

Wind Power Forecasting Service

Request for Proposals

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REQUEST FOR PROPOSALS

1.0 BACKGROUND

1.1 Background on the AESO

- (a) The Independent System Operator for the Province of Alberta is a statutory corporation created pursuant to the *Electric Utilities Act* (Alberta), and its business or trade name is Alberta Electric System Operator (“**AESO**”).
- (b) The AESO is responsible for the safe, reliable and economic planning and operation of the Alberta Interconnected Electric System (“**AIES**”).
- (c) The AESO provides open and non-discriminatory access to the AIES for generation and distribution companies and large industrial consumers of electricity. In doing so, the AESO contracts with transmission facility owners to acquire transmission services and contracts with other parties to provide fair and timely access to the AIES.
- (d) The AESO is focused on ensuring a fair, open and efficient market for the exchange of electric energy in Alberta and effective relationships with neighbouring jurisdictions.
- (e) The AESO ensures that Alberta's competitive electricity markets continue to operate in the best way possible, demonstrating that reliability is not compromised and that the structure is sustainable, predictable and adds long-term value.
- (f) The AESO is accountable for the administration and regulation of the provincial load settlement function.
- (g) The AESO is governed by an independent board, which provides advice and direction of market participants and has a diverse background in finance, business, electricity, oil and gas, energy management, regulatory affairs and technology.
- (h) The AESO, a not-for-profit entity, is independent of any industry affiliations and owns no transmission or market assets.

1.2 RFP Background and Scope

The Alberta Department of Energy, Alberta Energy Research Institute and the AESO, in collaboration with a wind power forecasting work group, conducted a wind power forecasting pilot project which was completed in May, 2008. The purpose of the pilot project was to:

- evaluate wind power forecasting methods and providers;
- identify the most effective method(s) to forecast wind power in Alberta;

- identify the most effective providers of wind power forecasts; and
- inform the AESO and industry on the capabilities of wind power forecasting in Alberta.

The wind power forecasting work group was formed to assist the AESO in completing the pilot project and provide recommendations to the AESO respecting forecast accuracy, data requirements, centralized versus decentralized forecasting, methodologies, Environment Canada's role, and areas for research. As part of the project, each forecaster was required to complete and submit reports. These reports, which are extensive and summarize key findings and recommendations, are posted on the AESO website¹ along with the Industry Work Group Report drafted by the wind power forecasting work group, which sets out the group's findings and recommendations on how best to advance wind power forecasting in Alberta. The reports, together with AESO event analysis, shaped the discussion and recommendations in the AESO Recommendation Paper for Implementation of the Market and Operational Framework.²

The forecasting pilot project confirmed the AESO's initial views that wind generation ramps present one of the greatest operational challenges. Although the forecasts in the pilot project were not tuned for ramps, it was clear that a forecast tuned to predicting ramp direction, timing, magnitude and rate of change would definitely be valuable to the AESO and the electricity market as a whole. In this respect, the wind power forecasting work group recommended that the AESO research how to customize forecasts for ramps as well as how to best use ramp forecasts.

The pilot project also examined data management and quality control functions and whether those functions should be performed by the AESO or outside the AESO such as by the Forecaster. In the AESO Recommendation Paper for Implementation of the Market and Operational Framework, the AESO stated that it would include in this RFP an optional consideration for the data management function.

It was also recognized that, in the future, the use of uncertainty information for specific purposes/forecasts may be valuable. In the forecasting pilot, most forecasters ran many (sometimes several hundred) forecasts for each hour based on varying input conditions into the forecasting model. The forecasts can be plotted and from this range of information, the degree of uncertainty of the forecast can be determined. This type of information may be used by the system operator to procure additional resources (e.g. stand-by regulating reserves) where the uncertainty is high due to a potentially volatile weather system.

Wind power forecasting is expected to be an important tool for managing the variable nature of wind power and key to reliably increasing wind penetration in an efficient and reliable manner.

¹ <http://www.aeso.ca/gridoperations/13825.html>

² http://www.aeso.ca/downloads/WI_Paper-_Final.pdf

The scope of this RFP is to solicit Proposals from Proponents to provide a service involving the provision of aggregate and individual wind power (expressed in MW) forecasts for specific Wind Power Facilities in Alberta (the “**Wind Power Forecasting Service**” or the “**Service**”).

This RFP outlines the AESO's requirements for Proposals from Proponents seeking to provide the Wind Power Forecasting Service.

1.3 RFP Objectives

The objective of this RFP is to solicit Proposals to deliver accurate wind power forecasts for the AIES. The desired outcomes from the successful implementation of a Proposal are:

- availability of a production Wind Power Forecasting Service for the AESO;
- accuracy and reduced uncertainty of wind power forecasts; and
- a high quality Wind Power Forecasting Service and ongoing performance improvements in such Service over time.

1.4 Key Business Drivers

The key business driver for the Wind Power Forecasting Service and this RFP is to enable the AESO to manage the impact of wind power variability on the AIES through wind power forecasting so as to ensure continued growth of the wind industry while fairly maintaining AIES reliability.

The wind power forecasts will be used in system operation for the next several hours and planning day ahead ancillary services and the aggregate wind power forecast provided to market participants via the AESO's website. Accurate forecasts will mitigate impacts of wind power variability and uncertainty on the system's load and generation balance.

2.0 ADMINISTRATIVE REQUIREMENTS

2.1 Definitions

In this RFP, capitalized words and expressions have the meanings set forth below, unless otherwise defined in bold in the text of this RFP:

“**AESO Representatives**” mean the AESO's members, officers, employees, contractors and agents.

“**Addenda**” means all documents issued by the AESO which amend this RFP, and “**Addendum**” means any one of them.

“**Agreement**” means the written Agreement resulting from this RFP and executed by the AESO and the Successful Proponent, attached in draft form to this RFP as Appendix “F”.

“Agreement Finalization Date” means the date the Agreement is executed by the AESO and the Successful Proponent or its alternate as set out in Section 2.4.

“AIES” means Alberta’s “interconnected electric system” as such term is defined in the *Electric Utilities Act* (Alberta).

“Award Date” means the date of selection and notification of the Successful Proponent, as set out in Section 2.4.

“Evaluation Team” has the meaning given to such term in Section 7.2.

“Forecaster” means the person, corporation or partnership that has entered into the Agreement to provide the Wind Power Forecasting Service.

“Governing Law” means the laws of Alberta and the applicable laws of Canada therein.

“Industry Work Group” has the meaning given to such term in Section 7.2.

“ISO Rules” means “ISO rules” as such term is defined in the *Electric Utilities Act* (Alberta), and **“ISO Rule”** means any such rule.

“Mandatory” means, with respect to an RFP Requirement, that the RFP Requirement must be met in order for a Proposal to be eligible for consideration.

“Proponent” means any person, corporation or partnership that submits, or has been invited to submit, a Proposal in response to this RFP.

“Proposal” means any offer to provide services or materials to the AESO in connection with this Request for Proposals, as submitted by a Proponent for the AESO’s consideration.

“Proposal Validity Period” means the period of 90 days after the Submission Deadline during which Proposals will remain in effect and open for acceptance by the AESO.

“Request for Proposals” or **“RFP”** means this Request for Proposals together with its Appendices and all Addenda issued by the AESO prior to the Submission Deadline.

“RFP Information” means all material, data, information, or any item in any form, whether it is in electronic or hard copy format, supplied by or obtained from the AESO under this RFP.

“RFP Project Manager” means the individual identified as such in Section 3.8, or his/her alternate.

“RFP Requirement(s)” means those requirements described in Appendix “A” to this RFP.

“Service” has the meaning given to such term in Section 1.2.

“Submission Deadline” means the deadline for receipt of Proposals to this RFP as set out in Section 2.4.

“Successful Proponent” means the Proponent selected, if any, to be the Forecaster in accordance with this RFP.

“Summary Responses” means the AESO’s summary of responses to Proponents’ questions regarding this RFP, distributed by the AESO pursuant to Section 4.3.

“Timetable” means the expected timetable for this RFP as set out at Section 2.4.

“Wind Power Facility” or **“WPF”** means any wind power facility that connects to the Alberta transmission system.

“Wind Power Facility Generation” means the MW generation of a WPF observed at the point of interconnection, which is the net to grid MW.

“Wind Power Forecasting Service” has the meaning given to such term in Section 1.2.

2.2 Appendices

The following Appendices (each an **“Appendix”**) are incorporated into and form a part of this RFP:

- (a) Appendix “A” - RFP Requirements;
- (b) Appendix “B” - Receipt Confirmation Form;
- (c) Appendix “C” - RFP Questions Submission Form;
- (d) Appendix “D” - Proposal Submission Form;
- (e) Appendix “E” - Credit Review Form;
- (f) Appendix “F” - Form of Services Agreement; and
- (g) Appendix “G” - Existing Wind Power Facility Locations.

2.3 Priority of Documents

If there is any conflict or inconsistency between a provision of the body of this RFP and that of an Appendix or Addendum, the terms of the body of this RFP shall prevail.

2.4 Timetable

(a) The Timetable for this RFP is as follows:

<u>Activity</u>	<u>Date</u>
RFP issued on the AESO website	June 23, 2009
Submission of Receipt Confirmation Forms by Proponents	Immediately upon receipt of RFP
Question period for Proponents (questions via e-mail and facsimile submissions)	Question period starts June 24, 2009 Question period ends July 6, 2009, 12:00:59 MDT
Distribution of Summary of Responses by the AESO	July 10, 2009
Submission Deadline	July 24, 2009, 16:00:59 MDT
Demo sessions (if applicable)	August 25-26, 2009
Award Date	September 11, 2009
Agreement Finalization Date	October 23, 2009

(b) The AESO may, without liability, cost or penalty and in its sole discretion, and at any time prior to or following the Submission Deadline, amend the Timetable. The AESO will provide to each Proponent who has submitted a Receipt Confirmation Form to the AESO, written confirmation of any such amendment.

