



Wind Power Forecasting Service Request for Proposals

Question period starts: June 24, 2009
 Question period ends: July 8, 2009
 Last day for AESO responses: July 10, 2009

Answers to Vendor Questions

Updated: July 10, 2009

Please note: Further clarification provided to question Appendix A, Item 1 (b)(vi), reference number 11.

The question period for the Wind Power Forecasting Service RFP is now closed.
 Thank you for your questions.

Reference	Received	Question	AESO Response
1.	June 24, 2009	We did not notice any special requirements for qualification. Please advise if there are such.	There is no special requirement for qualification to submit a proposal. The only requirement is the returning of the completed Receipt Confirmation Form (Appendix B) to the AESO to indicate if your organization is interested in submitting a proposal.
2.	June 26, 2009	Could you please provide guidelines on when, how and what the references should contain. Would there be a possibility that AESO issues an Appendix H that could be fill out and returned by the references?	<p>It is AESO's intention (per section 9(b)), for short listed proponents to provide a minimum of three customer references that can be contacted directly by the AESO. The timing for providing the references would be in mid August and the AESO would aim to complete all reference checks by early September.</p> <p>Alternatively, the AESO may accept a reference letter from your client that contains, at the minimum, the reference company name, location (city, country), a description of the reference company's relationship to the vendor and the services that the vendor provided as per the details in section 9(d). In addition, two contact persons' phone numbers, their email addresses and positions in the company should also be provided in case if the AESO wishes to follow up with a verbal conversation.</p>

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3.	June 30, 2009	<p>It appears like it has been decided that the data flow should go from the wind facilities to either the forecast provider or the AESO.</p> <p>If it would be decided that the data management should be done by the forecast provider, would there be a possibility that the forecaster provider could be involved more actively in this transmission than just being the receiver of these data?</p>	As indicated in the RFP, the AESO wishes to evaluate the two (2) options for site met data. If a Forecaster wishes to be more involved with the transmission of the data, the proposal should indicate such and describe details of how the Forecaster would be involved.
4.	July 6, 2009	The following questions can be understood in several ways, could you please clarify in more detail: "Your models used to deal with co-relationships amongst WPFs."	The AESO is interested in better understanding how you produce your forecasts. Your question is in respect to the co-relationships amongst WPFs as indicated in Appendix A, section 3)b.vi. In the final report from the "Wind Power Forecasting Pilot Project" it was stated that "For example, western most facilities may act as sentinels for the more eastern facilities with a westerly flow." The AESO is interested in understanding 'if and how' the behavior of WPFs can have effects on other WPFs.
5.	July 6, 2009	Please would you confirm that "actual NWP data" refers to actual measured weather data?	The actual NWP data is considered to be the historical NWP data which may or may not be measured weather data.
6.	July 6, 2009	<p>"AESO stated that it would include in this RFP an optional consideration for the data management function"</p> <p>- Could you please give more</p>	As indicated in Appendix A of the RFP, the AESO wishes to evaluate the two (2) options for site met data. One option is where WPF met data is transferred from each WPF directly to the Forecaster, the second option is where the met data for all the WPFs is transferred from the AESO to the Forecaster in a combined data flow and format.

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		<p>details about this optional consideration and what is particularly needed?</p>	<p>We are interested in understanding what requirements (sections 4(i) and 4(l)), needs and cost (section 8(b)(ii)) a Forecaster would have if they were responsible to collect the met data directly from each of the WPFs. Conversely what would the requirements, needs and cost be from a Forecaster if the met data was collected by the AESO and then transferred to the Forecaster. We are also interested in the Forecaster's data transfer experience (section 9(c)).</p> <p>Please see AESO response (Reference 3) on data management options.</p>
7.	July 6, 2009	<p>Please could you confirm that this requirement is for the Forecaster to provide information about the quality of the input data it has received from the wind farms with each forecast issued? E.g. SCADA data age etc.</p>	<p>The requirement is for the Forecaster to provide the information to the AESO. Section 5 describes the AESO's requirements for delivery of wind power forecasts. Subsection (c) states "For forecast results delivery, provide input data quality flags with the results. Please provide samples of delivery format, including screen captures, file structures, etc."</p> <p>Yes, the Forecaster is to provide information (flags) with the forecast data regarding the quality of the input data it received from the WPFs that was used to produce that forecast. In other words, the flags will indicate that the forecast may be less accurate due to various reasons such as missing or suspect input data.</p> <p>In the samples of the delivery format that you provide with your proposal is where you could provide the additional details such as what types of flags you would include (e.g. communication issue, missing data, invalid data, etc.).</p>
8.	July 6, 2009	<p>Will individual turbine wind speed data be available in addition to met mast wind speed? This data can be useful</p>	<p>Wind speed data from the individual wind turbines at the WPFs will be not be made available.</p>

