

Memorandum

To: ISO Board of Governors
From: Deborah Le Vine, Director of System Operations
Date: July 6, 2011
Re: **Operations Report**

This memorandum does not require Board action.

The real time operational highlights since the last Board report are as follows:

Overall Conditions

Overall grid conditions have remained typical for this time of year, with many scheduled transmission and generation maintenance outages. Loads have been moderate and most maintenance has been well coordinated to limit impacts on grid conditions and markets. As usual for this time of the year, significant maintenance has been occurring on generation and transmission facilities. After a wet winter, spring conditions were unusually cool even into the first weekend of June, contributing to light loads. This has led to conditions of limited ramping capabilities on the system and periodic price spikes - discussed more below.

Noteworthy Grid Events

System conditions have been unusually challenging during several periods this spring because of relatively low loads, high hydro and changing intermittent generating conditions. During these times, we have fewer generating resources online and thus limited capacity for energy and ramping to meet changing conditions. When we run out of ramp and other operating characteristics, prices rise to attract more supply. We expect these conditions to improve as we transition into summer's higher temperatures which require additional generating units to be on-line to meet the higher load and therefore more ramping capability from the generators should be available.

On May 18 at 17:24 the Imperial Valley-North Gila 500 kV line tripped when a brush fire burned under the line near North Gila substation. The line returned to service at 18:18 after the ISO coordinated with San Diego Gas & Electric, Arizona Public Service, Imperial Irrigation District, Comision Federal de Electricidad and the Western Electricity Coordinating Council Reliability Coordinator.

Transmission outages that were scheduled for an extended time period include:

- April 9 through April 30: Eldorado-Mohave 500 kV line to replace relay protection at both terminals;

- May 5 through June 10: Lugo-Mohave 500 kV line to replace relay protection at both terminals;
- May 24 through June 20: Midway-Vincent No.2 500 kV line to relocate line from position 1 to position 2X North at Vincent Sub; and,
- June 11 through June 13: Mohave East 500 kV bus to add new Mohave-Laughlin #1 500 kV line and remove Laughlin 69 kV line.

Renewable Desk

We continued 24X7 operations of the renewable desk which allows a better flow of information to the generation dispatchers thereby allowing them to respond to sudden changes in the output from intermittent resources thereby ensuring reliability of the grid. Another recent change is the upgrade of the ISO's load forecasting system that moves the load forecasting from updating every 30 minutes to updating every 15 minutes.

The desks focus is improving tools, training and data. The largest challenge is that the forecasts and models are only as good as the input data and currently the weather data is only updated every six hours. To improve the tools available to the operators, we have engaged meteorological experts and service providers. While we are working with the CEC, the utilities and the renewable generators to obtain more accurate and timely data, we are working with two separate vendors to improve our forecasting models and providing training to the renewable desk.