Power Procurement Update

PRESENTED BY: Marie Fontenot
DATE: March 3, 2020
Agenda

• IRP Update
• Procurement Update
• Risk Management Update
IRP UPDATE
Deliverables

Phase 1: CPUC IRP Compliance Filing
- Analysis based on prescriptive assumptions
- Narrative – analysis, process, results, lessons learned
- Resource Data – conforming & “preferred” portfolios
- Clean System Power Calculator

Phase 2: Establish EBCE Organizational Goals
- Additional analysis
- Identify reliability needs
- Define trade-offs between organizational objectives
- Inform procurement recommendations
- Develop path to expedited GHG reduction
# Revised Timeline for Updates & Actions

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Action</th>
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<tbody>
<tr>
<td>Jan 22, 2020</td>
<td>Discuss: IRP Overview &amp; Discussion of Process</td>
<td>Informational only</td>
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<tr>
<td>Apr, 2020</td>
<td>Discuss: Siemens’ Preliminary Results</td>
<td>Informational only</td>
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<tr>
<td>May, 2020</td>
<td>Discuss: Phase 1 Final Results &amp; Draft IRP Filing</td>
<td>Target Board approval</td>
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<tr>
<td>Jun, 2020</td>
<td>Deadline for Approval of Phase 1, IRP Filing</td>
<td>Board approval required</td>
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<td>Jun, 2020</td>
<td>Present EBCE Organizational Goals</td>
<td>Discussion; Potential Board approval</td>
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<td>July 1, 2020</td>
<td>IRP Filing Due Date for Compliance</td>
<td>CPUC Deadline</td>
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<td>Fall, 2020</td>
<td>CPUC Reviews &amp; Aggregates Filings</td>
<td>n/a</td>
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<td>End of 2020</td>
<td>CPUC Issues Supplemental Procurement</td>
<td>n/a</td>
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<tr>
<td>End of 2020</td>
<td>Update on state-wide results</td>
<td>Informational only</td>
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Preliminary Joint CCA Results
Siemens Revised Model Results (Run 8)
Annual Capacity Addition, vs. RESOLVE CA Expansion Plan

- Build out for JCCA constrained to procurement expectations provided by each CCA and California wide limits from New RSP plan
- A total of 9,550 MW of new capacity is added in 2021-2030 for the JCCAs. An additional 2,255 MW is selected after 2030, mostly solar and wind. A total of 11,805 MW is added through the study period (2021-2040)
- JCCAs combined share of total new capacity additions in California rises from 5% in 2021 to a peak 42% of total by 2028
- Build out is larger in 2023-2024 compared to previous results. 46% of new builds happens in 2021-2024. The rest in 2026-2030.
Siemens Revised Model Results. Generation Mix Changed Somewhat
Annual Capacity Addition, by Technology

- The generation mix changes somewhat compared to previous results.
- 1,000 MW more of Pump Storage through 2030
- 1,260 MW of less Storage (Impacted by revision in ELCC)
- 350 MW more wind, partially offset by 100 MW less of solar
- 315 MW more Geothermal
- **Biomass not selected by the model for the CCAs which considered it as option**
Siemens Revised Model Results
Annual Portfolio Costs (Thousands 2018$)

Joint CCA Portfolio Costs by Category (Thousands 2018$)

- VOM Costs (\$000)
- Fuel Costs (\$000)
- Emission Costs (\$000)
- New Unit Annualized Fixed Costs (\$000)
- Contract Costs (\$000)
- Capacity Market Costs (\$000)
- Market Purchases (\$000)
- Market Sales (\$000)
PROCUREMENT UPDATE
Procurement Activities

• OCEI status update
• “Altamont Winds” and “Golden Fields Solar” projects currently in construction
• Storage RFI related projects under evaluation and negotiations
RISK MANAGEMENT PRIORITIES
Procurement Priorities

- Revise Hedge Strategies
- Develop Metrics & Reporting Tools
- Acquire/Implement Tool:
  - Forward Valuation & Value-at-Risk Analyses
Q4 2019 Hedge Results

Historical Average Covers 2010-2018 NP15 Prices

Oct-19: $3.99, $36.32
Nov-19: $3.81, $44.51
Dec-19: $42.75, $38.82

Legend:
- Cost of Hedges $/MWh
- Spot Market $/MWh
- Series3
DISCUSSION