California ISO Wind Forecasting Improves by 20 Percent
Better forecasting facilitates wind generation, increases reliability and market efficiency

FOLSOM, Calif.—The California Independent System Operator Corporation (California ISO) reports a 20 percent improvement in forecasting wind generation based on the results of a year-long forecasting competition. The improvement represents a significant advancement in the ability of the power grid to integrate fluctuating wind power. The ISO is making its findings public in a study recently posted to its website. http://www.caiso.com/2765/2765e6ad327c0.pdf

“More than 3,000 megawatts of wind generation are connected to the transmission system right now,” said ISO Director of System Operations Debi Le Vine. “Monitoring intermittent wind production closely keeps the grid in balance and the lights on. With wind resources expected to double over the next five years or so, accurate forecasting is imperative to maximize the usage of these new green resources.”

In 2008, the ISO issued a request for bids from wind forecasting services. Three companies responded to the challenge to see which one could provide the most accurate and cost effective forecasts over a 12 month period. Each company submitted forecasts for wind resources in three of the major wind areas in California, covering both day-ahead and hour-ahead market time frames. The winner would receive a contract to provide wind forecasts as the ISO integrates more wind power into its markets.

After an exhaustive statistical analysis of the results, the ISO selected AWS Truewind, LLC as the winner. AWS Truewind had been providing forecasting services for the ISO, but by employing a new rapid updating numerical weather prediction model, the company provided the most accurate information.

“The California ISO has unique wind power forecasting requirements,” said Ken Pennock, AWS Truewind’s forecasting business manager. “Our flexible and results-driven approach to power forecasting is what led to the notable accuracy improvement. We look forward to continuing our work with the California ISO team to help them realize their goal of reliably integrating more renewables into their system.”

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“We’re getting a more accurate forecast in time to use the information in our markets,” said Manager of Renewable Integration Grant Rosenblum. “That means the ISO will be better able to manage the big increase in wind power we’re expecting. The more accurate our forecasts, the better our operators can balance energy supply and demand. That enhances our ability to utilize the wind resources we have now and the increases we know are coming.”