DOCKETED

Docket Number:	18-IEPR-03
Project Title:	Southern California Energy Reliability
TN #:	223351
Document Title:	2018 IEPR Lead Commissioner Workshop Southern California Reliability
Description:	Presentation by Neil Millar, Executive Director of Infrastructure Development at the California ISO, for the May 8, 2018 IEPR Joint Agency Workshop on Energy Reliability in Southern California
Filer:	Stephanie Bailey
Organization:	California ISO
Submitter Role:	Public Agency
Submission Date:	5/7/2018 2:30:07 PM
Docketed Date:	5/7/2018

2018 IEPR Lead Commissioner Workshop Southern California Reliability

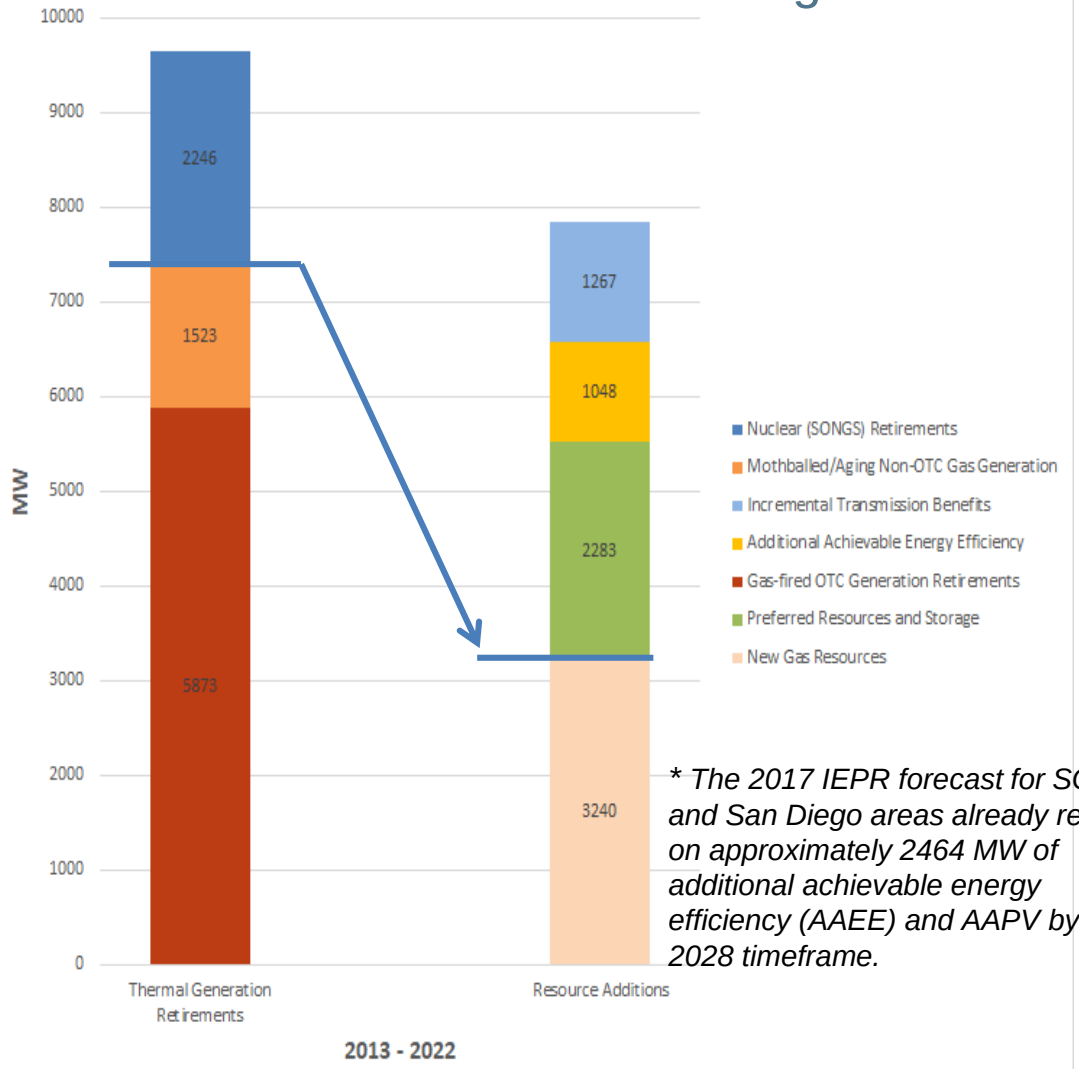
California Energy Commission – Joint Agency Workshop,
At South Coast Air Quality Management District
Diamond Bar, CA
May 8, 2018

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:

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 IEPR forecast for SCE and San Diego areas already relies on approximately 2464 MW of additional achievable energy efficiency (AAEE) and AAPV by 2028 timeframe.*