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		in attaining the best level of accuracy, particularly on larger or more complex sites.	
9.	July 6, 2009	Could input data include wind speed and direction data from measurement masts erected in strategic locations specifically for the purpose of enhancing forecast accuracy?	Strategic locations for measurements masts are not intended for the initial set-up of the wind power forecasting service. This could be considered as part of the continuous improvement in the future for wind power forecasting as suggested in Appendix A 4(a) and 4(b).
10.	July 6, 2009	(Appendix A, Item 1 (b) (v)) This item lists a requirement to provide a forecast for the maximum ramp rate that COULD be experienced within an hourly forecast. Is there a confidence level associated with this request? Without an associated confidence level the requirement is somewhat ill-posed since without a consideration of confidence the answer is 100% of capacity.	The AESO has not specified a confidence level with the forecast maximum ramp rate that could be experienced within an hourly forecast. The proposals must clearly state if the proponent can meet the requirements and we anticipate that the proposals will describe in some detail how these requirements could be met. Any details such as addressing the confidence level can be provided.
11.	July 6, 2009	(Appendix A, Item 1 (b)(vi)) This item lists a requirement to provide a forecast tuned as a ramp forecast. Is this requirement for (a) only event notification for defined events; (2) notification and a separate hourly forecast of ramp-related parameters such as ramp event probability, ramp magnitude,	The ramped tuned forecast will be new to the AESO as it is a recommendation from the AESO's Wind Power Forecasting Pilot Project. The AESO is seeking proposals that include both a ramped tuned forecast as well as the notification of a ramp event which could be in the form of a text message and your proposal should detail items such as ramp event probability, ramp magnitude, ramp duration etc. Further clarification provided: July 10, 2009

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		<p>ram duration etc.; or (3) notification and a separate hourly forecast of total wind generation tuned to maximize the appearance of ramp events in the hourly forecast data (which may lower scores on traditional metrics such as MAE or RMSE). If predictions of ramp parameters are desired, should they be deterministic or probabilistic or both?</p>	<p>The AESO would like to further clarify that any other information in the notification can be included if it could be useful to a system operator. This could include the type and direction of weather event causing the wind power ramp.</p>
12.	July 6, 2009	<p>(Appendix A, Item 3 (b) (viii)) This item asks for the expected accuracy in terms of MAE and RMSE for average wind power, power bands and ramp rate. How can the MAE or RMSE of the power bands be calculated since it is a probabilistic parameter?</p>	<p>RFP section 3 (b) (viii) is to describe your expected accuracy for average wind power, power bands and ramp rate based on your forecast experience with wind power facilities on terrain similar to those in Appendix G.</p> <p>For the forecast of the power bands, the intent is to understand the accuracy of the power band forecast. For example, your forecast may generate a 95% confidence power band which means that 95% of the time the actual wind output will be within that band. The AESO would like you to describe your expected accuracy based on your forecast methodologies and forecast experience. If MAE or RMSE are not appropriate to describe the error of the forecast confidence level, please provide a description to help us understand your expected accuracy and forecast methodologies.</p>
13.	July 6, 2009	<p>(Appendix A, Item 3 (b) (viii)) Statistical forecast models are optimized to a performance criterion (such as least squared error) that should be specified by the forecast user. What performance criterion does the</p>	<p>The AESO did not state a performance criterion for the forecast models but would rather have you provide a description of your forecast methodologies which can include your proposed performance criteria and your expected accuracy based on your experience with wind power facilities in terrain similar to those in Appendix G.</p>

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		AESO wish to employ for this application?	The AESO has also indicated in section 7(a) of the RFP that it is important that we continually strive to improve the quality of the wind power forecasts provided by the Forecaster. The opportunity for considerations such as performance criterion the AESO wishes to employ could be included in your response to this section of the RFP.
14.	July 6, 2009	(Appendix A, Item 3(ix)) What parameters should be used to express the accuracy of ramp event forecasts? (e.g. probability of occurrence). Does this requirement assume that all forecasts of ramp parameters other than probability of occurrence are deterministic?	The ramped tuned forecast will be new to the AESO as it is a recommendation from the AESO's Wind Power Forecasting Pilot Project. The AESO would be interested in your proposal of which parameters will be used to express accuracy of the ramp event forecasts.
15.	July 6, 2009	(Appendix A, item 5 (i)) Is this request for an on-demand service to send forecasted site met data in response to individual interactive requests of a user or for a configurable routine service that will email a set of pre-specified met forecasts to a pre-specified list of recipients?	The AESO is proposing a request for an on-demand service to send forecasted site met data in response to individual interactive requests from the AESO.