



California's Energy/Air Nexus: *Summer Energy Resources & Air Implications*

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CAPCOA
Fall Membership Meeting
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San Onofre Nuclear Generating Station

History and Near Future

- January 31, 2012 Unit 3 had a small radiation leak and was shut down (Unit 2 was already down for routine maintenance)
- March 19, 2012 Nuclear Regulatory Commission (NRC) sent an Augmented Inspection Team to gather facts about SONGS
- March 27, 2012 NRC issued Confirmatory Action Letter describing actions SCE needed to take prior to returning Unit 2 and 3 to power generation
 - Determine causes of the tube-to-tube wear
 - Pressure test tubes in Unit 3
 - Plug all tubes that have wear
- July 18, 2012 NRC issued the Augmented Inspection Team Report identifying 10 unresolved items
- October 3, 2012 SCE submitted the response to the confirmatory letter to NRC and filed their plan to restart Unit 2 at 70% for 5 months.
- October 9, 2012 NRC public meeting in Dana Point
- CPUC Order Instituting Investigation to investigate issues raised by the extended outages of Units 2 and 3. (CPUC will vote on October 25, 2012)
 - Will consider the causes of the outages, the future of SONGS, and the resulting effects on the provision of safe and reliable electric service
 - Section 455.5 – determination whether to order the immediate removal of all cost related to SONGS from rates²



2012 Summer Reliability Challenges

San Onofre Nuclear Generating Station Outage

- Los Angeles Basin and San Diego areas must have local generation to serve all consumers
- CAISO must plan for the major contingencies where San Diego loses eastern transmission and the largest generator down (Otay Mesa)
- San Diego reliability is dependent on import limit from the north





2012 Summer Reliability Achievements

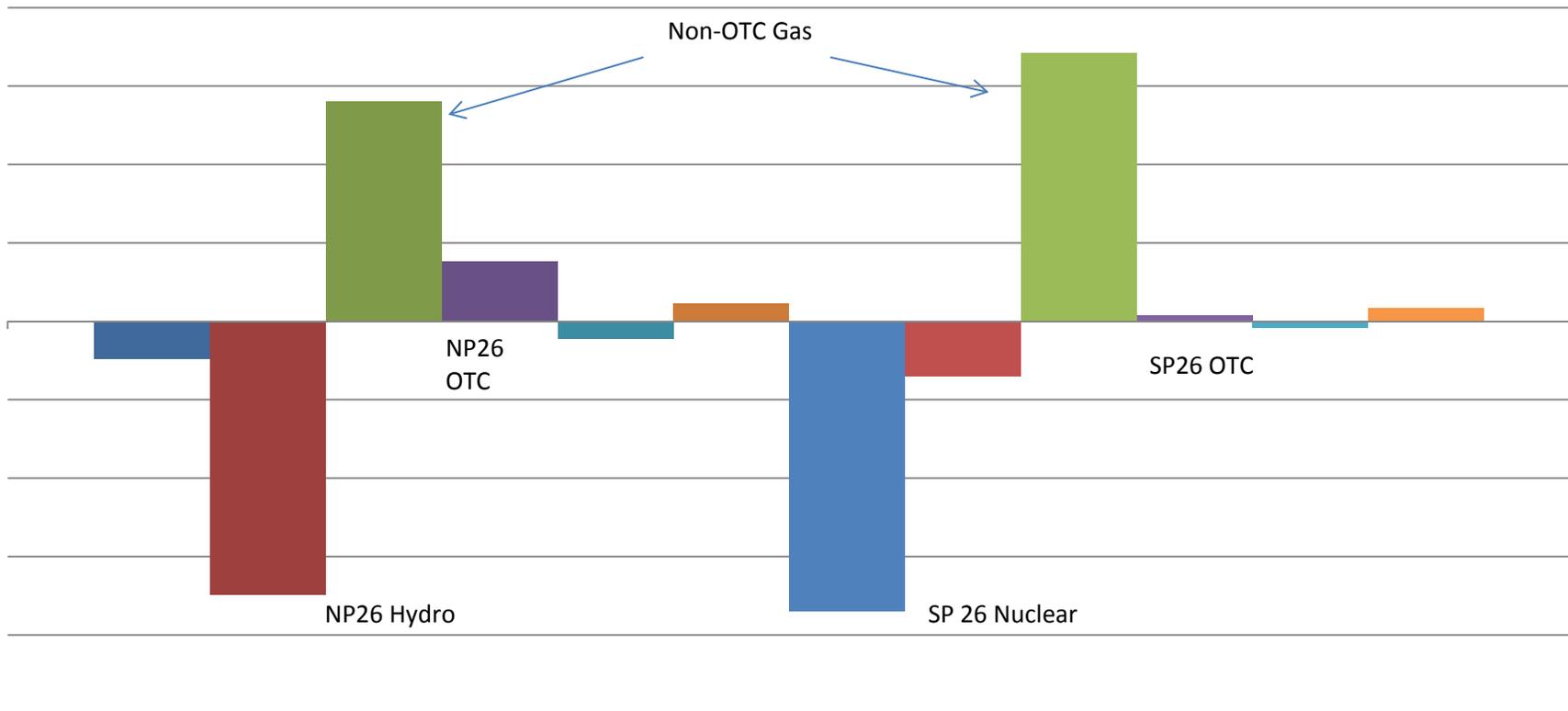
San Onofre Nuclear Generating Station Outage

