



PIRP FAQs – Part II

PARTICIPATING INTERMITTENT RESOURCES PROGRAM

Q1: How is Intra-zonal congestion handled for intermittent resources?

A1: *Under section 7.2.6.1 of the ISO tariff, the ISO shall only re-dispatch regulatory Must Take or Regulatory Must Run Generation, Intermittent resources pr Qualifying Facilities to manage the Intra-zonal Congestion after re-dispatching all other available and effective generating resources, including Reliability Must Run units.*

Q2: What is the projected longevity of the PIRP program?

A2: *The State of California has legislated a Renewable Portfolio Standard (RPS) that requires IOU to increase the renewable energy portion of their portfolio by 1% each year for the next 20 years. The CAISO is dedicated to helping the state and renewables achieve these goals with programs like this. The ISO has no plans of ending this program although circumstances may require reconsiderations of specific terms. It should also be noted that the ISO has committed to monitoring of the program and submitting a market impact report to FERC by next June 2004.*

Q3: When will the PIRP qualification period of newly participating wind farms be considered complete?

A3: *Once there has been 60 days worth of correlating meteorological and generation output data submitted to TrueWind related to*

the wind-energy site, the ISO will begin to provide both Day-Ahead and Hour-Ahead forecasts. These data must be provided in a steady stream fashion. For instance, the data stream must be contiguous and may have no more than 24 hours per week of missing data. Because of penalties that could be charged to the forecasting vendor, if there is less than 2 weeks of data received from an intermittent resource, the resource will be considered not participating in the program and will be subject to normal deviation charges. The forecasting vendor will be exempt from performance penalties. It is important to point out that as more data points from the current weather period are fed into the forecasting model the accuracy of the forecasting results should continue to improve. It is important that the SCs and generators provide names and contact information for those requiring notification when a wind farm is fully certified to receive wind-forecasting information.

When a unit is certified the forecasting charge of \$.10/MWhr will apply.

Q4: *If sites are expanded will current data be extrapolated to the expansion projects?*

A4: *Forecasts for participating wind-energy sites with expanded capacities will be provided forecasts with adjusted modeling data to accommodate an increased MW forecast. Expanding resources will most likely experience a brief period of forecast volatility (error) while the incoming and historical data is being trained to recognize the impact of the capacity addition with the meteorological input. Due to the bias compensation schemes in place within the model, there should be no change in the monthly bias experienced.*

To insure the minimal impact of a capacity expansion on a participant's MW Forecasts, notification of the capacity change to your Client Representative is requested.

As stated above, the accuracy of the forecast increases as the forecasting model learns from its inputs. It may be expected the MAPE (Mean Absolute Percentage Error) would increase during the initial forecasts after a capacity expansion takes place. As more information is fed into the model, the accuracy of the forecast should continue to improve.

Throughout the entire process, the individual site's forecast performance will be monitored by the ISO.

Q5: Are there effectiveness factors and the Reference price for Intermittents .

A5: *Given the non-dispatchable nature of intermittent resources, no effectiveness factors (those factors that, when multiplied by the reference decremental price, determine the dispatch merit order for decremental units) are provided for wind-energy participants.*

Decremental Reference Prices will, however, be supplied to individual wind-energy projects since it is possible (although very unlikely) that the ISO would actually decrement the project due to its impact on intra-zonal congestion. Construction of new wind-energy sites should take into consideration the intra-zonal congestion impact (if any) they would have.

Q6: Will area forecast reports be made public?

A6: *Individual Day-Ahead or Hour-Ahead forecasts are considered confidential and privileged information by the California ISO. As such, these forecasts will be provided with some kind of security layer to each respective participant Scheduling Coordinator (SC). If the SC and the owner of the Participating Intermittent Resource (PIR) are different parties, it is up to the SC to share access with PIR (and should be visited by contractual agreements by both parties). The ISO will accept direct reporting requests from PIR entities sharing security certificates/password accounts with their Scheduling Coordinator.*

That said, once the PIRP market function is available and has run for an extended period of time, there will be follow-up public reports measuring the effectiveness of the market program and its forecasts as a whole. No direct references to generation output based on meteorological factors will be provided. The data in these public reports will be aggregated and non-descriptive about any of the wind-energy sites participating (more so about the program itself).

Private forecast reports for individual SC and PIR entities should be expected to contain the following in the Full PIRP Release on Feb 1, 2004: Hour-Ahead Forecast Mean Absolute Percentage Error and Hour-Ahead Forecast Bias. Data will be provided on a daily and monthly schedule.

Q7: Will area forecasting accuracy be made public?

