

Memorandum

To: ISO Board of Governors
From: Steve Berberich, President and Chief Executive Officer
Date: February 9, 2017
Re: CEO report

This memorandum does not require Board action.

OVERALL SYSTEM CONDITIONS

Recent and continued winter storms have created moderate operating challenges over the last two months. Principally, the storm systems have created challenges with solar and wind output and our ability to predict them. To contend, we are now carrying additional regulation through a new algorithm for regulation procurement. That new approach determines an hour-by-hour profile and better aligns with the changing conditions caused by storms moving through California.

Also related to storms, on January 18 and 22, the Malin-Round Mountain #2 500kV line relayed due to weather. The Malin-Round Mountain #1 and Round Mountain-Table Mountain #1 500kV lines were already out of service for scheduled work. This forced a further curtailment on the California – Oregon Intertie, but because of light loads, operators were able to work around the limits.

On January 29, the Delta Energy Center had a fire that knocked the entire facility off line. That facility provides significant local capacity to the San Francisco load pocket and our engineers are currently examining reliability issues that may occur and need to be mitigated.

The Western Energy Imbalance Market has been a key and growing tool to help the ISO manage significant swings in renewable output. The EIM transfers can be quite dynamic and facilitate the transfer of power when too much or too little is produced from the large California renewable fleet.

SOUTHERN CALIFORNIA GAS CURTAILMENT WATCHES

From January 23 through January 26, Southern California Gas Company issued a Curtailment Watch to their customers due to concern from the cold temperatures across the Southern United States, and forecasted high gas demand. In response, the ISO implemented constraints on gas burn in the day-ahead and real-time markets to limit the gas burn by electric generation in the SCE and SDG&E areas. SoCalGas did withdraw from

Aliso Canyon on January 24 and 25 to maintain gas pressures in the system. All of the efforts by SoCalGas and the ISO were successful and no gas curtailments were necessary.

WESTERN ENERGY IMBALANCE MARKET

Fourth quarter results for the Western Energy Imbalance market show strong and growing benefits of the nearly two year-old market. Fourth quarter results of \$28.27 million show the growing amount of energy being traded even during low load months. Since its inception in late 2014, a total of \$142.62 million of value has been realized.

The EIM Governing Body held its first general session meeting of the year on February 1 at the ISO campus. Both the Body of State Regulators and the Regional Issues Forum reported on their activities to the Governing Body, and the ISO provided an informational budget overview on the ISO's operational budget. Additionally, a grid operations shift supervisor spoke to the Governing Body on the operational benefits of the EIM and how it can help provide support to all of the participants during contingencies and other operating challenges.

EXCESS ENERGY PRODUCTION

With the bountiful hydro conditions expected this year and significant additional solar installations both in the form of central station and on rooftops, we expect to see significant excess energy production this coming spring. Currently, the forecast is that we could have the need to curtail from 6,000 MW to 8,000 MW.

ISO SYMPOSIUM

Planning is already well underway for the annual ISO Symposium held at the Sacramento Convention Center. This year's Symposium will be held on October 18 and 19.

RENEWABLE ENERGY PRODUCTION

There have been no new renewable production peaks since the last Board meeting. The most recent solar peak of 8,545 MW occurred on September 14, 2016 at 12:06 pm. The wind generation peak of 4,769 MW was set on April 12, 2014. Geothermal, small hydro and other renewables also contribute to California's renewables mix.