be eligible based if the following requirements:

Year	Milestones
T+0	No change
T+1	No change
T+2	Deliverability has been allocated to the project and interconnection agreement has been signed between the developer, CAISO, and PTO
T+3	An interconnection facility study has been completed for the project or deliverability has been allocated to the project
T+4	An interconnection queue number has been assigned, and the project is not an energy only project[1]

- Because the import allocation rights process is generally done on a prompt year basis, RA imports may not be deemed eligible in T+2 to T+4.

[1] *Under current rules resources must be deliverable for resources to count for the RA program.*

4. Enforcement

PG&E's Current Thinking:

- The multi-year RA program would follow the existing tiered penalty structure for procurement deficiencies for financial and non-financial penalties.
- However, PG&E is still considering whether changes are needed to the enforcement mechanism to ensure long-term planning needs are adequately met. This could include items such as:

  a) Changing the penalty price to the Net CONE in outer years;

  b) Procurement orders being issued for LSEs with repeated deficiencies;

  c) Procurement orders being issued for a CPE to procure on behalf of LSEs with repeated deficiencies.

Next Steps: Interim Procurement Order

Because the earliest that a multi-year RA program can be implemented is in 2027, PG&E is considering the need for an **interim procurement order**.

- Assessing the electric grid's needs for the **2028-2030 timeframe** and taking action to address those needs, if warranted, is a least regrets approach.
- PG&E is still evaluating how a procurement need should be allocated out to LSEs and how best to identify that need, including whether it is based on a reliability need or clean energy need or both.
    - Some portion of an interim procurement order may need to come from **generating resources**, not just energy storage.
    - SOD can also incentivize this as it requires energy storage to come with charging sufficiency.
- An interim procurement order can also provide **more time to develop a comprehensive clean energy program** to meet the state's GHG-emissions reduction targets.

Questions?

End of Day 1

California Public Utilities Commission