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Item 8: Revised 2022 Summer Stack Analysis

September 8, 2021 Business Meeting

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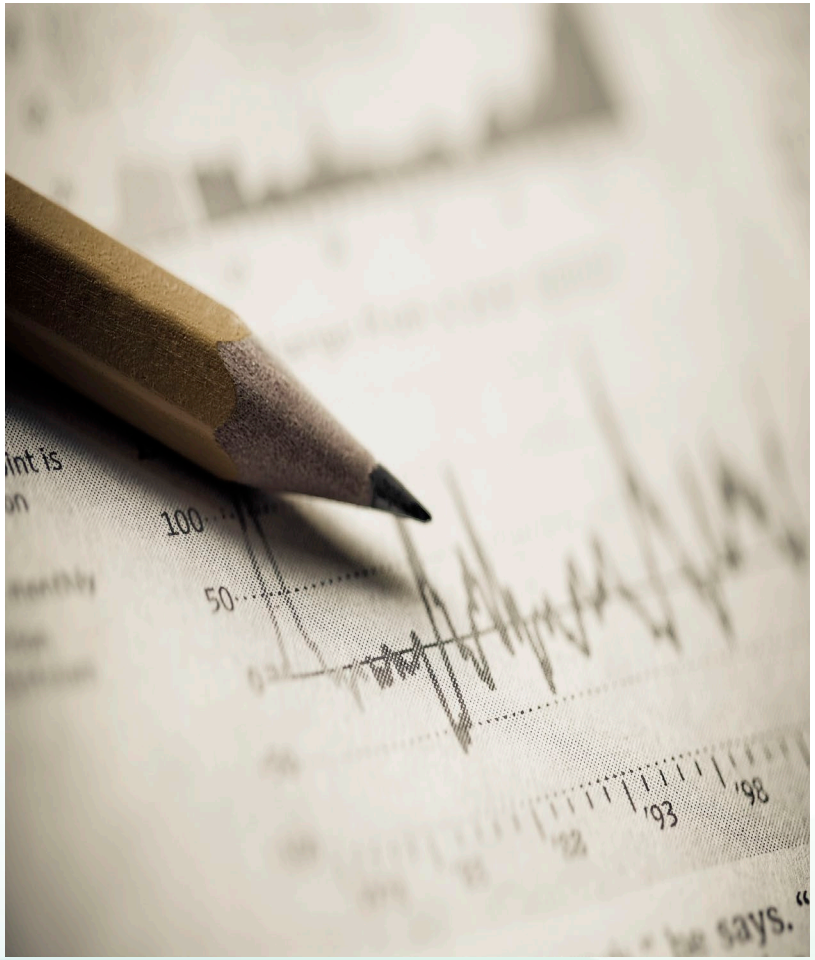
Energy Assessments Division

Benefits to California

Stack analysis provides situational awareness in the event of west-wide extreme weather and prolonged drought to help ensure electric system reliability



Midterm Reliability Analysis vs Stack Analysis

LOLE Analysis

Purpose: Inform procurement need

Uses distributions of conditions
- Demand profiles
- Wind and solar profiles
- Randomized outages

Challenge:
- Dependent on historic weather patterns which may not fully reflect climate change

Stack Analysis

Purpose: Inform need for contingencies

Provides potential of average and extreme:
- High demand days like summer 2020
- Drought impacts on hydro
- Capped imports

Challenge:
- Assumptions designed to capture extreme weather events

Stakeholder Comments

Why develop 2022 stack analysis and LOLE probability analysis?

- Provides situational awareness in the event of west-wide extreme weather and prolonged drought
- Provides a point of reference for consideration in other energy related proceedings
- Provides insight as to the amount and duration of need for contingency resource options

