SCE Reliability Considerations

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Near Term Reliability Considerations

A number of summer readiness projects, coupled with new generation coming on line from prior solicitations is supporting local reliability for Summer 2013

Transmission

Projects completed include: (1) the installation of four 79.2 MVAR 200 kV capacitor banks at three Orange County substations, (2) decoupling the two 230 kV Barre-Ellis into four lines, and (3) converting Huntington Beach Units 3 and 4 to synchronous condensers

New Generation

Approximately 1,775 MW of new generation capacity will be coming online: Walnut Creek (June 1st), CPV Sentinel (August 1st), and El Segundo (August 1st)

Demand Side Resources

Engaging customers and encouraging participation in one or more of the following programs: Summer Discount Plan, automated demand resources technology, Flex Alert, pool pump education and home area network study, third-party thermostat study, Save Power Day, energy efficiency projects, and Energy Leader and institutional and governmental partnership programs

Communications and Outreach

Developing an integrated communications and outreach plan utilizing all media and marketing channels

Over 8,000 MW of generation resources in SCE service territory have or could retire between now and 2020

Total Fossil Capacity (MW)	6,257
SONGS Capacity (MW)	2,150
SCE Territory (MW)	**8,407**

Fossil OTC Plants	Compliance Year
Alamitos	2020
El Segundo	2015
Huntington Beach	2020
Mandalay	2020
Ormond Beach	2020
Redondo Beach	2020

Loss of these resources presents challenges and opportunities

Long Term Reliability Considerations

- SCE provides regulatory and technical input into a number of processes that interactively provide for system reliability
  - Long Term Procurement Plan (LTPP) - CPUC
    - A biennial rulemaking proceeding at the CPUC dating back to 2001
    - Intended to ensure that the investor owned utilities can supply procurement responsibilities on behalf of their customers
    - Both LTPP Track 1 and LTPP Track 4 address local reliability needs
      - LTPP Track 1 addresses local reliability needs for SCE in 2021 taking into account the absence of once through cooling (OTC) facilities which are likely to retire in 2020 to meet the SWRCB's requirements
      - LTPP Track 4 addresses local reliability needs for SCE and SDG&E taking into account the absence of both the OTC facilities and SONGS
  - Transmission Planning Process (TPP) - CAISO
    - An annual process identifying potential system limitations and opportunities for system reinforcements for reliability and efficiency
    - Product of the TPP is the CAISO Transmission Plan

Long Term Reliability Considerations (Continued)

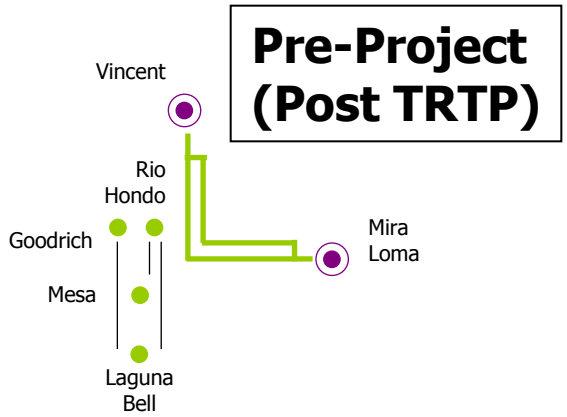
- SCE and SDG&E continue to work jointly on both near and longer term reliability issues via the Southern California Reliability Project
  - Recent Governor's Task Force activity includes the utilities, CAISO, CEC, CPUC, SCAQMD, and SWRCB
  - Planning for long term assuming "SONGS Out" cannot be accomplished without considering the impacts associated with closure of the OTC facilities
  - Track 4 of the LTPP was created after the SONGS retirement was announced to address local reliability needs in the absence of both the OTC facilities and SONGS
  - Track 4 is additive to the work already completed in LTPP Track 1

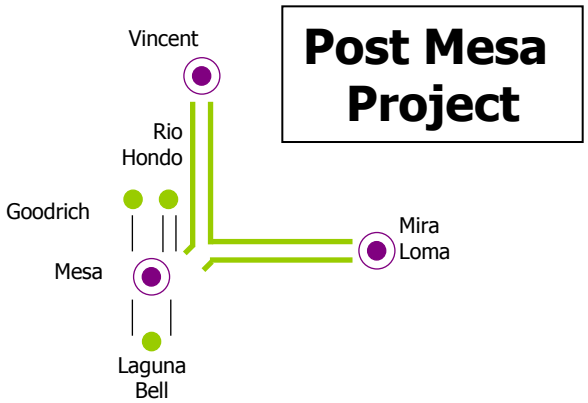
Southern California Reliability Project

Key Elements	Purpose
Preferred Resource Living Pilot	◆ Living pilot provides an opportunity to test, learn and improve delivery of "LCR quality" preferred resources (with appropriate contingent generation backstop)
LA Basin Transmission	◆ Increases ability to move power inside the basin, reducing the need for in-basin generation
Regional Transmission	◆ Participate in ongoing CAISO study efforts for SCE, SDG&E and CAISO options
Conventional Generation	◆ A mix of in-basin and out-of-basin generation can be considered to meet total resource need after aggressive use of preferred resources
Contingent Generation	◆ Preferred Resources: Contingent generation backstop allows for pursuit of deep levels of preferred resources during pilot by increasing ability to deliver generation on short notice ◆ Conventional Generation: Contingent generation backstop buffers against conventional generation procurement/ development failure and uncertainty