New Gas Generation (2013-2022)

Walnut Creek	500
El Segundo Energy Center	550
Western LA Basin - PPA-approved	1382
Track 1 SDG&E (Pio Pico/Escondido)	308
Carlsbad Energy Center	500
Total	***3240***

Gas Retirements (2011-2022)

Encina	946
El Segundo #3	335
El Segundo #4	335
Alamitos	2011
Huntington Beach	904
Redondo	1342
Etiwanda	640
Long Beach (long-term assumption)	260
Cabrillo Power II	188
Harbor Cogen (mothballed)	100
Inland Empire Unit #1 (mothballed)	335
Total	***7396***

Nuclear Generation Retirement (2013)

San Onofre Generating Station	**2246**

A number of resource and transmission projects are underway to address the concerns:

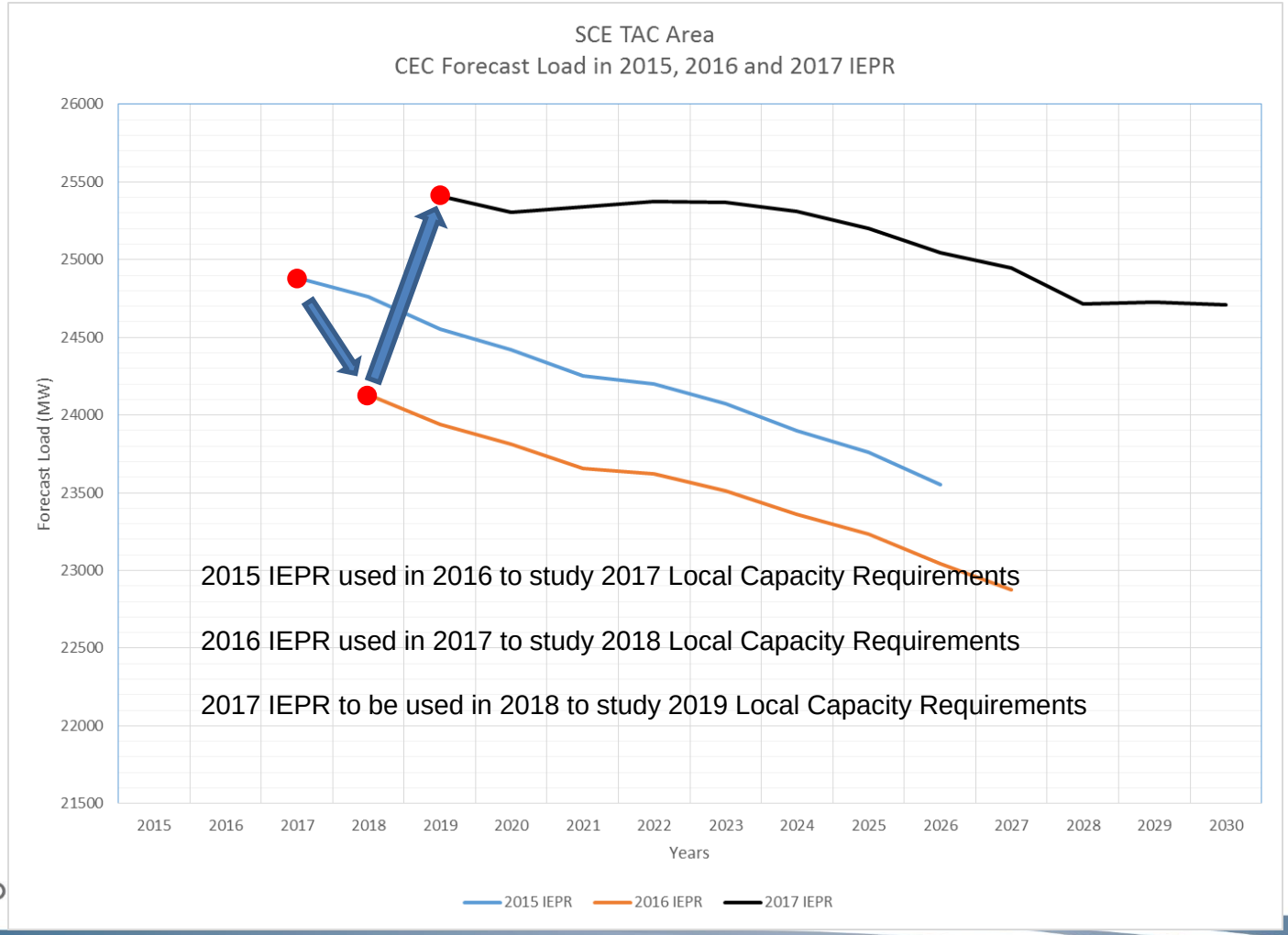
- Resource procurement:
  - LA Basin: 1,813 MW (energy efficiency, behind-the-meter PV, energy storage, demand response, conventional resources); these are resources that were approved by the CPUC as part of LCR need for the western LA Basin.
  - San Diego: 800 MW (conventional resources); SDG&E issued 140 MW RFO for preferred resources in 1Q 2016 (per D.14-03-004)
- Dynamic Reactive Support – synchronous condensers
  - Talega, Miguel, San Luis Rey and Santiago – in service
  - San Onofre – October 2018
  - Interim use of Huntington Beach units 3 & 4 synchronous condensers ended 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 – delayed beyond June 2018
  - S-Line upgrade targeting 2021 to reduce local capacity requirements for the overall San Diego-Imperial Valley area