Stakeholder Comments

Assumptions are overly conservative

Hydro derate too high

- Considers specific drought year conditions

7.5% forced outages may be high

- Extreme weather, fire and smoke can adversely impact supply

No economic imports is too conservative

- Assumes west-wide extreme weather event

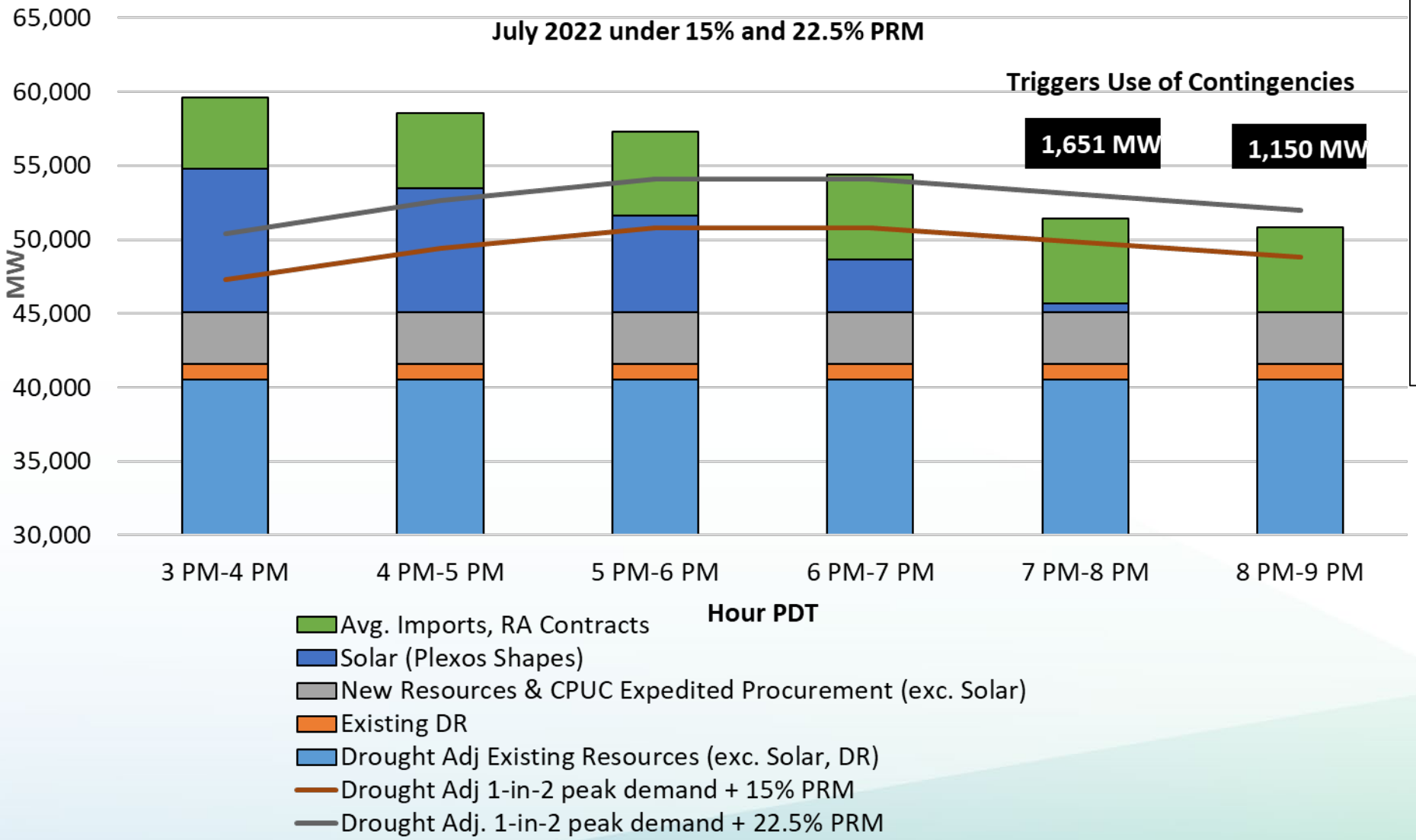
Requests for more specific data and assumptions

Summer 2022 Stack Analysis Updates

- Incorporates additional CPUC Procurement and Retirements
  - \+ 878 MW (up from 556 MW) CPUC emergency procurement July 2022
  - \+ 1,270 MW (up from 840 MW) CPUC ordered procurement August 2022
  - \+ 363 MW (up from 0 MW) CPUC ordered procurement September 2022
  - \- 834 MW (unchanged from draft) Redondo Beach Retirement

- Incorporates additional Demand Response and Imports for Publicly Owned Utilities
  - \+ 478 MW July 2022
  - \+ 398 MW August 2022
  - \+ 385 MW September 2022