2.5 Binding Effect of Receipt Confirmation Form and Agreement Finalization

The Proponent hereby acknowledges that its return to the AESO of its Receipt Confirmation Form constitutes its acceptance of the AESO's Wind Power Forecasting Service procurement process on the contractual terms and conditions set out in this RFP, including the Timetable. Such contract shall remain binding upon the Proponent until the earlier of:

(a) its receipt of written notice from the AESO that the Proponent's Proposal is rejected as unsatisfactory or deficient; or

- (b) where the Proponent has been given written notice that it has been selected to be the Successful Proponent, upon the earlier of:
 - (i) the execution of the Agreement by the AESO or the Proponent; or
 - (ii) the Proponent's receipt of written notice from the AESO that it is no longer designated as the Successful Proponent;both pursuant to Section 9.0; or
- (c) where the Proponent has been given written notice that another Proponent has been selected to be the Successful Proponent, upon the earlier of:
 - (i) the Proponent's receipt of written notice of the execution of the final Agreement between the AESO and the Successful Proponent; or
 - (ii) the execution of the final Agreement between the AESO and the Proponent in the event the AESO elects to conclude the Agreement with the Proponent;both pursuant to Section 9.0; or
- (d) its receipt of written notice from the AESO that the AESO has elected to withdraw this RFP and terminate its Wind Power Forecasting Service procurement process.

The Proponent further acknowledges that, notwithstanding the occurrence of the circumstances described above, its obligations under Section 3.5 of this RFP will continue to survive.

3.0 REQUEST FOR PROPOSALS PROCESS

3.1 Request For Proposals

The AESO invites Proposals that meet the RFP Requirements.

3.2 The AESO's Right to Amend or Supplement the RFP

- (a) The AESO may, without liability, cost or penalty, amend or supplement this RFP.
- (b) The AESO will issue amendments to this RFP by Addenda only. All Addenda will be clearly identified as such by the AESO and will be issued to those Proponents who have submitted the Receipt Confirmation Form. No other statement, whether oral or written, made by the AESO or an AESO representative, including the RFP Project Manager, may amend this RFP.

- (c) The Proponent must not rely on any information or instructions from the AESO or an AESO representative except this RFP and any Addenda issued.
- (d) The Proponent is solely responsible to ensure that it has received all Addenda, if any, issued by the AESO. Proponents may, in writing, seek confirmation of the number of Addenda issued under this RFP from the RFP Project Manager.

3.3 Governing Law

This RFP and the Agreement entered into by the Successful Proponent are governed by, interpreted and enforced in accordance with the Governing Law and the Proponent hereby submits to and attorns to the jurisdiction of the courts of the Province of Alberta respecting any dispute or conflict regarding this RFP or the Proponent's participation in the AESO's Wind Power Forecasting Service procurement process.

3.4 Delay and Cost of Delay

The AESO will not be liable, in any way, to the Proponents for any delays, or costs associated with delays, arising from a Proponent's participation in this RFP.

3.5 Confidentiality

- (a) Each Proponent acknowledges and agrees that all RFP Information:
 - (i) will remain the sole property of the AESO and the Proponent must treat it as confidential;
 - (ii) must not be used by the Proponent for any purpose other than submitting a Proposal in response to this RFP;
 - (iii) must not be disclosed by the Proponent to any person who is not involved in the Proponent's preparation of its Proposal without prior written authorization from the AESO; and
 - (iv) if requested by the AESO, will be returned to the AESO no later than ten (10) calendar days after the request by the AESO to return the RFP Information.
- (b) The Proponents and Successful Proponent must not issue any public statement or news release pertaining to this RFP without the prior written consent of the AESO.

3.6 Disclosure Issues

- (a) Proposals submitted to the AESO become the property of the AESO. All Proposals will be considered confidential and will be

received and held in confidence by the AESO, subject to Sections 3.6 (b) and 7.2 of this RFP.

- (b) The AESO may disclose any information with respect to the Proponent and its Proposal as required by the Governing Law.

3.7 Liability for Errors

While the AESO has used considerable efforts to ensure that the information contained in this RFP is accurate, the information contained in this RFP is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted by the AESO to be accurate, comprehensive or exhaustive. Nothing in this RFP is intended to relieve the Proponent from the obligation of forming its own opinions and conclusions with respect to the matters addressed in this RFP.

3.8 Notice

Notwithstanding anything to the contrary contained herein, all notices required to be received by the AESO from any Proponent hereunder must be in writing and be delivered by hand, by courier or via fax to:

The Alberta Electric System Operator
2500, 330 – 5th Ave SW
Calgary, Alberta, Canada
T2P 0L4
Fax: +1.403.539.2949
Attention: **James Shen**, RFP Project Manager

4.0 PROPONENT'S PRE-PROPOSAL RESPONSIBILITIES

4.1 Submission of Receipt Confirmation Form

Proponents are advised to fill out and return the attached Receipt Confirmation Form immediately. All subsequent information regarding this RFP, including Addenda, will be distributed by the method authorized on the form only to those Proponents who return this form.

4.2 Examination of the RFP

Any Proponent planning to submit a Proposal is responsible for examining with appropriate care the entire contents of this RFP. Each Proponent is also responsible for informing itself with respect to all matters, including statutory matters, which might affect its Proposal.

4.3 Clarification and Questions Related to the RFP

- (a) All enquiries related to this RFP are to be directed in writing in the format provided in Appendix "C" and sent to the AESO as described below.

- (b) Questions related to this RFP are to be **submitted in writing only** in the format provided in Appendix “C” and **sent via e-mail or fax** to:

Attention: **James Shen**, RFP Project Manager
Fax: +1.403.539.2949
E-mail: WPF_RFP@aeso.ca

- (c) No other AESO employee, consulting organization or agent of the AESO is to be contacted or is authorized to respond to questions regarding this RFP. The Proponent acknowledges that any violation of such communication protocol may result in disqualification of the Proponent by the AESO at the AESO's discretion.
- (d) All Summary Responses will be made available in writing by e-mail to all Proponents who have submitted the Receipt Confirmation Form no later than the time set out in the Timetable.
- (e) It is the responsibility of the Proponent to contact the AESO for clarification of any matter considered unclear or for any additional information required. The AESO is not responsible for any misunderstanding of this RFP on the part of the Proponent.

5.0 PROPOSAL PREPARATION

5.1 Proposal Documents

- (a) Each Proponent must submit a Proposal that consists of the following documents (the “**Proposal Documents**”):
- (i) a completed Proposal Submission Form - Appendix “D”;
 - (ii) a Table of Contents, including page numbers;
 - (iii) a short (up to two page) summary of the key features of the Proposal;
 - (iv) the body of the Proposal, including a description of the Proponent's expertise and qualifications, the Proponent's responses to the RFP Requirements – Appendix “A”, a Price Submission (defined in Section 5.2 below), an Implementation Plan (defined in Section 5.3 below) and an Agreement Submission (defined in Section 5.4 below); and
 - (v) a completed Credit Review Form - Appendix “E”.

5.2 Price Submission

- (a) The Proposal must clearly identify all costs in Canadian dollars, including any applicable Goods and Sales Tax (GST) associated

with the Proposal, in a price submission section (the “**Price Submission**”).

- (b) The Price Submission quoted by Proponents must remain firm for the period from the Submission Deadline until the Agreement Finalization Date.
- (c) Payment by the AESO will be by progress payments for the development and implementation phases of the Wind Power Forecasting Service and will be tied to the acceptance of deliverables by the AESO. Proponents must identify how they propose to structure progress payments and invoicing to satisfy this requirement.
- (d) In addition to Section 5.2(c), the AESO is open to alternative Price Submissions, including fixed price plus risk/reward strategies. Proponents are invited to propose appropriate strategies to accommodate such opportunities.

5.3 Implementation Plan

The Proposal must include an implementation plan (the “**Implementation Plan**”) that fully defines the work and materials necessary to develop and implement the Proposal, including, but not limited to:

- (a) any assumptions and constraints in developing the Implementation Plan, including the schedule described in subsection (d) below;
- (b) Proposal risks, including the probability and impact of each risk and the proposed mitigation strategy;
- (c) the proposed scope of work for the Wind Power Forecasting Service;
- (d) a proposed schedule identifying deliverables, activities, milestones and expected dependencies. (Note: See Section 5(g) of Appendix “A” for specific schedule requirements related to initial forecast implementation and delivery);
- (e) internal AESO and external Proponent resource requirements and estimates in hours for each deliverable;
- (f) a resource plan, including identification of the resources to be used (including subcontracted resources, if any). Briefly describe your project team (i.e. skill sets, roles, experience, etc.) who will be involved with the Wind Power Forecasting Service, and describe in detail the specific expertise of your forecasters. Be sure to identify the primary contact person who will be responsible for day-to-day interactions with the AESO during the initial implementation; and

- (g) an organizational chart of the Proponent's project team.

5.4 Agreement Submission

- (a) The Proposal must include the following in an Agreement submission section (the "**Agreement Submission**"):
 - (i) a statement that the Proponent has reviewed the form of Agreement, has no comments, concerns or issues in respect of the form of Agreement and, if selected as the Successful Proponent, is prepared to execute the form of Agreement without any amendments thereto; or
 - (ii) a statement that the Proponent has reviewed the form of Agreement and has compiled and included within the Agreement Submission Section of the Proposal any required amendments, additions and/or deletions which, if it were selected as the Successful Proponent, it believes must be addressed in the form of Agreement before the Proponent would execute the Agreement.