The mitigations underway address a number of emerging system concerns:

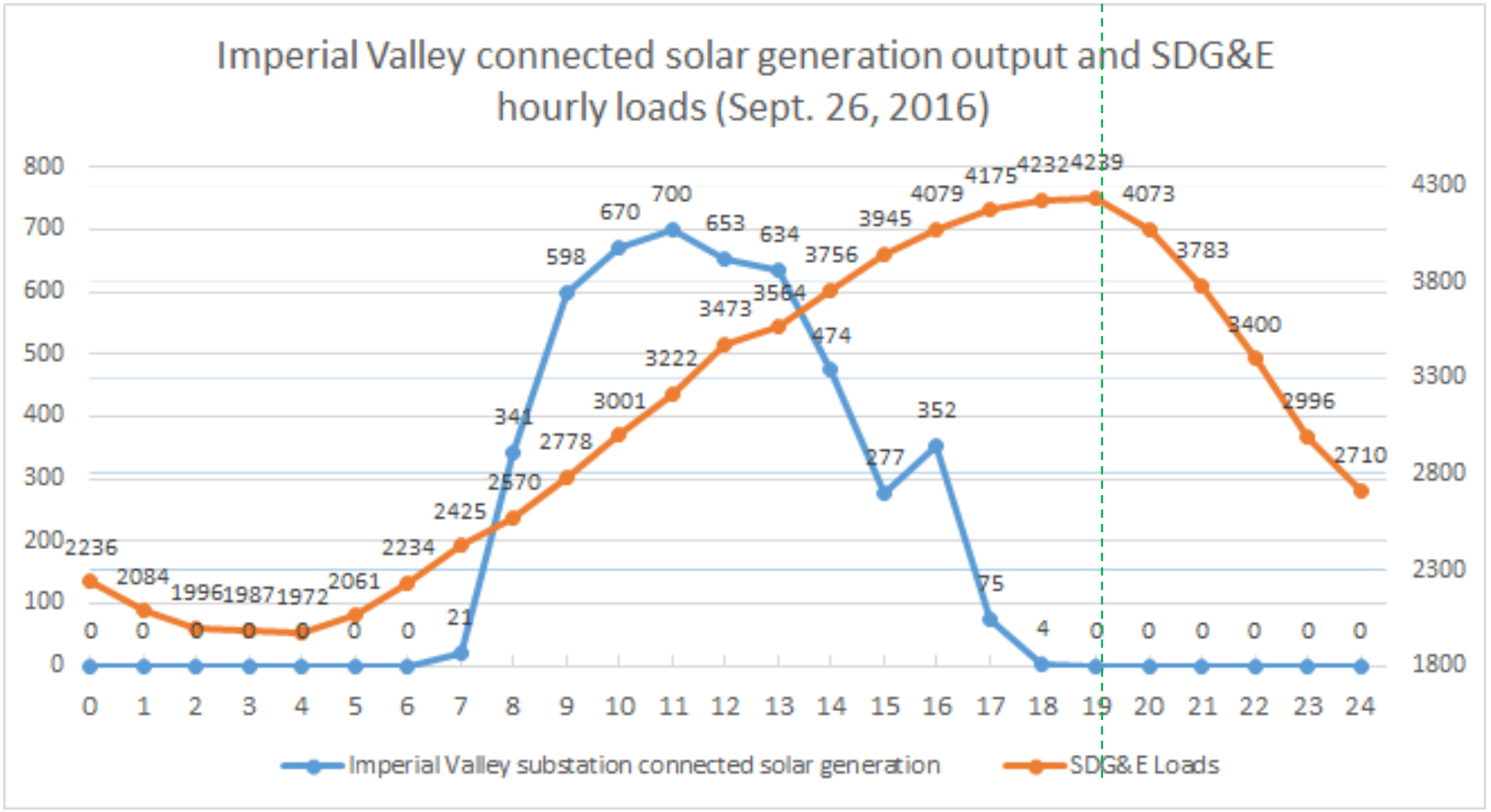
Overall, mitigation projects are proceeding, but some potential delays have created concern:

- 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
  - The compliance date for Encina Units 2 – 5 were deferred until December 31, 2018 to maintain grid reliability
- 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, Alamitos (or Redondo Beach) generation OTC compliance dates of December 31, 2020 may need to be extended until the Mesa Loop-in project is placed in service if other interim solutions (i.e., operating procedures) are infeasible.
- Sycamore – Penasquitos 230 kV Line Project
  - Received CPUC approval for permit to construct in October 2016
  - The project's in-service date has shifted beyond June 1; operational plans are being put in place

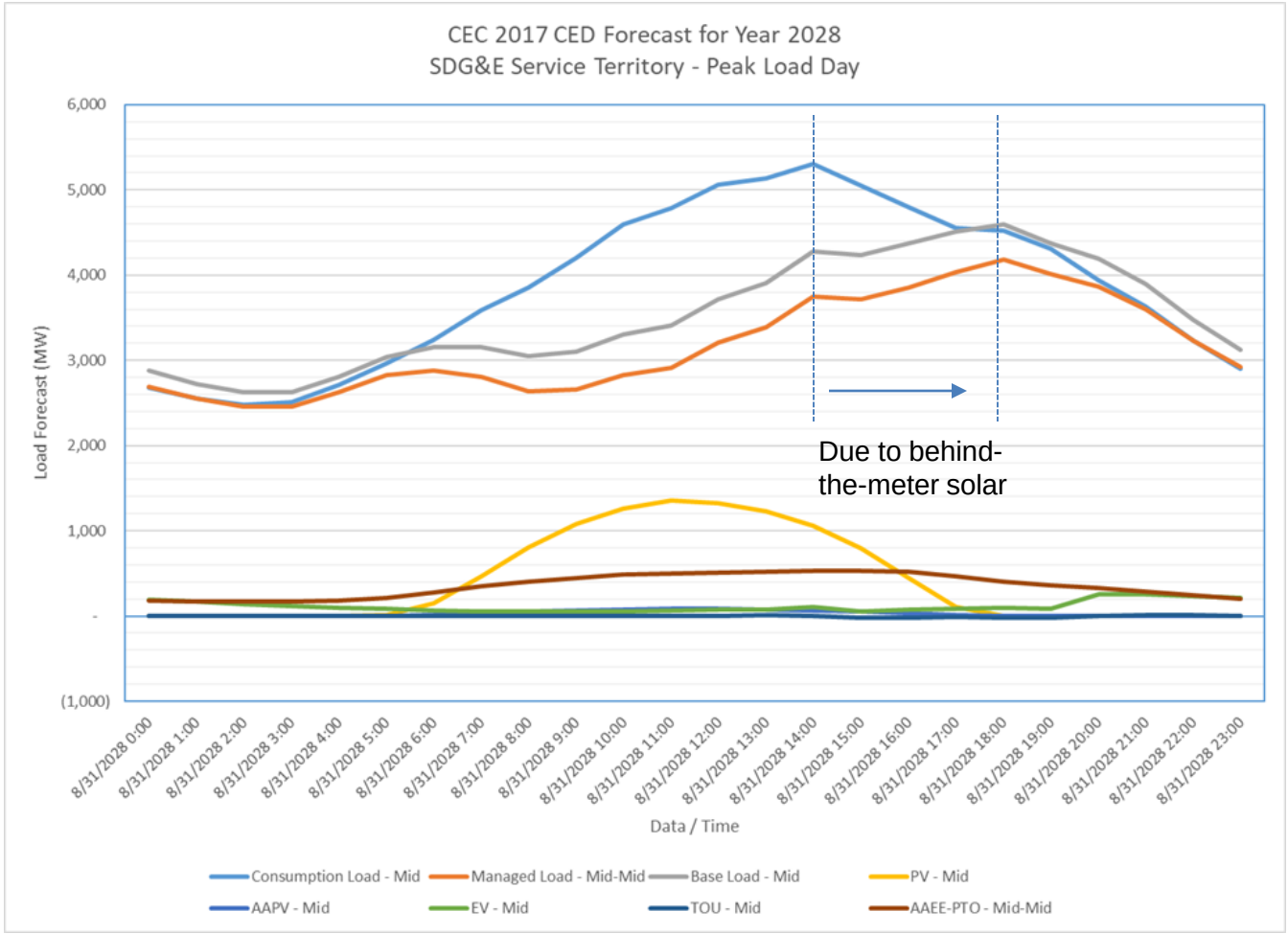
The load forecast increase in the SCE service area increases the challenge in managing delays to the Mesa in-service date



Peak shifts to later hours are reducing the capacity benefits of grid-connected solar in San Diego/Imperial Valley area, partially offsetting impacts of other gains



The downward trend for capacity benefits of grid connected solar in the area is expected to continue into the future



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 project
  - Assessing the growing impacts under “net load” (managed load) conditions and continued reliance on natural gas fleet

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