- Return Huntington Beach units 3 & 4 to service
- Accelerate Barre-Ellis transmission upgrade
- Completed Sunrise transmission line & related outage planning
- Fully funded Flex Alerts
- Fully utilized available demand response
- Sought additional military & public agency demand response
- Ensured that existing generation was well-maintained & available





Production Differences: January - June 2012 Compared to January - June 2011 for ISO In-state Powerplants



- DIABLO CANYON
- NP26 HYDRO ELECTRIC
- NP26 NATURAL GAS- NOT OTC
- NP26 NATURAL GAS - OTC
- NP26 OTHER RESOURCES
- NP26 RENEWABLES
- SONGS
- SP26 HYDRO ELECTRIC
- SP26 NATURAL GAS- NOT OTC
- SP26 NATURAL GAS - OTC
- SP26 OTHER RESOURCES
- SP26 RENEWABLES



2012 Summer Peak Days

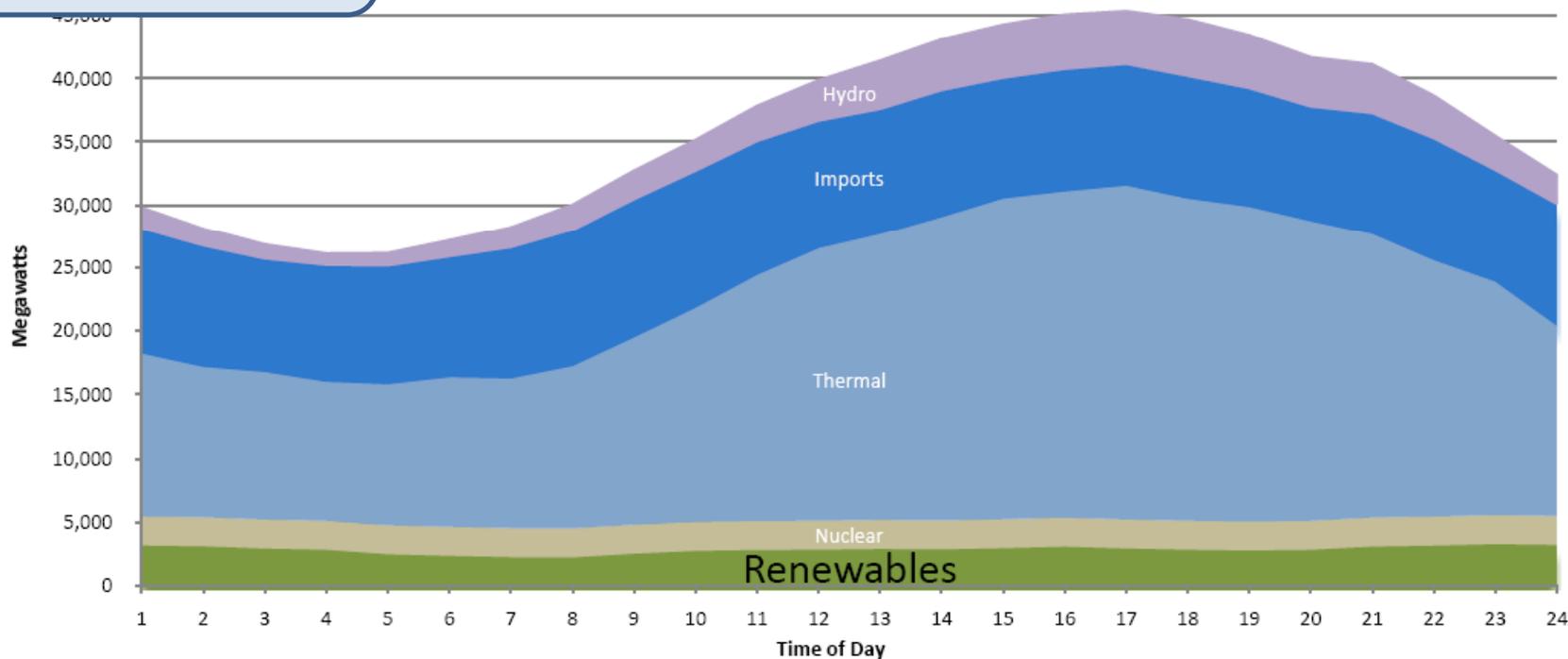
CAISO Territory & Renewables

August 10th, 2012 – Flex Alert Day
 (Similar to August 14th, 2012)

Critical Peak Pricing Days

- SCE called 12 days for 48 hours
- SDG&E called 7 days for 56 hours

Hourly Breakdown of Total Production By Resource Type



This graph depicts the production of various generating resources across the day.



2013 Summer Reliability Planning Area





2013 Summer Reliability Planning

Possible Cont'd San Onofre Nuclear Generating Station Outage

- **CAISO – Ensuring Local Area Reliability**

- Barre-Ellis 230 kV lines reconfiguration from 2 to 4 circuits
- Install 4 X 80 MVAR shunt capacitors at substations in Orange County
- Convert Huntington Beach units 3 and 4 to synchronous condensers and issue reliability must-run contracts – 280 MVAR of dynamic reactive support.
- Major new projects modeled:
 - Walnut Creek Energy Center 500 megawatt (MW) simple-cycle power plant
 - Huntington Beach #3 and #4 retirement
 - Del Amo – Ellis 230 kV line loops into Barre 230 kV substation
- El Segundo Repowering (630 MW) and Sentinel (850 MW)
- California Energy Commissions Planning Efforts:
- Interagency Working Groups have been created to indentify possible energy efficiency and conservation measures (upgrades, demand response & Combined Heat and Power) on state property to reduce demand in Southern California



Any Questions?

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