

J. Blatchford's Dec. 1, 2004

FERC Technical Conference Presentation

First I would like to thank the commission and staff for inviting the CAISO to speak about what we feel is a one of the CAISO's shining stars the Participating Intermittent Resource Program.

The California ISO has implemented Amendment 42, which we call the Participating Intermittent Resource Program or PIRP. This program helps to provide stability to intermittent resources, especially wind generators in the California market. The basics of the program are those wind generators wanting to participate in the program provide the ISO with 60 days of meteorological and production data. This data can either be provided from historical data or in real time. Once this data is provide and real time telemetry is stable, the wind generators are deemed certified to be in the program and a MW forecast is developed for the Participant. This forecast is provided by a wind forecasting service (AWS Truewind) via the CAISO secure Internet network. We supply a Day Ahead and a rolling 7 hour ahead forecast for Participant to plan for the up coming operating hour

markets. Then 2 hours and 45 mins before the operating hour we provide a final forecast that the Participant would use to bid into our Hour Ahead market. The Participant has the option of opting in or out of the program on an hourly basis, if the Participant submits a balanced schedule equal to the forecast the Participant is considered in the program for that operating hour. The forecasting service is paid by the participants whether they opt in /or out of the program for operating hour

Participants that schedule in accordance with the hourly forecast will not receive Imbalance Energy charges for deviations across a ten-minute Settlement Interval. Instead the deviations from a Participant are netted across a calendar month and settled at a monthly weighted-average price. With an unbiased, state-of-the-art forecast, the expected net deviation should be close to zero. Any Deviation Replacement Reserve Charges or Above-Cap costs will not be applied to Participant. And now with the implementation of Uninstructed Deviation Penalties under Phase 1b of our Market Redesign, Participants that are in the program for the hour are

exempted from the uninstructed deviation penalties. They are also exempted for transmission loss charges.

To date we have over 300 MWs participating in the program. Estimates show that we could have over 500 more MWs of wind energy coming on line for 2005. Are they all coming into the PIRP program? I am not sure, but based on feedback (both anecdotal and quantitative) received from our clients, I would imagine a large majority of the MWs would join.

Feedback I have received from clients is how this program has offered a rational and reasonable market structure for participants. It has also helped to expose the underlying value of wind generation and in doing so, the program has helped to reduce the risk financiers perceived comes with wind generation.

Initial client studies comparing a production month in PIRP to that of not participating in the program found that economic exposure was greatly reduce while in the program. I have had numerous

conversations with the IOUs and developers who are recognizing these advantages and want to be a part of the program.

The advantage to the ISO is that we are getting a better view of wind generation that is online and can more accurately predict and procure reserves. The ISO has built up good relationships working with the Participants.

And the advantage to California is that this program is helping to meet the RPS.

Going forward we would like to have more visibility into other intermittent generation, whether or not they are participating in the program. We need to look at how we can improve Telemetry error reporting between the participants, AWS Truewind and the ISO? We are continuing to monitor the accuracy of our forecast and are looking for ways to improve the accuracy. We need to address issues that will arise as we head toward a new market design.

The PIRP program is not a panacea for the entire wind industry but we feel it is providing the groundwork for future models.