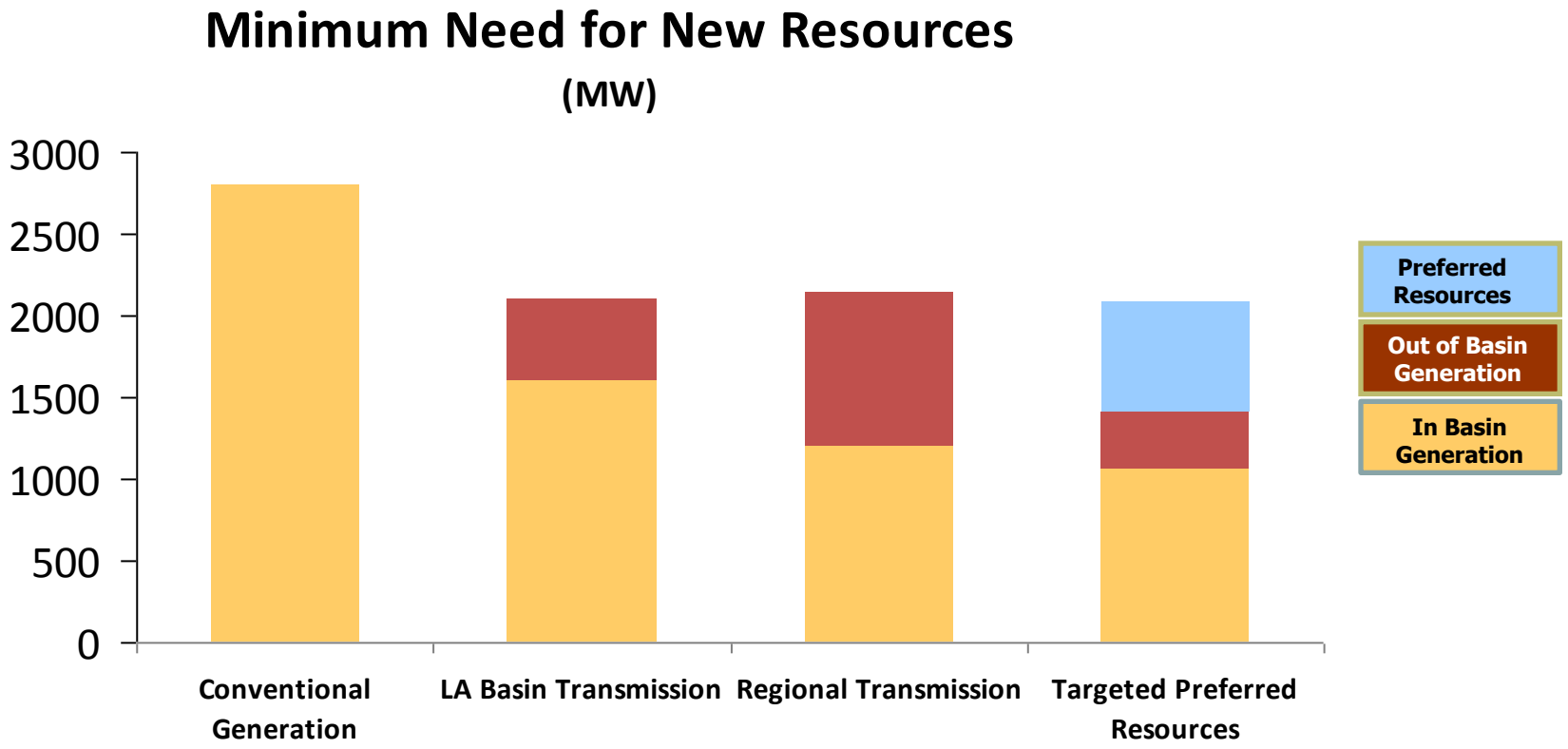
Identified LA Basin Transmission – Mesa Loop-in

- Expansion of SCEs Mesa 230 kV Substation to 500 kV can address reliability concerns due to OTC shut downs by providing additional transmission import capability into Western LA Basin
- Mesa Sub is north of the 60 freeway approximately 2 miles southwest of SCEs headquarters in Rosemead
- Key project elements
  - Loop-in lines into Mesa Sub
    - Vincent – Mira Loma 500 kV
    - Laguna Bell – Rio Hondo 230 kV
    - Goodrich – Laguna Bell 230 kV





Southern California Reliability Project Preliminary Outcomes



Both the LA Basin Transmission and procurement of Targeted Preferred Resources appear to be good choices to reduce the need for conventional generation.

Moving Forward

- Targeted Preferred Resources in Orange County as a "living" pilot
  - Very aggressive use of preferred resources in south Orange County
  - Test value in meeting reliability needs
  - Drive need-based pursuit of preferred resources
  - Identify improvements in design and portfolio management for use system-wide
  - Complete initial assessments and efforts by 2018
  - Pursue contingent generation backstop
- LA Basin Transmission
  - Significantly reduces reliance on existing and new generation in LA and Orange counties
  - Primarily uses existing right of way
- Regional Transmission
  - May be able to increase system's ability to move power and reduce in-basin generation needs
- Conventional Generation
  - Utilize procurement for both Track 1 and Track 4 authorizations