Notwithstanding the foregoing, the AESO reserves the right to make any amendments, additions and/or deletions, as suggested by the Proponent and/or of the AESO, in its sole discretion, at any time during the finalization of the Agreement.

- (b) The Proposal must also clearly identify and attach any other terms, conditions or agreement(s) requested by a Proponent in its provision of the RFP Requirements. If a Proponent includes such other terms, conditions or agreement(s) in its Agreement Submission, the AESO reserves the right to accept or reject such terms, conditions or agreement(s), in full or in part, and reserves the right to incorporate such terms, conditions or agreement(s) into the Agreement.

5.5 Complete Proposal

Proponents are requested to submit Proposals which are complete and non-ambiguous without the need for additional inquiry or information. The AESO will make the final determination as to whether a Proposal is complete and whether to proceed with Proposal evaluation without requesting further information from a Proponent. The AESO may, in its discretion, request in writing from a Proponent any additional information clarifying or supplementing any Proposal received. Such request, and the Proponent's response, will not be disclosed to any other Proponent unless, in its discretion, the AESO determines otherwise.

5.6 Joint Proposals and Subcontracting

- (a) Joint Proposals may receive consideration if one or both of the Proponents are prepared to take overall responsibility for the

performance of the Agreement. The party responsible for entering into the Agreement must be clearly defined in the Proposal.

- (b) Subcontractors may be used by the Successful Proponent if both the subcontractor and the subcontract have received the prior written approval of the AESO. Without limiting the AESO's discretion to approve subcontractors, subcontracting to any firm or individual whose current or past corporate or other interests may, in the AESO's opinion, give rise to a conflict of interest in connection with this RFP will not be permitted.

6.0 PROPOSAL SUBMISSION, WITHDRAWAL AND MODIFICATION

6.1 Proponent's Expenses and Limit on Liability

- (a) The Proponent is solely responsible for its own expenses in preparing a Proposal and in subsequent negotiations with the AESO, if any. If the AESO elects to cancel or delay this RFP or to reject any or all Proposals submitted or any part thereof or to exercise any of its rights under this RFP or at law including pursuant to Sections 8.0 and 9.0, neither the AESO nor any of the AESO Representatives will be liable to the Proponent for any claim, whether for costs or damages incurred by the Proponent in preparing the Proposal, loss of anticipated profit in connection with any final Agreement, or any matter whatsoever. By submitting a Receipt Confirmation Form, the Proponent hereby waives and releases the AESO from any and all such claims, costs and damages.
- (b) Further to Section 6.1(a), the Proponent agrees that if the AESO commits a breach of this RFP, the aggregate amount of damages recoverable against the AESO by such Proponent for any matter relating to or arising from that breach, whether based upon an action in contract, warranty, equity, negligence, intended conduct or otherwise, including any action arising from the acts or omissions, negligent or otherwise, of the AESO, will be no greater than the demonstrated and direct expenditure of the Proponent in preparing its Proposal incurred from and after, and not before, the date this RFP was issued by the AESO.

6.2 Submission of Proposals

- (a) Each Proponent must submit **one (1) original and three (3) copies** of its Proposal before the Submission Deadline.
- (b) Proponents must also submit a **CD-ROM** with copies of all files used to prepare the Proposal in MS Word, MS Excel and/or MS Project format.
- (c) Proponents must submit their Proposals by depositing them in a sealed, self-addressed envelope clearly marked "**Confidential**".

Wind Power Forecasting Service RFP Response” and delivering them by courier or hand-delivery to the AESO at the address set out below:

Alberta Electric System Operator
2500, 330 – 5th Ave SW
Calgary, Alberta, Canada
T2P 0L4

Attention: **James Shen**, RFP Project Manager

- (d) The AESO **will not** accept or consider electronic Proposals or Proposals submitted by e-mail.
- (e) Each Proposal will be marked with its receipt time by the AESO. Only complete Proposals received and marked before the Submission Deadline will be considered to have been received on time.
- (f) In the event of dispute, the Proposal receipt time as recorded by the AESO will prevail.
- (g) Each Proponent acknowledges that it is solely responsible for the delivery of its Proposal to the AESO and assumes all risk associated with the late delivery of a Proposal.

6.3 Credit Review

By submitting a Proposal under this RFP, the Proponent hereby authorizes the AESO to conduct a credit review on it. The Proponent must provide, as part of its Proposal, a completed Credit Review Form, attached as Appendix “E” to this RFP. In addition, the Proponent must provide, as part of its Proposal:

- (a) audited financial statements of its most recently ended fiscal year (if available); and
- (b) unaudited financial statements for its most recently completed quarter end (if available).

If the financial statements referred to above are not available, the AESO will consider alternative forms of financial information provided by the Proponent in its Proposal. The AESO may request additional financial information from the Proponent to complete the credit review, and the Proponent may be requested to provide clarification to the AESO of its financial information as provided. If the Proponent includes in its Proposal alternative forms of financial information other than the audited and unaudited financial statements referred to above, or if any additional financial information requested is not provided or clarified, or if the credit review is not deemed satisfactory by the AESO, the Proponent may be precluded from further consideration under this RFP.

6.4 Withdrawal of Proposals

The Proponent may withdraw its Proposal only by giving written notice before the Submission Deadline to the RFP Project Manager. The AESO will return, unopened, any Proposal that has been withdrawn in accordance with this Section.

6.5 Amendment of Proposals

The Proponent may amend its Proposal after submission but only if the Proposal is amended and resubmitted before the Submission Deadline in accordance with the following:

- (a) the Proponent must withdraw its original Proposal by notifying the RFP Project Manager in writing; and
- (b) the Proponent must submit a revised replacement Proposal in accordance with the RFP Documents and no later than the Submission Deadline.

6.6 Proposal Irrevocability

Subject to the Proponent's right to withdraw before the Submission Deadline, the Proponent's Proposal will be irrevocable and will remain in effect and open for evaluation and acceptance for the Proposal Validity Period.

6.7 Late Proposals

Any Proposal received by the AESO after the Submission Deadline will be disqualified under this RFP and will be promptly returned to the Proponent, unopened, at the mailing address indicated on the envelope containing the Proposal.

7.0 PROPOSAL OPENING AND EVALUATION OF PROPOSALS

7.1 Opening of Proposals

The AESO will open the Proposals on the first business day following the Submission Deadline.

7.2 Evaluation Team

The AESO will establish an evaluation team for the purpose of evaluating Proposals (the "**Evaluation Team**"). The Evaluation Team shall consist of AESO Representatives as well as participants in the wind power industry in Alberta (the "**Industry Work Group**"). Participants of the Industry Work Group are subject to confidentiality obligations to the AESO with respect to the disclosure of the contents of Proposals. The management of the AESO's Wind Power Forecasting Service procurement process, the scope of the participation of the Industry Work Group in Proposal evaluation, and the final selection of a Successful Proponent, if any, shall be carried out at the sole discretion of the

AESO. Names of the participants in the Industry Work Group involved in the evaluation of Proposals shall be disclosed upon request to Proponents.

7.3 Evaluation Process

- (a) Upon receipt of Proposals, the Evaluation Team will screen each Proposal to ensure the Proposal's compliance with the requirements of this RFP. Determination and acceptance of any deviation will be by the AESO at its sole and arbitrary discretion, and the AESO reserves the right to accept or refuse any response deviation from the requirements of this RFP.
- (b) The AESO reserves the right to seek response clarification from a Proponent to assist in making its evaluation.

7.4 Evaluation Criteria

The Evaluation Team will evaluate all Proposals on the basis of the following criteria:

- (a) **Mandatory Criteria**

The following are Mandatory requirements. Proposals not clearly demonstrating that they meet these requirements will be excluded from further consideration during the evaluation process and will be disqualified.

Mandatory Criteria
(i) The complete Proposal must be received by the AESO before the Submission Deadline.
(ii) The Proposal must be in English and must not be sent by facsimile or e-mail.
(iii) One (1) original and three (3) copies of the Proposal must be submitted with one (1) completed Proposal Submission Form with original signature(s).
(iv) A CD-ROM with copies of all files used to prepare the Proposal in Microsoft Office version 2003 (preferred) of Word, Excel and/or Project format must be submitted.
(v) The Proposal must clearly identify acceptance of the form of Agreement attached as Appendix "F", <u>or</u> identify any proposed changes.
(vi) The Proposal must include a completed Credit Review Form in the form attached as Appendix "E".
(vii) The Proposal must contain detailed responses for Appendix "A". Appendix "A" describes the AESO technical requirements for the Wind Power Forecasting Service.

(b) Additional Criteria

Proposals meeting all of the Mandatory criteria will be further assessed against the following additional criteria.

Additional Criteria
(i) Adherence to the requirements of this RFP.
(ii) Ability of the Proposal to support attainment of the RFP business drivers and objectives.
(iii) The amount to be paid by the AESO for the procurement of the RFP Requirements by the Proponent, including acquisition costs, implementation costs, technical costs (internal and/or external), and ongoing operational costs.
(iv) Quality of the Proponent's proposed Implementation Plan and designated resources, including the Proponent's success and experience on similar projects and with similar customers.
(v) The disclosure or non-disclosure by the Proponent of any potential or actual conflicts of interest such Proponent may have as a Proponent or Successful Proponent.
(vi) The provision of financial information by the Proponent and the results of the AESO's credit review.
(viii) Such other criteria as the AESO in its sole discretion, acting reasonably, considers appropriate.

