

Memorandum

To: ISO Board of Governors
From: Steve Berberich, President and Chief Executive Officer
Date: May 13, 2019
Re: CEO report

This memorandum does not require Board action.

OVERALL SYSTEM CONDITIONS

System conditions remain typical for this time of the year with low loads combined with high levels of maintenance performed on generation units and transmission facilities. Late winter storms are causing significant variability in the wind and solar fleet swinging the ISO's control area around significantly. To counter that, the ISO is procuring higher levels of regulation resources. This is a trend we expect to continue and grow, particularly in the shoulder months.

Renewable energy penetrations continue to grow with load often served during daylight hours by over 50% wind and solar. In fact, several solar records have been successively set over the last month. System operating conditions are evolving as a result. For instance, we had new minimum net load (load minus wind and solar) of 5,680 MW on Sunday, April 21, 2019 and are experiencing regular late afternoon ramps in excess of 14,000 MW over three hour periods. Consistent with the low net loads, we are seeing significantly increased curtailments of renewables despite record exports through the energy imbalance market.

ENERGY PRICES

Over the winter, there were several instances of very high energy prices in California and throughout the West due to constrained natural gas supplies. With large coal units retiring throughout the West, natural gas demand is expected to increase without any corresponding increase in gas infrastructure. At the same time, overall, capacity is being retired. We therefore expect a trend of increasingly higher wholesale energy prices.

ENERGY IMBALANCE MARKET

On April 3, 2019, BANC/SMUD began participation in the energy imbalance market. The implementation was quite smooth and we congratulate BANC/SMUD on a job well done. Looking forward, we welcome Avista, Tucson Electric Power and the Turlock Irrigation

District to the energy imbalance market (EIM) family. Avista, Tucson Electric Power and Turlock have signed implementation agreements for participation in the market beginning in 2021 for Turlock and 2022 for the others.

First quarter EIM results were nearly double the same period in 2018. Total savings for Q1 2019 totaled \$85.3 million bringing the cumulative benefits to \$650.26 million.

RELIABILITY COORDINATOR SERVICES

Reliability Coordinator (RC) shadow operations began on May 1. During this time, the ISO is shadowing PEAK reliability to ensure all of the ISO systems and processes are working smoothly prior to going live with the California plus Northern Baja footprint on July 1.

Following an onsite review in March by WECC and NERC, on April 26, we received notice from WECC that they had approved the Certification Final Report, including their recommendation for California ISO to be a Reliability Coordinator. It remains for NERC to approve the certification and send the California ISO a formal approval letter. Finally, we will need to receive letters of readiness from each of our RC customers for July and complete our transition to be their RC of record.

RENEWABLE ENERGY PRODUCTION

Several new renewable generation peaks have occurred since the last CEO report. The most recent solar peak of 11,275 MW occurred on April 17, 2019 at 1:26 p.m. The most recent wind generation peak of 5,193 MW was set on June 8, 2017 at 9:05 p.m. Also, new overall renewable generation penetration peaks were recorded on April 20, 2019 at 10:35 a.m. with 78.1% of load served by all renewables.

KRISTINE SCHMIDT

We congratulate Kristine Schmidt, an EIM Governing Body Member and former Governing Body Chair, on her appointment to the Pacific Gas and Electric Board. Kristine was a valued member of the Governing Body and served as its first chair, establishing a very credible organization overseeing the regional real-time market. We wish her well in her new challenging endeavors.

ORGANIZATIONAL CHANGES

With Tom Doughty's departure in April, some officer team assignments have changed. In addition to her existing responsibilities, Stacey Crowley will assume leadership over Communications, Customer Care and Legislative Affairs organizations. Mark Rothleder will assume responsibility for California Regulatory Affairs in addition to his existing responsibilities. The ISO will certainly miss Tom's leadership and engaging personality. We wish him the best in all of his future endeavors.