

# Memorandum

**To:** ISO Board of Governors

**From:** Keith Casey, Vice President, Market & Infrastructure Development

**Date:** May 8, 2013

**Re: Briefing on the 2013 Summer Loads and Resources Assessment**

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*This memorandum does not require Board action.*

## INTRODUCTION

The attached 2013 Summer Loads and Resources Assessment presents the expected supply and demand conditions for the 2013 summer peak demand period. This assessment helps the ISO, industry participants, and other key stakeholders in planning and preparing for the upcoming summer season. The assessment includes the following:

- Discussion of the local reliability impact of the potential continued outage of the San Onofre Nuclear Generation Station (SONGS);
- Forecasts of ISO peak demand, taking into account scenario forecasts of future economic conditions;
- Projections of generation and imports over a range of predictable operating conditions as well as specific operating scenarios;
- Assessment of risk to the ISO system and the individual northern and southern regions (NP26 and SP26 zones) under diverse operating conditions and scenarios; and
- Discussion of any potential for firm load interruptions based upon the range of probable outcomes for various potential summer operating conditions.

This year all of the analyses provided in the report are based on the assumption that both SONGS units are unavailable for this summer. Besides being a significant system generation resource in the SP26 zone, SONGS has played a key role in supporting the electric reliability of southern Orange County and San Diego. Therefore, the report addresses the local reliability concerns for southern Orange County and San Diego.

## SUMMARY OF KEY FINDINGS

Overall, the ISO system and the NP26 and SP26 zonal results presented in the report are fairly similar to results in last year's report. However, reliability concerns in specific areas of Southern California are expected to be marginally more challenging as a result of the continuing shutdown of SONGS, the largest supplier of electricity in the region. The areas facing reliability risks during heat waves and other adverse conditions continue to be southern Orange County and San Diego. The following actions are underway to mitigate this issue.

- **Conversion of Huntington Beach Units 3 & 4 to Synchronous Condensers** – Converting these retired generating units to synchronous condensers will provide 280 MVAR of additional reactive support in the electrical vicinity of SONGS. This conversion is underway and expected to be completed by June 26.
- **Installation of additional reactive support near SONGS** – Southern California Edison is in the process of completing installation of 80 MVAR capacitors at each of the Santiago and Johanna substations and a 160 MVAR capacitor at the Viejo substation. These transmission upgrades should be on line by June 1, 2013.
- **Barre-Ellis reconfiguration** – Southern California Edison is in the process of reconfiguring the Barre-Ellis 220 kilovolt (kV) lines from the existing two circuits to four. This work is expected to be completed by June 15, 2013.

While these mitigation steps and new inland power plant generation will lower the reliability risks as a result of not having SONGS available, southern Orange County and San Diego remain susceptible to reliability concerns and will require close attention during summer operations – particularly during critical peak days and in the event of wildfires that could potentially force transmission lines out of service.

Other key findings in this year's assessment include:

- Peak demand is forecast to be 2.3 percent higher than the 2012 forecast, but generation additions have kept pace with load growth. The ISO peak demand is projected to reach 47,413 MW during summer 2013 1-in-2 conditions. The increase in the ISO peak demand forecast is a result of a projected moderate economic recovery forecast for 2013 from Moody's Analytics as compared to their 2012 economic base case forecast.
- The ISO system-wide planning reserve margin for summer 2013 is projected to be significantly greater than the California Public Utilities Commission's 15% resource adequacy requirements. Operating reserve margins are expected to be more than adequate as well.
- The ISO projects that 51,068 MW of net qualifying capacity will be available for summer 2013, which is a 3,393 MW increase from June 1, 2012 (24% renewable and 76% conventional). The net qualifying capacity is the maximum capacity

eligible and available for meeting the CPUC resource adequacy requirement counting process.

A 2013 summer derate of 1,022 MW was applied to the hydro resources in the ISO system, but could increase if the hotter than normal weather conditions persist. Current snow water content, as measured on May 2, 2013, was 17% of statewide normal, 16% for the north, 23% for central and 9% for south. The amount of water available during the summer for hydro generation depends on weather conditions, though the estimated hydro derate will be less during the early part of the summer season. A 1,022 MW hydro derate is likely to become a reality during late August and September, particularly if California experiences extended hot weather. It is important to note that hydro capability does not contribute to meeting the Southern California local capacity needs and therefore the hydro derates will not directly impact the reliability concerns related to the SONGS outages.

Significant amounts of new renewable generation has reached commercial operation and this trend is expected to continue as new renewable generation comes online to meet the state's 33% renewables portfolio standard (RPS). A certain amount of flexible and fast responding resources will need to be maintained on the system to ensure the success of the 33% RPS goal. A noteworthy challenge in this area will be the roughly 10,832 MW of natural gas fired capacity subject to the once-through cooling regulation, which will require coastal power plants that use ocean water for cooling to be retired, retrofitted or repowered. The ISO is working closely with state agencies and plant owners in evaluating the reliability impacts of implementing these regulations to ensure it does not compromise future electric grid reliability.

Producing this report and publicizing its results is one of many activities the ISO undertakes each year to prepare for summer operations. Other activities include coordinating summer preparedness with the Western Electricity Coordinating Council, Cal Fire, natural gas providers and neighboring balancing authorities. The ISO's ongoing relationships with these entities help ensure everyone is prepared during times of system stress.