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Integrated Resource Planning (IRP)

within the Framework of the SB 100 Report

August 2023

California Public
Utilities Commission

IRP Process and History

- Integrated resource planning develops resource portfolios that meet GHG and reliability goals by analyzing the loads and resources, which can identify opportunities and challenges that might not be found by individual LSEs.
- We are in the first year of the third cycle of a CPUC IRP process. CPUC staff is currently developing the 2023 "Preferred System Plan" to guide LSE procurement efforts.
- Over the past four years, the Commission has ordered **18.8 GW** of new generation and storage resources to be online within the next five years.
- IRP portfolios drive transmission development.
- Within the past two years, CAISO has approved **68 major new transmission projects** needed to support the IRP portfolios of expected resources along with the CEC's load forecasts.

Key IRP Interagency Touch Points

- ARB Scoping Plan informs CPUC GHG targets.
- SB100 Report (and future SB100 modeling) informs CPUC IRP development and procurement decisions. Actual CPUC-ordered procurement in turn inform future SB100 analysis and guidance.
- CPUC IRP modeling informs CAISO 10-year Transmission Plan, which in turn informs CPUC-adopted IRP portfolios.
- SB100 report (and future modeling analysis) and CPUC IRP modeling informs CAISO's 20-year transmission report, which in turn can inform future CPUC IRP modeling and SB100 analysis.
- CEC electricity forecast informs the SB100 report and CPUC IRP modeling and distribution planning process

Interactions Between CPUC and CAISO Planning Processes

CPUC IRP produces resource portfolios

- In accordance with a December 2022 MOU between the CAISO, the CPUC, and the CEC, the CPUC develops resource portfolios, with input from the CEC, used by the CAISO in its annual Transmission Planning Process (TPP)
- The CPUC typically transmits multiple distinct portfolios developed in the IRP process:
  - Reliability and Policy-Driven Base Case portfolio
  - Policy-Driven Sensitivity portfolio(s)

Annual

CAISO conducts TPP assessments

- Reliability and Policy-Driven Base Case portfolio
  - Identified transmission solutions go to the CAISO Board of Governors for approval
- Policy-Driven Sensitivity portfolio(s)
  - Identified transmission solutions are considered Category 2 and typically do not go to the CAISO Board of Governors for approval
  - Results often provide useful information for future IRP work

CAISO conducts TPP assessments

- CAISO produces transmission capability limits and upgrade cost estimates
  - These serve as an input to RESOLVE, which accounts for the cost of new transmission when optimizing for a least-cost portfolio, and as criteria for mapping resources to specific busbars.

Current and Anticipated IRP & SB100 Coordination

- Development of IRP portfolios supports achievement of the SB 100 goals, particularly for CPUC-jurisdictional LSEs.
  - Electricity sector GHG target planning range is set within ARB's Scoping Plan, consistent with SB100 targets.
  - IRP analyzes scenarios within the broad range of SB 100 pathways to guide procurement and provide a foundation for potential procurement orders
- Coordination between IRP and SB100 report development
  - IRP staff works collaboratively with agency partners to develop the SB 100 Joint Agency Report outline and review report drafts
  - CPUC and CEC staff endeavor to use consistent Inputs and Assumptions for SB 100 report scenario development and IRP modeling.
- Anticipated IRP modeling and SB100 modeling touch points
  - CEC's model baseline will build on the CPUC's IRP adopted resource portfolio.
  - CEC and CPUC will strive to harmonize inputs and assumptions, and to understand any disparities should they arise.