California Energy Commission

Southern California Reliability: Contingency Concepts

2014 Integrated Energy Policy Report

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Overview

- Enhanced monitoring & monitoring systems track resource development closely
- Contingency Mitigation Measures
  - Measures that can be triggered if primary resources fail to develop on the schedule or in the amounts needed
- Triggering Mitigation Measures
  - Expected resource development falls short compared to reliability requirements
  - Match mitigation to shortfall pattern

MITIGATION MEASURES

Contingency Mitigation Measures

- Mitigation measures are a backstop to assure reliability if preferred resources, authorized generation or transmission are delayed or cannot be acquired
- For preferred resources and transmission, shortfalls may be satisfied by substitute projects
- For aggregate shortfalls, three options being evaluated:
  - OTC compliance date deferral requests to SWRCB
  - IOU targeted renewable DG program
  - Conventional gas-fired projects permitted and procured, but not developed unless triggered

Targeted Renewable DG Program

- Functionality comparable to generators
  - Specific locations
  - Provide reactive power capabilities
  - Telemetry to allow control or schedule updates
- Program
  - Tighter requirements than RAM
  - Projects not developed unless triggered
  - Given requirements – small, uncertain program potential

OTC Deferral

- Functionality
  - Temporary solution – 1 to 3 years
  - Usually permanent solution is in sight
- Illustrations:
  - If needed, Encina (12/31/2017) request would be submitted via SACCWIS about March 2016
  - Possibly consider a second OTC deferral request for a West LA facility with 12/31/2020 compliance dates to be submitted to SWRCB about March 2019

Generator Design Approaches

- Option 1: IOU Chooses Developer, Specific Project
  - Maximize project definition, permitting and procurement authorization upfront
  - Minimize elapsed time from triggering to operational project
- Option 2: IOU Acquires Permit for Generic Project
  - Rely upon IOUs to undertake site control and permitting costs
  - If triggered, still considerable permitting/procurement
  - Minimize upfront costs of “insurance”

Generator Option 1

IOU Chooses Developer, Specific Project

- CPUC approves project planning/permitting process
- IOU acquires developer/site via RFO
- Developer designs project and options key equipment
- Developer secures permit from CEC/AQ districts
- IOU reimburses developer for planning/permitting costs
- Project sits until triggered, if ever
- If triggered:
  - Permits/PPAs finalized
  - Project construction commences (ASAP)

Generator Option 2

IOU Acquires Permit for Generic Project

- IOU acquires site and submits generic project to CEC
- CEC/AQ district process permit (as far as possible)
- If triggered:
  - IOU sells site rights & permit via an RFO
  - Developer defines specific project
  - IOU submits PPA to CPUC
  - Developer obtains permit amendment from CEC/AQ district for specific project
  - Once permitted and PPA approved, project starts construction

TRIGGERING MITIGATION MEASURES

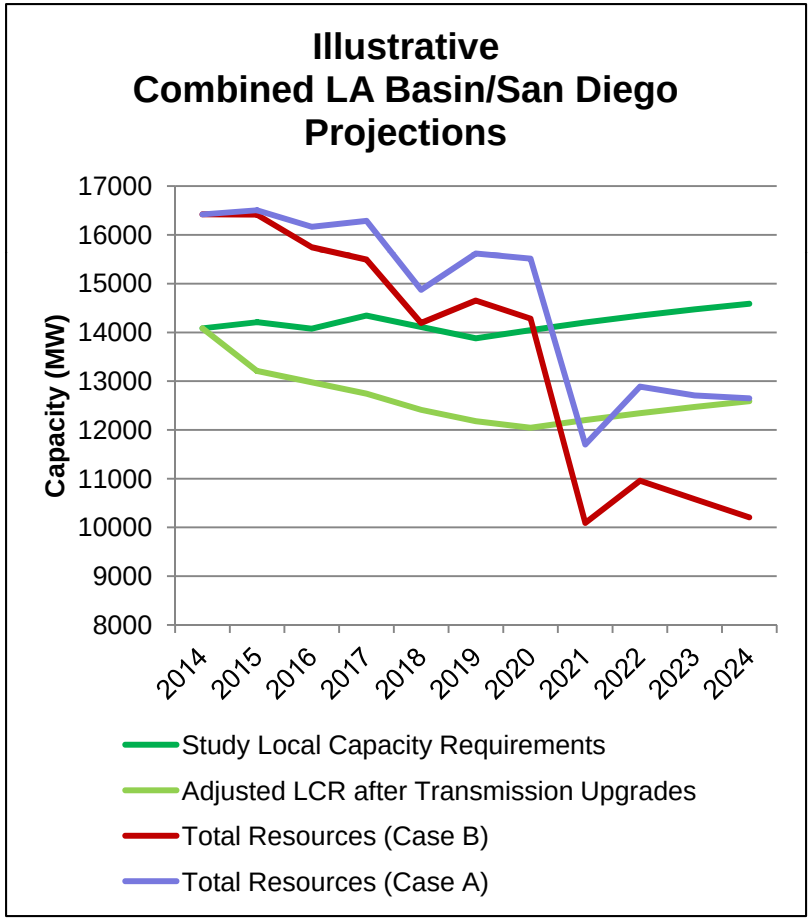
Triggering Mitigation Measures

- Monitoring data is shared among agencies
- CEC is developing a tool to integrate local capacity requirements versus resource balance for future years for specific areas
- Substation interval metering data determines whether loads are following the adopted forecast
- Shortfalls presented to agency executives
- Implementation of contingency mitigation measures
  - agencies use their own planning and procurement responsibilities and procedures
  - Expedited implementation if authorized for these measures

Annual Accounting Tool

- Create a new spreadsheet tool that produces annual results for areas of interest (e.g. LA Basin, San Diego and combined SONGS area
- Tool would draw upon:
  - ISO local capacity power flow study results for snapshot years
  - Transmission upgrade impacts on local capacity requirements
  - Preferred resource and conventional power plant development expectations
  - Actual load bus data from SCE and SDG&E

Triggering Mitigation Measures



- Projection pattern dictates mitigation
- Case A - projections show a temporary gap
  - Trigger submission of a compliance date deferral request to SWRCB
- Case B - projections show a permanent gap
  - Trigger new fossil capacity option and/or renewable DG program

General Implementation Issues

- Tracking progress of preferred resources:
  - For existing programs adapt existing monitoring & evaluation processes to operate faster
  - For resources from D.14-03-004 create new monitoring mechanisms
  - develop expectations of future load reductions
- Track progress of power plants and transmission
- The LCR vs. resources spreadsheet tool:
  - Directly recommend that actions be triggered,
  - Use as a screening mechanism to be confirmed by power flow modeling studies?
- Special processing for mitigation measures?

QUESTIONS?