7.5 Short-Listing and Demo Sessions

Those Proponents whose Proposals appear to best meet the evaluation criteria may be short-listed. Short-listed Proponents may be requested to perform demo sessions at the offices of the AESO or via the internet. These Demo Sessions will be performed at the offices of the AESO at around the time set out in the Timetable. Such demo sessions will be performed at no cost to the AESO and must be performed by and on the short-listed Proponent's resources. All equipment, including but not limited to laptop computers, owned and used by a Proponent during a demo session must remain in a disabled state while on the AESO's premises unless otherwise authorized by the AESO. Internet access may be provided by the AESO to a Proponent performing a demo session on the AESO's premises for the sole purpose of the Proponent's performance of the demo session.

8.0 ACCEPTANCE OF PROPOSALS AND AWARDING OF AGREEMENT

- (a) It is the intention of the AESO to primarily use its Wind Power Forecasting Service procurement process to determine the most

appropriate Proponent's Proposal to meet the AESO's requirements. The Proponent submitting the Proposal that is most advantageous and in the best overall interests of the AESO, at the AESO's sole discretion, may be invited to enter into the Agreement and/or negotiations therefor.

- (b) If a Proponent is required by the Governing Law to hold or obtain a licence, permit, consent or authorization to carry on an activity contemplated in its Proposal, neither acceptance of the Proposal nor execution of the Agreement will be considered to be approval by the AESO of carrying on such activity without the requisite licence, permit, consent or authorization.
- (c) Notwithstanding any other provision of this RFP:
 - (i) the AESO reserves the right to reject the lowest cost Proposal, or any and all Proposals received, and to choose not to enter into the Agreement with any Proponents responding to this RFP, either before or after its selection of a Successful Proponent;
 - (ii) the AESO reserves the right to accept or reject all or part of a Proposal. Nothing will preclude the AESO from requesting the Successful Proponent to modify its Proposal to best suit the needs of the AESO, or from altering any of the terms and conditions of the Agreement as a result of its review of the Proposals or its negotiation of the final form of the Agreement with the Successful Proponent, or otherwise; and
 - (iii) the AESO also reserves the right to cancel this RFP at its discretion and at any time, either before or after the AESO's selection of a Successful Proponent.

9.0 AGREEMENT FINALIZATION AND DEBRIEFING

9.1 Agreement Finalization

- (a) Subject to Sections 2.4 and 8.0 above, the AESO will, no later than the Award Date, notify a Proponent, in writing, that it has been selected as a Successful Proponent.
- (b) After the selection and notification of the Successful Proponent, if any, the AESO may finalize the terms and conditions of the Agreement with the Successful Proponent, and, as part of that process, may, in its sole discretion, negotiate changes, amendments or modifications to the Successful Proponent's Proposal and/or to the Agreement. The Proponent acknowledges and agrees that its selection by the AESO as the Successful Proponent:

- (i) is not to be construed as a request or authorization to perform work or provide services at the AESO's expense;
 - (ii) does not represent a commitment to purchase or lease any product or system or procure any services from or through the Successful Proponent; and
 - (iii) does not oblige the AESO to deal exclusively with the Successful Proponent and the AESO may seek further and other information from any Proponents or any third person whatsoever at any time.
- (c) The Successful Proponent's Proposal may form part of the Agreement by attachment and incorporation by reference. Claims made in the Proposal will constitute contractual warranties.
- (d) After the selection and notification of the Successful Proponent, if any, the Successful Proponent must, no later than the anticipated Agreement Finalization Date or such later date as may be specified in written notice given by the AESO to the Proponent, enter into and execute the Agreement in the same form and substance as was finalized and agreed to by the Successful Proponent and the AESO pursuant to Section 9.1(b).
- (e) If a Successful Proponent fails or refuses to enter into and execute the Agreement in accordance with Section 9.1(d), the AESO may, in its sole discretion, take any one or more of the following actions:
 - (i) provide written notice to that Successful Proponent at the address specified by that Proponent in its Proposal that the AESO is terminating all discussions to enter into the Agreement with that Successful Proponent and is cancelling its identification of the Proponent as a Successful Proponent (and the Proponent hereby acknowledges and agrees that it will not be entitled to any costs, expenses or damages of any nature from the AESO or the AESO Representatives incurred or suffered by such Proponent as a result of such termination and cancellation); or
 - (ii) select another Proponent to enter into the Agreement; or
 - (iii) take any action in accordance with Section 8.0 above; or
 - (iv) pursue any other remedy available to the AESO under Governing Law.

9.2 Notification if Not Successful

The unsuccessful Proponents will be notified by the AESO via e-mail that they were not successful in this RFP no later than five (5) business days after the Agreement Finalization Date.

Appendix "A" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

RFP REQUIREMENTS

Many of the requirements in this RFP are developed from information and recommendations from the AESO's Wind Power Forecasting Pilot Project which are posted on the AESO's website (<http://www.aeso.ca/gridoperations/13825.html>). The AESO is requesting Proposals that meet the minimum requirements described in Section 1 below. The AESO is also interested in Proposals that forecast a longer period of up to four (4) days rather than the two (2) days used in the pilot project. The AESO is also interested in Proposals that provide intra-hour forecasts. The longer forecast window and intra-hour forecast are described in Section 2 below so that the AESO can assess the value of these considerations. Proposals must clearly state if the Proponents can meet the forecast requirements set out in Sections 1 and 2 below.

Provide your responses immediately following each requirement in the same sequence as this Appendix. Clearly mark each of your responses with a prefix such as "Response".

1. Minimum Forecast Requirements

The AESO has specific minimum requirements to be met by the Wind Power Forecasting Service. These requirements are as follows.

- (a) Wind power forecasts are required for each specific operating Wind Power Facility and for the aggregate total wind generation of specific Wind Power Facilities.
- (b) The **aggregate** wind power forecast has **minimum** requirements which must be met. These requirements are as follows.
 - (i) Forecasts are for a time window from the current hour up to and including the 48th hour.
 - (ii) Forecasts are for hourly intervals and are updated and submitted to the AESO hourly.
 - (iii) Provide an average power forecast in MW for each interval.
 - (iv) Provide a maximum and a minimum power band forecast at a 95% confidence level for each interval.
 - (v) Provide a forecast for the maximum ramp rate that could be experienced within an hourly forecast. The AESO would be interested in those ramps that could occur within a 20 or 30 minute period within the hour.
 - (vi) Provide a forecast tuned as a ramp forecast. Provide notification of ramp events. When weather conditions are such that a large ramp could take place over multiple hours (e.g. 3 to 5 hours), the AESO is interested in a notification such as a text message in the forecast. Please describe how you could provide such notification and what type of information you

would provide in the message. The initial definition of a large ramp would be an hourly change in wind power that is equal to or greater than 20% of the total capacity being forecasted.

- (c) The **individual** wind power forecast has **minimum** requirements which must be met. These requirements are as follows.
 - (i) Provide average power in MW of each interval for each of the individual Wind Power Facilities.

2. Additional Forecast Requirements

The AESO is also interested in expanding the parameters of the forecasts. In your responses, describe how you could meet these additional requirements.

- (a) These additional requirements are as follows.
 - (i) Expand the time window for the aggregate and individual Wind Power Facilities described in Sections 1(b) and 1(c) above to 72, 96 or 120 hours.
 - (ii) Provide an aggregate intra-hour forecast. The forecast would include a rolling 6 hour period, a time interval of 10 minutes and an update interval to the AESO to every 10, 15 or 20 minutes. This would apply to the aggregate forecasts only. Please describe if this forecast would replace the first 6 hours of the hourly forecast described in Section 1(b)(ii) above or whether this would be a separate forecast submission to the AESO.
 - (iii) Provide additional confidence level forecasts in power band (Section 1(b)(iv)) such as 70 or 80% confidence levels by 5% increments. Please provide a cost for each additional confidence level.

3. Additional Forecast Information

The AESO is interested in better understanding how you produce your forecasts. Describe in detail, for each requirement, how your forecasts are supported by models, methodologies and processes.

- (a) Include a description of any human involvement in each stage of the forecasting process.
- (b) Provide a description of your forecast methodologies, including the following:
 - (i) Your models used for the Numerical Weather Prediction (NWP) forecasts and power conversions.
 - (ii) How you would determine the intra-hour forecasts (e.g. interpolation from the hourly forecasts or actual 10 minute forecasts) if provided.
 - (iii) How you would forecast the ramp rate (s. 1(b)(v)) and ramp events (s. 1(b)(vi)). How do you detect large ramp events (s. 1(b)(vi)) in a timely

manner while avoiding false alarms? Describe if other data such as ramp forecast uncertainty would need to be communicated to the AESO, in particular if this data is different than the 95% confidence levels described in Section 1(b)(iv) above.

- (iv) Your experience in the required or other ramp rate and ramp event forecasts and the performance of the ramp forecast results. Provide references or samples for your ramp rate and ramp event forecasts, if available.
- (v) Your power forecast methodologies used for average power and power band (s. 1(b)(iii) and 1(b)(iv)). In your methodologies, how do you deal with short term and long term forecast horizons? Do you use anything other than persistence for the 1 to 6 hour forecast? How do you try to achieve narrow power bands with high consistent confidence levels over time?
- (vi) Your models used to deal with co-relationships amongst WPFs.
- (vii) Upon receiving the input data, how long your system takes to run forecasts and deliver the forecast results.
- (viii) Your expected accuracy of average wind power forecasts (s. 1(b)(iii) and 2(a)(ii)), power bands (s. 1(b)(iv)) and ramp rate (s. 1(b)(v)) forecasts in Mean Absolute Error (MAE) and Root Mean Squared Error (RMSE) for time horizons of 1, 2 and 3 hours and next day time horizons with regards to:
 - your models' expected forecast accuracy for each WPF using forecasted weather data, based on your forecast experience with wind power facilities located in terrain similar to the existing Wind Power Facility locations identified in Appendix "G"; and
 - your models' expected forecast accuracy for each WPF using actual historical weather data, based on your forecast experience with wind power facilities located in terrain similar to the existing Wind Power Facility locations identified in Appendix "G".
- (ix) Your expected accuracy of ramp events (s. 1(b)(vi)) with magnitude, timing and probability of occurrence.
- (x) The validity of your power conversion model using the forecasting inputs described below.
- (xi) Your models' expected learning curve for up to two (2) years of historical data and the tuning process required until the model is stable.

