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2017 IEPR Lead Commissioner Workshop
Southern California Reliability

California Energy Commission – Joint Agency Workshop,
At South Coast Air Quality Management District
Diamond Bar, CA
May 22, 2017

Neil Millar
Executive Director, Infrastructure Development
The reliability of the LA Basin and San Diego have been impacted by the SONGS closure, the scheduled retirement of once-through cooled resources, and most recently, gas supply concerns:

**Installed OTC capacity & SONGS:** 6,722 MW*

**Voltage stability and thermal loading concerns**

**Installed OTC capacity:** 946 MW*

Notes:
*Assumed retired in the long-term LCR studies; LA Basin figure includes SONGS retirement
Less than half of the gas-fired generation retiring in the LA Basin / San Diego area is being replaced with new gas generation – despite retirement of 2246 MW of SONGS baseload generation.

* The 2017 net load forecast in the LA Basin and San Diego areas already relies on approximately 3857 MW of incremental energy efficiency from approved programs and standards.
A number of resource and transmission projects are underway to address the concerns:

• **Resource procurement:**
  - LA Basin: 1,813 MW (energy efficiency, behind-the-meter PV, energy storage, demand response, conventional resources)
  - San Diego: 800 MW (conventional resources); SDG&E issued 140 MW RFO for preferred resources in 1Q 2016

• **Dynamic Reactive Support – synchronous condensers**
  - Talega – in service
  - Miguel – in service
  - San Luis Rey – June 2017
  - Santiago – December 2017
  - San Onofre – June 2018
  - Interim use of Huntington Beach units 3 & 4 synchronous condensers ending December 2017

• **Other transmission projects**
  - Imperial Valley phase-shifting Transformer – in service
  - Mesa 500 kV Loop-in – March 2022 (being reviewed)
  - Sycamore-Penasquitos 230 kV transmission line – June 2018
The mitigations underway address a number of emerging system concerns:
Overall, mitigation projects are proceeding, but some potential delays have created concern:

- **Carlsbad Energy Center**
  - The in-service date of the Carlsbad Energy Center is delayed due to prior legal challenges - new expected on-line date is Q4 2018
  - In February 2017, SACCWIS recommended the SWRCB defer compliance date for Encina Units 2 – 5 until December 31, 2018 to maintain grid reliability – targeting hearing and adoption August 2017

- **Mesa 500 kV Loop-In Project**
  - Received CPUC approval for permit to construct in February 2017
  - However, the risk adjusted schedule in-service date has moved from June 2021 to March 2022 – the schedule, phasing and mitigation options are being examined and reviewed in lieu of need for OTC compliance extensions
  - If delayed beyond Q2 2021, Redondo Beach (or Alamitos generation) OTC compliance dates of December 31, 2020 may need to be extended.

- **Sycamore – Penasquitos 230 kV Line Project**
  - Received CPUC approval for permit to construct in October 2016
  - The project currently has a June 2018 in-service date; options are being considered if the project is at risk of delay
Next Steps

• The ISO is continuing to coordinate with the utilities and the state agencies to monitor the situation regarding:
  – Timing of Sycamore-Penasquitos
  – Timing of the Mesa Loop-in
  – Impacts on the availability and flow rates of the gas storage system

• Note that impacts of restrictions on Aliso Canyon utilization and other restrictions on the natural gas system are addressed in a subsequent presentation.