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<td><strong>Docket Number:</strong></td>
<td>21-ESR-01</td>
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<td><strong>Project Title:</strong></td>
<td>Energy System Reliability</td>
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<td><strong>TN #:</strong></td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>Presentation - Revised 2022 Summer Stack Analysis for September 8 Business Meeting</td>
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<td><strong>Description:</strong></td>
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<td><strong>Filer:</strong></td>
<td>Courtney Wagner</td>
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<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
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<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
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Item 8: Revised 2022 Summer Stack Analysis

September 8, 2021 Business Meeting

Angela Tanghetti and Lana Wong
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