4. Provision of Forecast Input Data

In this section, the AESO is requesting responses related to forecast input data. The following describes the input data that will be provided to the Forecaster, but which will remain the property of the AESO and/or WPF owners. (Note: This list of data is subject

to change in accordance with the participation agreements to be executed between the AESO and the members of the Industry Work Group and, subsequently, a new ISO Rule expected to impose obligations on WPF owners in relation to wind power forecasting, which will supersede the Agreement. Such changes, if any, will need to be reflected in corresponding amendments to the Agreement, pursuant to a change management provision which the AESO intends to include therein.)

- (a) WPF site meteorological (met) data, Wind Power Facility Generation and WPF available capacity (AC) will be provided to the Forecaster. (Note: Section 4(l) below describes two (2) possible options for input data transfers.) Appendix "G" identifies existing Wind Power Facility locations and their maximum capacities.
- (b) WPF site met data will include wind speed, wind direction, barometric pressure and ambient temperature. They will be provided as 10 minute averages and will be updated every 10 minutes. Hub height of the turbines and height of the met tower will also be provided. (Note: Such measurements may be changed in the future.)
- (c) Actual power data from individual Wind Power Facilities will be in MW in 10 minute averages for the past 10 minutes and will be updated every 10 minutes.
- (d) Forecasts will incorporate up to two (2) years of historical met and power data for the Wind Power Facilities.

For each requirement, describe briefly your response and any supporting details necessary to support your answers.

- (e) How and where will you receive Numerical Weather Prediction (NWP) data input for forecasts and how often is your NWP data updated? How many days into the future is your NWP data available?
- (f) The Wind Power Facilities will provide hourly current turbine Available Capacity and future turbine Available Capacity, updated and sent every 10 minutes. How will you use this data in your forecasts? What is the required resolution of Available Capacity and what is the minimum turbine down time required to report?
- (g) AESO may limit the amount of wind power from a Wind Power Facility and this could be less than the Available Capacity reported by the Wind Power Facility to the AESO. Please describe what data you would require from the AESO around such limits and how you will use this wind power limit information in your forecasts.
- (h) Describe what information is required to develop a power conversion model for each Wind Power Facility.
- (i) Describe your data quality control and quality assurance processes on all input data to your forecasting system. (Note: Section 4(l) below describes two (2) possible options for input data transfers.)

- (j) In the event of missing or incomplete input data from the AESO or NWP data (e.g. posting to the web fails, file transfer fails, data from one or more Wind Power Facilities is missing), describe your process for identifying the failure, the impact to your forecast and how your system is designed to handle this situation. Can your forecasts continue to provide reasonable results?
- (k) Provide any other requirements of the AESO or the Wind Power Facilities to support the wind power forecasts not otherwise disclosed.
- (l) The AESO wishes to evaluate two (2) options for site met data (s. 4(b)) and available capacity (s. 4(f)) transfers to the Forecaster. The AESO is interested in understanding the implications of either the AESO or the Forecaster performing data management and quality control functions and how you can respond to the following options:
 - (i) WPF owners send the data to the AESO and then the AESO transfers the data to the Forecaster (i.e. the AESO performs data management and quality control functions with respect to input data); and/or
 - (ii) WFP owners send the data directly to the Forecaster and then the Forecaster transfers the data back to the AESO (i.e. the Forecaster performs data management and quality control functions with respect to input data).

In both options, Wind Power Facility Generation (s. 4(a)) and power limit (s. 4(g)) data will be sent from the AESO to the Forecaster.

5. Delivery of Forecasts to the AESO

The following describes the AESO's requirements for delivery of wind power forecasts, which the AESO will own pursuant to the Agreement. Describe briefly your responses to each of these requirements.

- (a) The forecast results must include the aggregate forecast and individual Wind Power Facility forecasts.
- (b) Describe your proposed method(s) of data exchange for both directions between the Forecaster and the AESO and the level of security access to the data. Note: The AESO wishes to explore having forecasts delivered to the AESO through a web service, but is also prepared to evaluate alternative methods. Thus, with respect to forecast delivery, describe how you would deliver forecasts through a web service, and then describe, if you wish, one or more alternative methods. Describe your experiences in providing secure and reliable data exchange services and with improving data quality.
- (c) For forecast results delivery, provide input data quality flags with the results. Please provide samples of delivery format, including screen captures, file structures, etc.
- (d) Describe the quality control processes that the data and forecast results will undergo before the forecast results are delivered to the AESO.

- (e) In the event of a delivery failure (e.g. posting to the web fails), describe your process for identifying the failure and for correcting the failure. Also describe your proposed process for notifying the AESO in this event.
- (f) Provide information about your data retention and archiving processes. How long will historical forecast data be stored and available to the AESO?
- (g) The AESO's desired starting milestone for implementation of the Wind Power Forecasting Service is to receive initial wind power forecasts from the Forecaster by year-end 2009. As part of your Implementation Plan schedule, provide an estimate of how long your initial wind power forecasts will take to implement and deliver to the AESO after the Award Date. (Of course, forecast delivery will be subject to Agreement finalization.) Refer to Section 5.3 of this RFP for full Implementation Plan requirements.
- (h) Should you provide web portal services, such that the AESO could log into your system to access forecast information, please describe what you would offer.
- (i) The Forecaster may be required to send some forecasted site met data by e-mails to the AESO upon request. Please describe how you will accommodate this requirement.

6. Forecast Performance Reports

- (a) Provide input data quality assurance and quality control reports. These will include daily quality control reports on data from the AESO for any non-compliance issues. These reports must be easy to link to the original input data for further investigation. Provide samples of the data quality reports that you would provide to the AESO.
- (b) Provide a weekly forecast performance report. This report will show an aggregate forecast performance review comparing actual and forecasted power (s. 1(b)(iii)), power band(s) (s. 1(b)(iv)), ramp rates (s. 1(b)(v)) and ramp forecast/events (s. 1(b)(vi)) where applicable. It should indicate if there is any input data issues associated with the forecast results. Describe the contents of your performance review with analysis on unexpected forecast performance. Provide a sample of the forecast performance report that you would provide to the AESO, and describe how the report will help to improve forecast accuracy.

7. Service Levels/Ongoing Performance Improvement

- (a) It is important to the AESO that we continually strive to improve the quality of the wind power forecasts provided by the Forecaster. The AESO would like to incorporate performance incentives as part of the Agreement, to encourage ongoing improvements in wind power forecasting accuracy (e.g. ramp events). Briefly describe the types of incentive-based relationships that you would consider and provide any comments about how to make this successful for all parties. Describe any strategies or past experiences that illustrate your ability to improve the accuracy and quality of your forecasts over time.
- (b) Describe your service level agreements in relation to:

- (i) timeliness of forecast delivery, including penalties for delivery performance;
- (ii) accuracy of forecasts, including penalties for inaccurate forecasts;
- (iii) business continuity and contingency plans for missing data, input data errors, system failures, etc., in the context of forecast service disruptions; and
- (iv) production operations support, hours of support available, timeliness of response, media available for communication, etc. Note that the AESO requires 7x24 coverage; please discuss how you will support this.

8. Pricing Methodology

Responses to this section are requested in table format clearly showing minimum prices, with additional requirements shown as incremental prices. In your response, you should consider the requirements described in Section 7(a) related to options for incentives for performance improvements.

- (a) The desired initial term for the Agreement is two (2) or three (3) years with an AESO option for renewal depending upon the circumstances that exist at or near the end of the initial term.
- (b) Itemize your pricing for the services described above, preferably in a table, including any of the following which apply:
 - (i) Provide prices for minimum and additional requirements separately. For additional requirements, break down prices for each option.
 - (ii) We would encourage all Proponents to be as explicit as possible when providing information on costs. The requested detail includes, but is not limited to, costs of the following:
 - designing, developing and training on forecasting models;
 - designing and developing the forecasting system, including collecting all input data and delivery of forecast results (and indicating the cost implications of delivering forecasts through web service vs. alternative methods, as described in Section 5(b));
 - developing all data quality control and quality assurance;
 - costs for both options of met data and available capacity data transfers, as described in Section 4(l); and
 - if there are costs for forecasted site met data to be e-mailed to the AESO upon request (s. 5(i)), an explanation of what those costs would be.
 - (iii) Fixed ongoing costs.

- (iv) Variable ongoing costs.
- (c) Describe your pricing and requirements to accommodate new Wind Power Facilities as they come online in Alberta.
- (d) Please list any ongoing costs of ownership that may be associated with your service, such as support and maintenance fees, annual licensing fees, new version fees or any other future payments.

