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Summer Reliability Workshop

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Agenda

1. **New Online Energy Resources**
2. **Summer Reliability Snapshot**
 - a. Expected resources
 - b. Contingency resources
3. **Recent Procurement Activity**
4. **Tracking Energy Development (TED) Task Force & Procurement Challenges**
5. **Recent Regulatory Action ([Decision Ordering Supplemental Mid-Term Reliability Procurement, D.23-02-040](#))**

IRP Procurement Orders and Compliance Review Schedule

Table 1. CPUC Procurement Orders (MW NQC)

| CPUC Orders | Total | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|--|------------------|-------------------|-----------------|-------------------|--------------------|---------------------------------|--------------------|--------------------|--------------------|
| D.19-11-016 Applies to 25 LSEs since 18/43 LSEs opted out. | 3,300 MW | 1,650 MW by Aug 1 | 825 MW by Aug 1 | 825 MW by Aug 1 | n/a | n/a | n/a | n/a | n/a |
| D.21-06-035 (MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed. | 11,500 MW | n/a | n/a | 2,000 MW by Aug 1 | 6,000 MW by June 1 | 1,500 MW ¹ by June 1 | n/a ² | n/a | 2,000 MW by June 1 |
| D.23-02-040 (Supplemental MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed. | 4,000 MW | n/a | n/a | n/a | n/a | n/a | 2,000 MW by June 1 | 2,000 MW by June 1 | n/a |
| Cumulative Procurement Ordered | 18,800 MW | 1,650 MW | 2,475 MW | 5,300 MW | 11,300 MW | 12,800 MW | 14,800 MW | 16,800 MW | 18,800 MW |

Table 2. CPUC Review of LSE Contracting Progress

| | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|--|---------------|---------------|-------------------------------|---------------|---------------|---------------|---------------|---------------|
| CPUC Reviews LSE Compliance Filings and CPUC could order Backstop Procurement | February 2021 | February 2022 | February 2023 & December 2023 | December 2024 | December 2025 | December 2026 | December 2027 | December 2028 |
| CPUC Reviews LSE Compliance Filings <u>only</u> | August 2021 | August 2022 | August 2023 ³ | June 2024 | June 2025 | June 2026 | June 2027 | June 2028 |

(1) D.21-06-035 required 2,500 of the 9,000 MW required between 2023-2025 be "Diablo-Canyon Replacement".

(2) D.21-06-035 required 2,000 MW of Long-Lead Time Procurement by 2026, with an option to extend to 2028: 1,000 MW of long-duration storage and 1,000 MW of firm zero-emitting. D.23-02-040 automatically extends the procurement obligation to 2028.

(3) In August 2023, the Commission can order back stop for the for remaining D.19-11-016 procurement obligations.

MTR Requirements Summary

| Mid-Term Reliability (MTR) Procurement Requirements by Tranche and Category (NQC MW) | | | | | | | | |
|--|---|---------------------------|--------------|--------------|--------------|--------------|--------------|---------------|
| | Procurement Category | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Total |
| a | Total MTR Required Procurement by Year | 2,000 | 6,000 | 1,500 | 2,000 | 2,000 | 2,000 | 15,500 |
| b | Diablo Canyon Replacement ¹ | ←———— 2,500 —————→ | | | | | | 2,500 |
| c | Other/ General Procurement ² | ←———— 7,000 —————→ | | | 2,000 | 2,000 | | 11,000 |
| d | Long Lead-Time - Long-Duration Storage | | | | | | 1,000 | 1,000 |
| e | Long Lead-Time - Firm Zero-Emitting | | | | | | 1,000 | 1,000 |
| = b + c + d + e | Total MTR Procurement | ←———— 9,500 —————→ | | | 2,000 | 2,000 | 2,000 | 15,500 |

For the purpose of this presentation the following procurement obligation years are labeled as:

2023: Tranche 1
 2024: Tranche 2
 2025: Tranche 3

2026: Tranche 4
 2027: Tranche 5
 2028: Long Duration Storage: Tranche 6 LDES
 2028: Firm Zero-Emitting: Tranche 6 Firm ZE

[1] The 2,500 MW shown in row "b" represents the portion of procurement shown in row "a" for 2023-2025 that is for the Diablo Canyon Replacement procurement obligation.

[2] The 7,000 MW shown in row "c" represents the portion of procurement shown in row "a" for 2023-2025 that is for the other/general procurement obligation.

New Online Energy Resources

New Resources Additions, Jan 1, 2020 – January 31, 2023, Cumulative

Data Vintage: March 2023

Data includes projects online as of January 31, 2023
Data uses 2_17_2022 NQC List

| Technology Type | Nameplate Capacity (MW) | Estimated Sept. Net Qualifying Capacity (NQC) MW | Number of Projects |
|---|-------------------------|--|--------------------|
| STORAGE | 3,782 | 3,621 | 51 |
| SOLAR | 3,302 | 283 | 45 |
| HYBRID (STORAGE/SOLAR) | 998 | 456 | 16 |
| WIND | 700 | 83 | 19 |
| GEOHERMAL | 40 | 31 | 1 |
| BIOGAS, BIOMAS, HYDRO | 34 | 1 | 8 (2,2,4) |
| Subtotal Total New SB100 Resources, IN-CAISO | 8,856 MW | 4,475 MW | 140 |
| NATURAL GAS, incl. Alamitos & Huntington Beach, CAISO | 1,477 | 1,474 | 12 |
| Total New Resources, IN-CAISO | 10,333 MW | 5,949 MW | 152 |
| New Imports, Pseudo-Tie or Dynamically Scheduled | 1,689 | 711 | 13 |
| Total New Resources, including Imports | 12,022 MW | 6,660 MW | 165 |

Notes:

All data shown derived from CAISO [Master Generating Capability List](#), and CPUC [NQC Lists](#) with online dates between Jan 1, 2020 – March 31, 2023. Nameplate Capacity is shown as “Net Dependable Capacity” in the CAISO Master Generating List file. Data shown excludes imports, except where specified. All NQC values are “September NQC” and subject to change based on counting rules. “Project” is defined as a unique CAISO resource ID. “Natural Gas” includes Alamitos Unit 7 (675 MW) and Huntington Beach (674 MW) added in Feb 2020.