A7: *Yes. There are plans to present area forecast accuracy to the public in the March 2004 time frame. As not all areas of the state will contain participants initially, not all areas of the state will receive forecasts.*

Q8: How will forecasts be affected when a unit is not participating in the PIRP program?

A8: *The forecasting model will have a bias-correction process to minimize the end-of-the-month experienced by each PIRP participant. This bias compensation algorithm will take into consider ALL Hour-Ahead forecasts provided for the month (whether followed or not). When a resource varies from the Hour-Ahead forecast, that hour's deviation will not be included in the "monthly netted" deviation charge Settlements will provide nor compensated in the forecast service provider's bias correction process.*

Therefore, periods of non-participation in the PIRP Program create a potential separation between those hours considered for bias correction measures in the remaining Hour-Ahead forecasts for the month and those hours assessing deviations for the monthly net deviation. Unless the bias for those hours of non-participation were all zero, this could lead to a skewed bias by the end of the month: the forecast, seeking to restore the monthly netted deviation back down/up to zero, could actually be increasing the deviations in the Monthly Netted Deviation charge account. As stated in answer 6, as more information is fed into the model, the accuracy of the forecast should continue to improve. Throughout the entire process, the individual site's forecast performance will be monitored by the ISO.

Q9: How do PIRP and PIRP Lite differ?

A9: *During both PIRP Lite and PIRP (Full Version), the ISO will collect meteorological, operating, and outage scheduling data from each participating intermittent resource and supply this data to a forecasting service provider (TrueWind Solutions, LLC). For PIRP Lite, Day-Ahead and Hour-Ahead MW Forecast retrieval will be available from the Meso web site after a unit has been fully qualified. Meso is a partner to TrueWind Solutions for the PIRP Project. When the full version of PIRP is implemented in February 2004, MW Forecast data will be supplied from the CA ISO (details are forthcoming).*

In both programs, participants are required to have 60 days worth of data correlating their site's generation output with its meteorological conditions. Under a third program, PIRP Express, the 60-day certification period may be mitigated if the 60-day MW generation/weather dataset is provided with the signed MSA, PGA, and Letter of Intent (see FAQ – Part I). PIRP Express will be available in the full version of PIRP.

Auditing reports regarding forecast performance is not supported in PIRP Lite. The ISO will not support the PIRP Web Services (whitepaper discussion is forthcoming) until the release of PIRP in February 2004. Under each program, the market rules regarding the PIRP participation requirements and settlement of the “monthly net” of all PIRP-validated hourly deviations for the calendar month will remain the same (see FAQ – Part I for more details).

PIRP Lite begins November 19, 2003 (pending market notification) and PIRP begins February 1, 2004. Per its tariff, the ISO will monitor the activities of all participants during both programs.

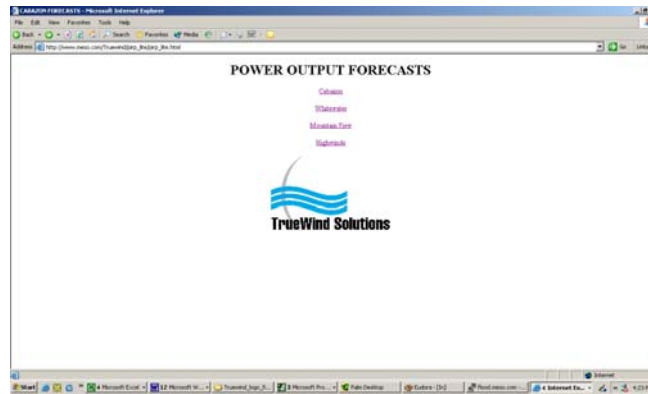
Q10: How will the Forecast data for PIRP-Lite be transmitted to the Participant by TrueWind?

A10: *Forecast data for PIRP-Lite can be obtained via the TrueWind's Web Portal. The MW forecasts will be available in comma-delimited format. These forecasts will be actively available before PIRP-Lite goes live. Presently the Portal takes the user into an inactive forecast page. This data can be accessed manually or the process can be automated both are described below.*

Manually Access:

1) Main page for all four Resources and CAISO is:

http://www.meso.com/Truwind/pirp_lite/pirp_lite.html



2) Each resource has a password protected link accessed from the MESO opening page.