July 2022

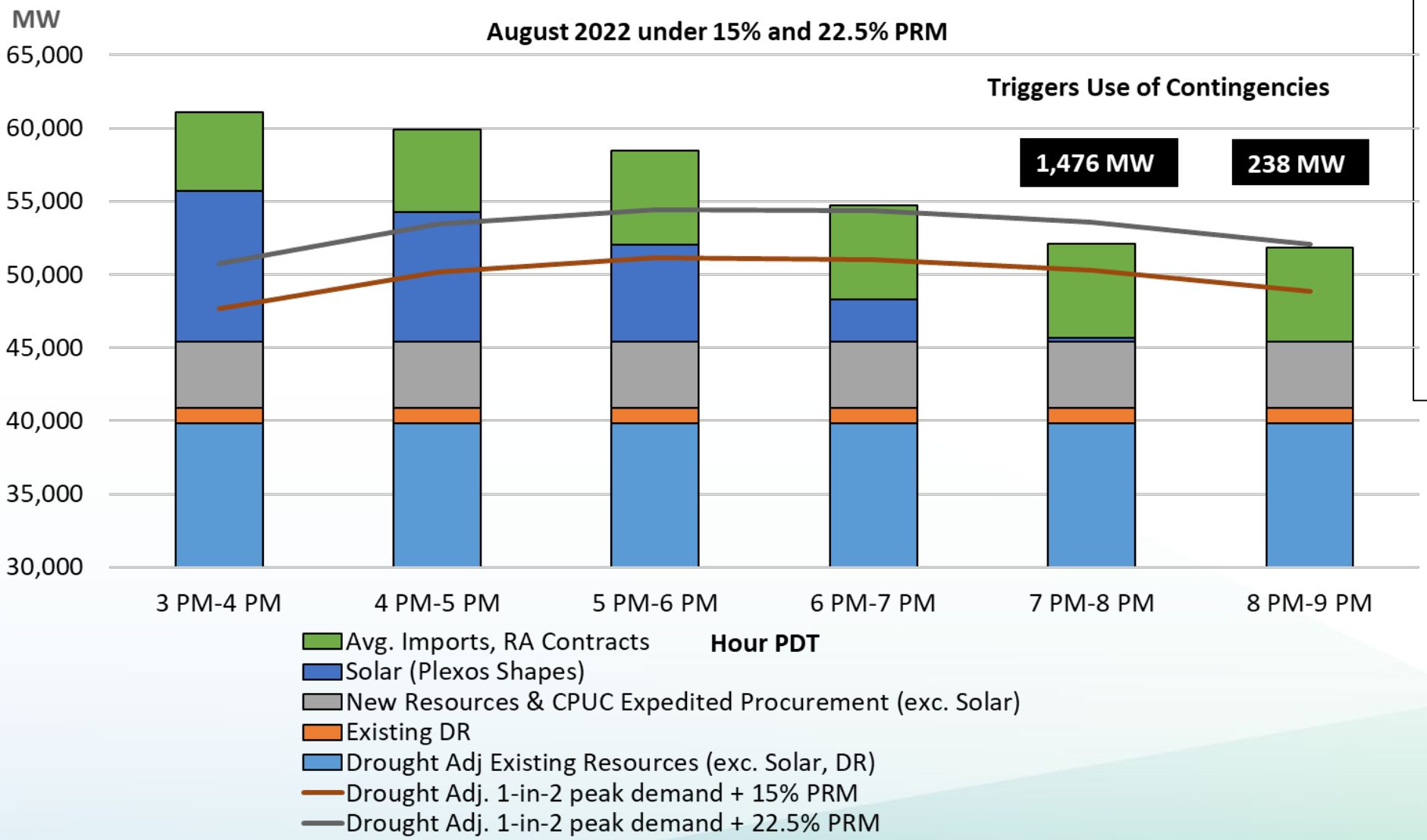


Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~885 MW

Source: Hourly Stack Analysis Tool, California Energy Commission staff Lana Wong

August 2022

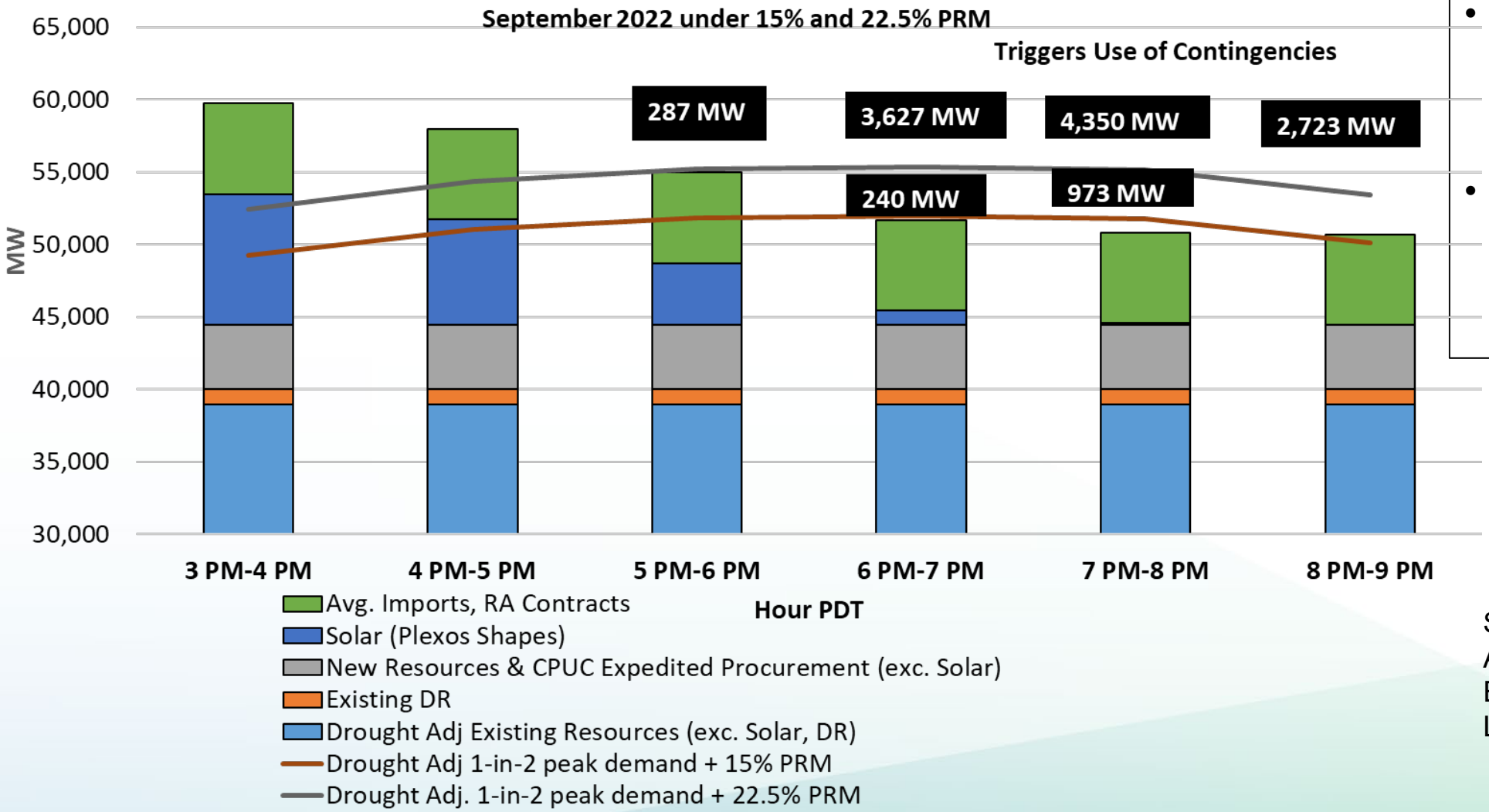


Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~1,004 MW

Source: Hourly Stack Analysis Tool, California Energy Commission staff Lana Wong

September 2022



Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 8PM-9PM hour for the 15% PRM
- Reduced contingencies in all other hours by ~924 MW

Source: Hourly Stack Analysis Tool, California Energy Commission staff Lana Wong

Recommendation

Adoption of Resolution 21-0908-8 for the 2022 Summer Stack Analysis

Docketed presentations and revised white paper:

Docket #: 21-ESR-01

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