9. Experience and References

- (a) Provide details of your historical wind power forecast (s. 1(b)(iii), 1(b)(iv), 1(b)(v), 1(b)(vi), 2(a)(i) and 2(a)(ii)) performance for current customers. For each customer, describe:
 - (i) your model's wind power forecast accuracy where from some date in the past you forecast to today using forecasted NWP data; and
 - (ii) your model's wind power forecast accuracy where from some date in the past you forecast to today using actual NWP data.
- (b) Provide a list of your current and past customers, along with your years of service, what forecasting services you provide(d), your forecast accuracy, and the MW capacities forecasted. Indicate those customers whose wind power facilities are located in terrain similar to the existing Wind Power Facility locations identified in Appendix "G". Limit the list to those customers for whom you provide(d) a wind power forecast using your service at least every day. Organize your responses according to the table contained in Section 9(d) below. (Note: The Proponents who are short-listed will be required to provide a minimum of three (3) references from current customers.)
- (c) Provide your experience with met data and available capacity data transferred directly from Wind Power Facilities to the forecaster and how you deal with data quality control with Wind Power Facilities.

- (d) Fill in the following table to summarize your experience with some of the Service requirements described above. “MW Capacity Forecasted” is the capacity of the wind power facilities for which you have provided wind power forecasts. Under “Year Ended”, insert “present” for current customers.

Customer Name	Facilities Similar to AIES Terrain? (Y/N)	Forecasting Service Provided	Year Started	Year Ended	Accuracy (RMSE)	MW Capacity Forecasted
		Average power (s. 1(b)(iii))				
		Power band (s. 1(b)(iv))				
		Ramp rate (s. 1(b)(v))				
		Ramp event (s. 1(b)(vi))				
		Intra-hour forecast (s. 2(a)(ii))				

10. Confidentiality of data

Confidentiality of all data provided by the AESO is of the utmost importance. Describe the policies and procedures for the privacy and security of information that is in place at your organization to ensure that the data remains confidential and is not visible to anyone other than users authorized by the AESO. In addition, please disclose any affiliations your organization has with companies that provide, or plan to provide, wind power generation in Canada. Describe how you intend to protect the sensitive data from these affiliated organizations.

11. Technical Exceptions

The Proponent must clearly indicate if it can comply with the stated requirements and state any technical exceptions to this Appendix.

12. Evaluation Summary for Appendix “A”

The following evaluation summary may be used as a guide for Proponents. Responses should answer the individual requirements for each topic to support evaluation of the five (5) dimensions.

Evaluation Summary for Appendix “A”

Evaluation Topics	Meets Requirements	Methods, Approaches or Explanation	Expected Forecast Accuracy	Experience, # of years & forecast MW	Cost
Minimum Requirements					
Time window	s. 1(b)(i), 1(b)(ii)				
Average power	s. 1(b)(iii), 1(c)(i)	s. 3(b)(v), 3(b)(vi), 3(b)(vii), 3(b)(xi), 3(b)(vi)	s. 3(b)(viii)	s. 9(a)	s. 8(b)
Power band 95%	s. 1(b)(iv)	s. 3(b)(v)	s. 3(b)(viii)	s. 9(a)	s. 8(b)
Ramp rate 20/30 min.	s. 1(b)(v)	s. 3(b)(iii)	s. 3(b)(viii)	s. 3(b)(iv), s. 9(a)	s. 8(b)
Ramp forecast / events	s. 1(b)(vi)	s. 3(b)(iii)	s. 3(b)(ix)	s. 3(b)(iv), 9(a)	s. 8(b)
Additional Requirements					
Extended time window	s. 2(a)(i)			s. 9(a)	s. 8(b)
Intra-hour forecast	s. 2(a)(ii)	s. 3(b)(ii)	s. 3(b)(viii)	s. 9(a)	s. 8(b)
Extra confidence level	s. 2(a)(iii)				s. 8(b)
Additional Information					
Human involvement		s. 3(a)			
NWP		s. 3(b)(i), 4(e)			
Power conversion		s. 3(b)(x), 4(h)			
AC	s. 4(f)	s. 4(f)			
Power limit	s. 4(g)	s. 4(g)			
Other Information					
Data		s. 4(l), 4(k), 5(a), 5(b), 5(c), 5(f), 10(a)		s. 5(b)	s. 8(b)
Met / AC data transfer options		s. 4(l)		s. 9(c)	s. 8(b)
Data quality control		s. 4(i), 4(j), 5(d), 5(e)			s. 8(b)
Services, Performance and Implementation Plan		s. 5(g), 5(h), 5(i), 6(a), 6(b), 7(a), 7(b)	s. 7(b)(ii)	s. 7(a)	s. 7(a), 8(b), 8(d)
Pricing methodology		s. 8(a), 8(b)			
New WPF cost					s. 8(c)
Experience/References				s. 9(b), 9(d)	

Appendix "B" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

RECEIPT CONFIRMATION FORM

RFP Project Title: **Wind Power Forecasting Service**
Proposal Submission Deadline: July 24, 2009, 16:00:59 MDT

To receive further information about this Request for Proposals, please return this form to:

Attention: James Shen
Alberta Electric System Operator
2500, 330 – 5th Ave. SW
Calgary, Alberta T2P 0L4
Fax: +1.403.539-2949

Proponent: _____

Street Address: _____

City/Province: _____

Postal Code: _____

Mailing Address (if different): _____

Phone Number: _____ Facsimile Number: _____

Contact Person (including Title): _____

E-mail address: _____

_____ **We intend to submit a Proposal.**

Please send us any further correspondence about this Request for Proposals by:

_____ **Courier collect > Courier name and account no.:** _____

_____ **Mail** _____ **Fax** _____ **E-mail**

(Note: If none of the boxes above is ticked, further correspondence will be sent by mail.)

Appendix "C" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

RFP QUESTIONS SUBMISSION FORM

RFP Project Title: **Wind Power Forecasting Service**

Question period ends: **July 6, 2009, 12:00:59 MDT**

Name of Proponent: _____

Address of Proponent: _____

Telephone number: _____

Facsimile number: _____

E-mail address: _____

RFP or Agreement Section Reference	Question

Appendix "D" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

PROPOSAL SUBMISSION FORM

**TO: Alberta Electric System Operator
2500, 330 - 5th Avenue SW
Calgary, AB T2P 0L4
Attention: James Shen, RFP Project Manager**

RE: Request for Proposals for Wind Power Forecasting Service issued by the Alberta Electric System Operator on June 23, 2009 (the "RFP")

1. Proponent Information

(a) Proponent's legal name and any other name under which it carries on business:

(b) Proponent's address, telephone and facsimile numbers:

(c) Name, address, telephone, e-mail and facsimile numbers of the contact person(s) for the Proponent:

(d) Name of the person who is primarily responsible for the Proposal:

(e) Whether the Proponent is an individual, a sole proprietorship, a corporation, a partnership, a joint venture, an incorporated consortium or a consortium that is a partnership or other legally recognized entity:

(f) Name(s) of the proprietor where the Proponent is a sole proprietor, each of the directors and officers where the Proponent is a corporation; each of the partners

where the Proponent is a partnership, and applicable combinations of these when the Proponent is a joint venture, whichever applies:

2. Offer

With respect to the above noted RFP, we confirm as follows:

- (a) capitalized terms used in clauses (b) through (g) below have the meanings given thereto in the RFP;
- (b) we have examined the RFP and confirm that we have received all pages of the RFP;
- (c) we have made any necessary inquiries with respect to Addenda issued by the AESO and have ensured that we have received and examined all Addenda to the RFP;
- (d) by the submission of our Proposal we submit a binding offer to provide the RFP Requirements in accordance with the terms and conditions of the Agreement, unless otherwise discussed in the Agreement Submission section of our Proposal; for the compensation set out in the Price Submission section of our Proposal and in accordance with the RFP;
- (e) our Proposal is based on the terms and conditions of the RFP;
- (f) the prices contained in our Price Submission section are based on the terms and conditions of the RFP; and
- (g) we agree to hold our Proposal open for acceptance for the Proposal Validity Period set out in the RFP.

We affirm and declare that we have sufficiently informed ourselves in all matters affecting the cost of the Proposal, that we have checked our Proposal for errors and omissions and that the prices stated in this Proposal are each correct and as intended.

3. Conflict of Interest and Confidential Information

- (a) We confirm that we do not have any actual or perceived conflict of interest or any other type of unfair advantage in submitting our Proposal or performing or observing the contractual obligations set out in the Agreement, except to the extent that such conflict of interest or potential conflict of interest is disclosed in this Proposal Submission Form.
- (b) We confirm that we neither have a conflict of interest, nor have had access to any AESO confidential information, other than the RFP itself, with respect to this RFP, except as disclosed as follows:

(1) Conflict of Interest

The following are existing or potential conflicts of interest:

1. _____
2. _____
3. _____

[Proponent to add more rows if necessary.]

OR

We confirm that we do not have any existing or potential conflicts of interest.

[Proponent to strike out and initial statements that are NOT APPLICABLE.]

(2) Confidential Information

In addition to the RFP, we have access to the following confidential information relating to the RFP.

1. _____
2. _____
3. _____

[Proponent to add more rows if necessary.]

OR

We confirm that we have not and do not have access to any confidential information relating to the RFP other than the RFP.

[Proponent to strike out and initial statement that is NOT APPLICABLE.]

Capitalized terms used, but not defined herein, have the meanings ascribed to them in the RFP.

Dated this _____ day of _____, 2009.

Company/Partnership Name

Print Name and Title of Person Signing

Authorized Signature

Appendix "E" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

Credit Review Form

Proponent's Legal Name	Proponent's Business Name, if different
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Address of Principal Place of Business

City	Province/ State	Postal Code / Zip	Main Corporate Telephone No.
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Unsecured Credit Ratings

Moody's: Circle One: Circle one:
 Pos / Neg / Stable Aaa, Aa1, Aa2, Aa3, A1, A2, A3 Baa1, Baa2, Baa3

DBRS: Pos / Neg / Stable AAA, AA high, AA Flat, AA low, A high, A flat, A low, BB high, BBB flat, BBB low

S&P: Pos / Neg / Stable AAA, AA+, AA, AA-, A+, A, A-, BBB+, BBB, BBB-

Other: (please provide information)

Credit Contact	Telephone	Fax	E mail
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Other Information

1. Has the Proponent filed for, or been in, bankruptcy at anytime during the past 7 years? Yes No

2. The following financial information must accompany this Application:

- A general description of the Proponent's business, its business risks and how it manages its business risks;
- Listing of company officers and board of directors; and
- Other financial information (if audited financial statements are not available).