Cabazon forecasts:

http://www.meso.com/Truwind/pirp_lite/cabazon/cabazon.html

Whitewater Forecasts:

http://www.meso.com/Truwind/pirp_lite/whitewater/whitewater.html

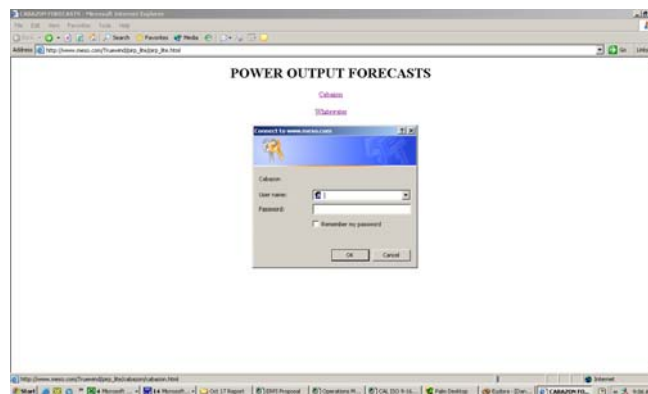
Mountain View Forecasts:

http://www.meso.com/Truwind/pirp_lite/mountain_view/mountain_view.html

Highwinds Forecasts:

http://www.meso.com/Truwind/pirp_lite/highwinds/highwinds.html

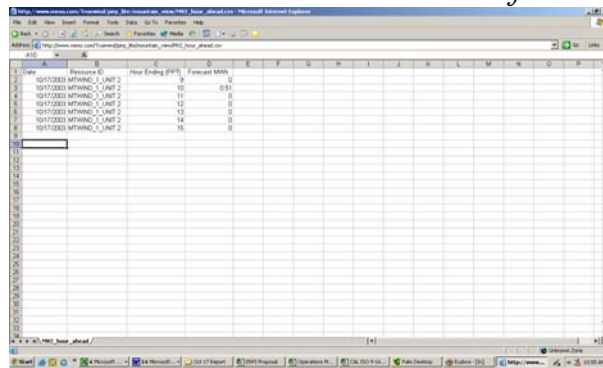
3) When prompted enter the username and password obtained from Jim Blatchford. Remember username and password are case sensitive.



4) Once into the resource specific site, select either the Hour Ahead Forecast or the Next Day forecast.



5) The Forecast will be written in a coma-delimited format in Excel.



Q11: How is the download process automated?

A11: The user adds the prefix "user_name:password@" before the www in the URL the receive in Step 5 in the manual process, i.e. http://username:password@www.meso.com/Truewind/pirp_lite/XXXXX/XXXXX.html

This will take the user directly to a File Download dialog box that asks to either save or open the file. At this point the user will run their appropriate scripts to obtain the forecast.

Q12: Whom do we contact for technical question or after hours questions?

A12: *Please contact 518-283-5169, the on-call Meso employee can be reached at mailbox #334. This will forward a voice mail to them. Be sure to leave a call back number in the message.*

Q13: Will there be a review of how to access the Meso web site for forecast data?

A13: *Although the process is quite self-explanatory we will provide individual help as it is required.*

Q14: In the event of a temporary lapse or breakdown in data serviced between the forecaster and the ISO / Resource, what contingency should be followed?

A14: *The forecaster will perform the following contingencies until service is restored:*

For Day Ahead forecast: Submit a DA forecast based upon the successfully regional temperature, barometric pressure, wind direction and wind speed data as provided by the Weather Forecast provider or the ISO.

For Hour Ahead forecast: Apply the appropriate operating hour value from the last successfully performed HA “rolling” seven-hour forecast schedule to the current operating hour. In the instance when the rolling seven- hour forecast has expired, extend the forecast scope to the last successfully performed DA Forecast and apply the corresponding hour forecast from that predicted schedule.

If no forecast is available the resource will be able to self-schedule based on its own forecast. All other PIRP rules will still apply.

Q15: When will a resource need to submit outage data into the SLIC website?

A15: *The Resource must report all outage for two distinct reasons 1) According to the ISO Tariff 2.3.3 the ISO must coordinate and approve Maintenance outages and 2) the site forecasts take into consideration the MW available capacity of a site. Any de-rates to the site will affect the forecast.*

Q16: Who is responsible for recording any derates of the units into SLIC?

A16: *The outage responsibility would typically fall on the Scheduling Coordinator, but accommodations to defer this role to the generators themselves may be made with both parties and the ISO.*

Q17: When will a lessons learned report based on experience from the PIRP program be expected from the ISO?

A17: *As the PIRP program progresses, the ISO will track issues that affect the participating generators, scheduling coordinators, and/or the ISO. Such topics should include: metering/telemetry issues and suggested resolutions, wind-energy operational impacts to the generators' forecasts, and/or any modeling improvements we've implemented.*