Expected new resources for Summer 2023

| New Resources | No. Contracts Expected Come Online | Estimated New Supply online by 6/30/2023 | Contingency/Estimated New Supply online by 9/30/2023 | Contingency/Estimated New Supply online by 12/31/2023 |
|--|------------------------------------|--|--|---|
| Estimated New Resources (Sept. NQC ¹ MWs ²) | 262 | 1,849 | 811 | 567 |
| Estimate New Resources (Nameplate MWs) | 262 | 2,230 | 1,432 | 1,655 |

¹ NQC – net qualifying capacity

² MWs - megawatts

Summer 2023 Contingency Resources

- Contingency resources are those that are available above what was included in the 2022 Integrated Energy Policy Report (IEPR) stack
- These resources include:
 - Resource Modification or Contract Revisions for Net Peak Energy (with and without net qualifying capacity (NQC))
 - Program Expansions
 - New resources currently in development with late summer online dates

Recent Procurement Activity

- Jurisdictional LSEs are actively procuring for resources with 2023-28 Commercial Operation Dates (CODs)
- Recently announced public contracting efforts include:
 - 276 MWs of storage capacity with 2024 COD (SCE)
 - 119 MWs for two long-duration storage contracts with 2025 and 2026 CODs (California Community Power)
 - 13 MWs of geothermal capacity with mid-2024 COD (California Community Power)
 - 40 MWs of geothermal capacity with 2026 COD

Procurement Challenges & Efforts

Local Permitting

- Lengthy requirements can delay project development

Interconnection & Transmission Delays

- Rapid pace of project development is challenging interconnection and transmission processes

Supply Chain

- COVID-19, Auxin Solar Petition, inclement weather, & federal level action impact resource development

Market Tightness

- Many LSEs are competing for a finite number of projects

Tracking Energy Development (TED) Task Force

- Considering resource development and the affiliated challenges, the TED Task Force was established to track project development. This is a collaborative group composed of the CEC, CPUC, CAISO, and Go-Biz
- Task Force meets regularly to address project specific issues, coordinates on responses as it can, and collectively tracks new resource development
- Task Force members meet with developers that have projects facing delays to identify areas where intervention could help
- Participates in CPUC led biweekly interconnection calls with Investor Owned Utilities (IOUs) to ensure that barriers are identified early and resolved as quickly as possible

Efforts to Accelerate Project Development

Local Permitting

- CEC is facilitating industry-wide storage best practices and has a new opt-in permitting process

Interconnection & Transmission Delays

- CPUC and CAISO initiated the Transmission Development Forum to increase transparency and disseminate information
- CPUC meets regularly with IOU interconnection departments
- CAISO opened its Interconnection Process Enhancements (IPE) to tackle some of these challenges

Supply Chain

- CPUC provided data used in the Governor's letter to White House about the impact of the Auxin Solar Petition

Market Tightness

- Recent CPUC decision partially addressed some barriers to resources being eligible

Recent Regulatory Action

- Commission recently adopted Decision [D.]23-02-040: Ordering Supplemental Mid-Term Reliability (MTR) Procurement (2026-2027) and Transmitting Electric Resource Portfolios to the California Independent System Operator for the 2023-2024 Transmission Planning Process (TPP)
- The decision had three broad outcomes:
 1. Orders an additional 4,000 MW NQC of procurement
 - Newly procurement is for years 2026 and 2027, and moves existing long lead-time (LLT) procurement until 2028 given market challenges
 2. Makes changes to existing compliance rules set in previous IRP Decisions to further encourage procurement
 - Decision provides a number of clarifications to existing decision text ranging from “bridge” resources to baseline clarifications
 3. Transmits Electric Resource Portfolios to CAISO for the TPP

Conclusions

- Lots of resources have come online from 2020-2023
- For this summer, we are seeing an estimated 1,800 MWs in September NQC and 2,200 MWs in Name Plate Capacity to come online before June 30, 2023 to support summer loads.
- There are some challenges to getting these resources online and the TED task force along with recent CPUC decisions are helping to address the procurement challenges we are facing.
- The CPUC will continue to provide updates on expected resource development and will support state efforts to evaluate the summer outlook.

References to Related Information

- (1) Tracking Energy Development Task Force – [Tracking Energy Development \(ca.gov\)](#)
- (2) Joint Agency Reliability [Report](#) – pursuant to SB846, February 2023
- (3) California Energy Commission’s Energy Almanac - [Energy Almanac \(ca.gov\)](#)
- (4) Overview of CPUC IRP Procurement Orders – [IRP Procurement Track \(ca.gov\)](#)
- (5) Overview of CPUC Jurisdictional LSE Procurement in Compliance with IRP Procurement Orders
 - [Procurement in Compliance with D.19-11-016 per August 1, 2022 Filings, 2/13/2023](#)
 - [Procurement in Compliance with D.19-11-016 per February 1, 2022 Filings, 7/22/2022](#)
 - [Procurement in Compliance with D.19-11-016 per February 1, 2021 Filings, 8/23/2021](#)

For any questions about the data, please contact procurementstatusreports@cpuc.ca.gov