3. If available, the following financial information is to be provided with this Application:

- Audited financial statements for the most recent fiscal year;
- Financial statements for the most recent financial quarter; and
- Management Discussion and Analysis.

Conditions

a) The information provided by the Proponent in and with this application true and accurate.

b) The Proponent acknowledges its responsibility to provide the AESO with prompt notification of material changes to its financial condition.

c) The Proponent specifically authorizes the AESO to investigate, on an ongoing basis, the Proponent's credit history and creditworthiness.

Authorization

The undersigned represent(s) that he/she/they has/have the authority to commit the Proponent to comply with the terms and conditions of this Credit Review Form.

Proponent Name

_____	_____
Signature	Title
_____	_____
Printed Name	Date
_____	_____
Signature	Title
_____	_____
Printed Name	Date

Appendix "F" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

FORM OF SERVICES AGREEMENT

THIS AGREEMENT made as of the [DATE] day of [MONTH], [YEAR]

BETWEEN:

Independent System Operator, operating as AESO, a body corporate with offices in the City of Calgary, in the Province of Alberta (hereinafter referred to as the "**AESO**")

AND:

[SERVICE PROVIDER NAME]. a [body corporate/partnership/etc.] with offices in the City of Calgary, in the Province of Alberta (hereinafter referred to as the "**Service Provider**")

WHEREAS:

- A: The AESO issued a Request for Proposals for services dated [insert date], (such request for proposals, including any addenda and amendments, herein referred to as the "**RFP**");
- B: Pursuant to the RFP, the Service Provider submitted a Proposal to the AESO to provide services which the AESO is interested in accepting; and
- C: The Service Provider desires to provide the services and the AESO desires to purchase the services from the Service Provider, upon and subject to the terms and conditions set forth in this Agreement.

NOW THEREFORE, in consideration of the mutual covenants hereafter set forth, the parties agree as follows:

1.0 SERVICE PROVIDER OBLIGATIONS

1.1 PERFORMANCE OF THE SERVICES

- (a) The Service Provider will carry out the scope of work described in Schedule "A" (the "Services").
- (b) The Service Provider represents and warrants to the AESO that it has the skills

required to perform the Services and that it will do so diligently and carefully and to the best of its ability in accordance with generally recognized business and professional standards.

- (c) The Service Provider will ensure that all equipment used in connection with the Services is at all times inspected, calibrated and maintained in accordance with manufacturers' guidelines, all applicable laws and industry recommended practices.

1.2 LOCATION OF SERVICES

The Services will be delivered to or performed at the offices of the AESO as provided in the Proposal, unless otherwise agreed to by the parties.

1.3 HOURS OF SERVICES

The Services will be performed by the Service Provider at the times and locations as provided in the Proposal. If Services are to be performed at the offices of the AESO, they will be performed during the AESO's normal working hours, which are 5 days a week, 8 hours a day. Access to the AESO's working environment outside of normal working hours will be provided by the AESO as required.

1.4 REPRESENTATIVES

The representative of the AESO (the "AESO Representative") will be [AESO REPRESENTATIVE], or such other persons as may be designated in writing to the Service Provider by the AESO Representative. The representative of the Service Provider (the "Service Provider's Representative") will be [SERVICE PROVIDER REPRESENTATIVE], or such other persons as may be designated in writing to the AESO by the Service Provider. Any matter requiring the consent or agreement of the parties may be determined by the AESO Representative and the Service Provider's Representative.

1.5 INDIVIDUAL PERFORMING SERVICES

The Services will be performed for the Service Provider by certain of the Service Provider's key personnel assigned to perform specific assigned tasks or duties or activities of the Services ("Key Personnel"). The Service Provider must not utilize any other individual or party in the performance of the Services without the prior written consent of the AESO. The Key Personnel are listed in Schedule "B". The Service Provider may not remove any of the Key Personnel from the work or accomplish tasks, duties or activities of any specified Key Personnel utilizing other personnel without the AESO's prior written consent. The Service Provider must replace Key Personnel so removed only with an individual approved by the AESO. If the AESO notifies the Service Provider that it considers certain of the employees of the Service Provider or any of its subcontractors unacceptable for the performance of the Services, the Service Provider must promptly effect the removal and replacement of the employees specified in the AESO's notice.

2.0 TERM AND TERMINATION

2.1 DURATION OF AGREEMENT

The term of this Agreement will commence on [DATE] [MONTH], [YEAR] and will continue until [DATE] [MONTH], [YEAR], subject to renewal or earlier termination in accordance with Sections 2.2, 2.3 or 2.4 respectively (the "Term").

2.2 RENEWAL

This Agreement may be renewed on such terms and for such length of time as the AESO and the Service Provider may agree in writing from time to time, provided that the Service Provider has satisfactorily performed its obligations hereunder.

2.3 TERMINATION ON NOTICE

- (a) The AESO shall have the right to terminate this Agreement without cause or to suspend the Services at any time by giving at least 90 days advance written notice to the Service Provider of such termination or suspension.
- (b) If the AESO terminates this Agreement in accordance with this section, the following provisions shall apply:
 - (i) The Service Provider shall, on receipt of notice of termination stop any new work of the Services. In addition, in no event will the Service Provider be entitled to payment for Services beyond the date of termination of this Agreement. Upon receipt or delivery of the notice of termination, the Service Provider shall take all reasonable steps necessary to minimize any costs arising from the commitments made prior to the receipt of the notice of termination;
 - (ii) The Service Provider shall, in the period prior to the effective date of termination and at the cost of the AESO, assemble in an orderly fashion, all documents and other information (including information in electronic form) relating to the Services and deliver the same to the AESO;
 - (iii) The Service Provider shall, subject to having complied with its obligations pursuant to this Agreement, be entitled to be paid for the Services performed prior to the date of termination, the amount to be paid therefore as provided for by this Agreement; plus for all disbursements and expenses made prior to the date of termination, the amount to be reimbursed therefore as provided for by this Agreement; and
 - (iv) Upon payment, the AESO shall have no further liability to the Service Provider or persons under contract to the Service Provider for any sum whatsoever including without limitation, loss of profit, or any other losses suffered by the Service Provider or persons under contract to the Service Provider resulting from the early termination of a portion of the Services or the entire Agreement.
- (c) The Service Provider may terminate this Agreement at any time by giving at least

90 days advance written notice to the AESO.

2.4 TERMINATION FOR CAUSE

- (a) If and whenever either party fails to perform and comply with any material provision of this Agreement and persists in such failure for five (5) days following delivery of a notice by the other party requiring that such party remedy such failure, then the party giving such notice may terminate this Agreement by notice in writing to the other.
- (b) The AESO may terminate this Agreement immediately:
 - (i) upon the death of any one of the Key Personnel;
 - (ii) in the event any one of the Key Personnel are injured or suffer from any illness or disability which, in the sole discretion of the AESO, renders any one of the Key Personnel incapable of participating in the Services to the degree required by the AESO; or
 - (iii) in the event any one of the Key Personnel cease to be employed by or cease to provide their services to the Service Provider.
- (c) Notwithstanding the foregoing, if the Service Provider becomes insolvent, makes an assignment for the benefit of creditors, files a petition in bankruptcy, or if bankruptcy or receivership proceedings are instituted against the Service Provider, the AESO by notice with immediate effect, may terminate this Agreement, whereupon the AESO will be relieved of all further obligation hereunder other than for payment of the reasonable value, determined by the AESO, of the portion of this Agreement performed by the Service Provider. Termination will be without prejudice to any other rights or remedies the AESO may have against the Service Provider.

2.5 WAIVER OF DAMAGES

Upon termination of this Agreement pursuant to either Section 2.3 or 2.4 hereof, any claims for damages by the Service Provider on account of such termination, including without limitation all claims for loss of anticipated profit, are hereby waived and the sole remedy for such termination will be to receive all amounts due and not previously paid to the Service Provider for Services provided prior to receipt of such notice.

2.6 SURVIVAL

The provisions of Sections and Articles 3.2, 4.0, 5.0, 6.3, 7.0, 8.0, 9.0, 10.0 and 12.0 will survive the termination of this Agreement for either the time provided for in such Section or the longest period provided by law.

3.0 INDEPENDENT SERVICE PROVIDER

3.1 GENERAL

The Service Provider, in performing the Services hereunder, is an independent Service Provider and neither the Service Provider nor its employees, agents, subcontractors or any of the Key Personnel will be deemed to be employees, agents, subcontractors, or Key Personnel of the AESO. The AESO is interested only in the objectives to be achieved by the Service Provider in rendering the Services and the full conduct and control of the provision of the Services will be solely with the Service Provider. In performing the Services hereunder, neither the Service Provider nor its employees, agents, subcontractors or Key Personnel will receive the benefits received by the AESO's employees.

3.2 NO AUTHORITY

Without limiting the provisions of Section 3.1, the Service Provider has no authority to act or to hold the Service Provider out as agent of the AESO or to bind the AESO to perform any obligations to any third party and the Service Provider must so inform all third parties with whom the Service Provider deals in the performance of the Services hereunder. The Service Provider must not use the name of the AESO in any advertisement or promotional or marketing material or, without the use of any such name, suggest or imply in any such material that the Service Provider has a relationship with the AESO, without the prior written consent or direction of the AESO.

3.3 OTHER WORK

Nothing contained in this Agreement will restrict, nor be construed so as to restrict, the right of the Service Provider to provide services similar to those described herein to third parties provided that the provision of such services to third parties will not materially adversely affect the Service Provider's ability to provide the Services to the AESO hereunder and will not put the Service Provider in a conflict of interest.

4.0 GENERAL WARRANTIES

4.1 The Service Provider warrants that the recommendations, guidance, and performance of the Service Provider under this Agreement will:

- (a) be in accordance with sound professional standards and the requirements of this Agreement and without any material defects; and
- (b) will not infringe on the intellectual property rights of any third party.

4.2 Additionally, with respect to the Service Provider's activities under this Agreement, the Service Provider warrants that:

- (a) it is duly constituted and validly subsisting under the laws of its jurisdiction of incorporation;
- (b) there are no actions, suits or proceedings pending or, to the knowledge of the Service Provider, threatened against the Service Provider or any of its affiliates

seeking relief which would prevent or materially hinder the Service Provider's performance of the Services contemplated by this Agreement;

- (c) neither the Service Provider, nor any of its predecessors,
 - (i) has committed any act of bankruptcy;
 - (ii) is insolvent, or has proposed, or given notice of its intention to propose, a compromise or arrangement to its creditors generally;
 - (iii) has any petition or other proceedings for an order in bankruptcy filed against it, made a voluntary assignment in bankruptcy, taken any proceeding with respect to any compromise or arrangement, taken any proceeding to have itself declared bankrupt or wound-up, taken any proceeding to have a receiver appointed of any part of its assets, has had any encumbrancer take possession or any of its property; or
 - (iv) has had an execution or distress become enforceable or become levied on any part of its property.
- (d) it has the right to enter into this Agreement;
- (e) it will observe and abide by all applicable laws and regulations, including those of the AESO regarding conduct and safety on any premises under the AESO's control;
- (f) it has good and marketable title to any goods delivered under this Agreement and in which title passes to the AESO; and
- (g) it has the right and ability to grant the license granted on any product in which title does not pass to the AESO.

4.3 The warranty regarding professionalism and material defects in Section 4.1 is a one-year warranty. If any product produced as a result of the provision of the Services fails to comply with these warranties, and the Service Provider is so notified in writing, the Service Provider will correct such failure with all due speed at the Service Provider's sole expense.

5.0 GENERAL EXCLUSION OF WARRANTIES

5.1 The Service Provider makes no warranties, express or implied, other than those express warranties contained in this Agreement. The Service Provider also makes no warranties of merchantability or fitness for a particular purpose except as follows: if the Service Provider has been engaged to design something to meet a particular need for the AESO, then the Service Provider does warrant that such design will meet the particular need.

6.0 COMPENSATION

6.1 COMPENSATION

The AESO will pay to the Service Provider for performing the Services compensation in the manner set forth in Schedule "A".

6.2 INVOICE FOR SERVICES

Unless otherwise specified in this Agreement, on or before the 15th day of each month the Service Provider will submit to the AESO a monthly invoice for the portion of the Work performed during the preceding month, such invoice to be prepared and calculated utilizing the hourly rates or percentage fee schedule and for reimbursable expenses set forth in Schedule "A" attached hereto. The Service Provider will accompany such invoices with time sheets, third party invoices and similar supporting documentation. The Service Provider will reference this Agreement on each invoice.

All invoices must be sent to the following address:

Alberta Electric System Operator
2500, 330 - 5th Avenue SW
Calgary, Alberta
T2P 0L4
Attention: Accounts Payable

6.3 INDEMNIFICATION OF AESO

The Service Provider assumes full responsibility for and indemnifies and saves harmless the AESO from and against all claims, demands, charges, taxes or penalties arising out of any obligations to withhold or make payment of any and all federal, provincial and local taxes or contributions imposed or required under the Unemployment Insurance Act (Canada), the Canada Pension Plan Act (Canada) and the Income Tax Act (Canada) with respect to the Service Provider.

6.4 GOODS AND SERVICES TAX

The Service Provider warrants that it is a registrant for GST purposes and must at all times provide such GST number on invoices or provide documentation to the AESO of exemption status. The Service Provider will charge and the AESO will pay any goods and services tax ("GST") imposed under Part IX of the Excise Tax Act (Canada) which may be exigible in relation to the Services.

6.5 PAYMENT

The AESO will pay all invoices submitted in accordance with section 6.2, within thirty (30) days of receipt of the invoice unless the AESO provides notice to the Service Provider within such period that it is disputing the invoices. The AESO will be entitled to withhold the disputed amount until a contrary determination is made.

6.6 ACCESS TO RECORDS

The Service Provider must maintain proper and accurate records for the Services performed. The AESO may review and inspect these records at any time during the performance of the Services or within one (1) year following completion of the Services for purposes of substantiating the invoices submitted by the Service Provider under this Agreement. The Service Provider must allow the AESO access to such records at all reasonable times.

7.0 CONFIDENTIALITY

7.1 CONFIDENTIAL INFORMATION

The Service Provider acknowledges that in order for the Service Provider to perform the Services, the AESO will disclose to the Service Provider or arrange for a third party data provider (the "Data Provider") to disclose to the Service Provider during the Term hereof trade secrets and confidential information in the possession of the AESO or in the possession of the Data Provider and owned by the AESO or companies affiliated, associated or related to the AESO or the suppliers or clients of the AESO or the Data Provider ("Related Parties") and acquired through the expenditure of time, effort and money, including but not limited to meteorological data and the location(s) from which such data are obtained (the "Location"), available capacity data, computer programs, know-how, financial information, and business plans (collectively and individually hereinafter referred to as the "Confidential Information").

7.2 OWNERSHIP

The Service Provider acknowledges that Confidential Information is and will be the sole and exclusive property of the AESO or Related Parties. The Service Provider acknowledges and agrees that the Service Provider will not acquire any right, title or interest in and to the Confidential Information.

7.3 LIMITED DISCLOSURE AND REPRODUCTION

The Service Provider must keep strictly confidential the Confidential Information and must take all necessary precautions against unauthorized disclosure of the Confidential Information during the Term and thereafter. Without limiting the generality of the foregoing, the Service Provider must not, directly or indirectly, disclose, allow access to, transmit or transfer the Confidential Information to a third party, other than to each of its own officers, representatives and employees or subcontractors as may be necessary to evaluate or further the Services or as required by law, without the AESO's prior written consent, nor will the Service Provider copy or reproduce the Confidential Information, except as may be reasonably required to perform the Services.

The Service Provider further agrees to advise its officers, representatives and employees or subcontractors who have access to the Confidential Information of their above obligations hereunder and require them to adhere thereto.

7.4 DISCLOSURE OF THE LOCATION

Without limiting the generality of Sections 7.2 and 7.3, the Service Provider agrees that,

during the Term and thereafter, it will not provide any information to the AESO relating to the Location associated with any meteorological data provided to it by the Data Provider.

7.5 LIMITED USE

The Service Provider, during the Term and thereafter, must not use the Confidential Information in any manner except as reasonably required to perform the Services. Without limiting the generality of the foregoing, the Service Provider further agrees that during the Term and thereafter, it will not use or exploit the Confidential Information for creating, marketing, or aiding in the creation or marketing, of any business line which is competitive with any business line developed by or for, the AESO.

7.6 EXCLUSION

The obligations of the Service Provider under Sections 7.3, 7.4 and 7.5 do not apply to Confidential Information which:

- (a) at the time of disclosure is readily available to the public other than through a breach of this Agreement;
- (b) is lawfully disclosed to the Service Provider by a third party who has a legal right to make such disclosure; or
- (c) the Service Provider can establish, through written records, was in its possession prior to the date of first disclosure of the Confidential Information to the Service Provider by the AESO.

7.7 RETURN

The Service Provider, upon request by the AESO and in any event upon the termination of this Agreement, must immediately return to the AESO or to the Data Provider the Confidential Information and all copies thereof in any form whatsoever which are in the possession, charge, control or custody of the Service Provider, together with all other equipment or information provided to the Service Provider by the AESO or by the Data Provider during the Term.

If requested by the AESO, the Service Provider must provide an officers' certificate confirming deletion and/or the return of all such copies, equipment and information and that it has taken measures to ensure that the individual and any other party permitted pursuant to this Agreement to perform any part of the Services has not retained any copies or reproductions, electronic or otherwise.

7.8 NO BREACH OF OTHER OBLIGATIONS

The Service Provider acknowledges and represents to the AESO that the Service Provider's performance as a Service Provider of the AESO will not breach any agreement to keep confidential the proprietary information of any prior client or employer of the Service Provider or any third party. The Service Provider also acknowledges and represents to the AESO that the Service Provider has not brought to the AESO, and will not use in the performance of the Services, any confidential materials or documents of any former client or employer of the Service Provider or third party. The Service Provider

further acknowledges and represents that it is not a party to any agreement or obligation with any third party which conflicts with any obligations of the Service Provider under this Agreement.

7.9 PROTECTION OF AESO'S COMPUTER SYSTEMS

The Service Provider must take all reasonably necessary precautions to protect the integrity of the AESO's computer systems. In the event that software and/or document files need to be distributed to the AESO by the Service Provider from a computer or computing environment not part of the AESO's computing infrastructure, or from the AESO to the Service Provider, then prior to distribution, the distributing party must run a virus scan on the software and/or document files to check for known viruses. The distributing party must use the latest released version of a recognized virus scanning software (including the latest released virus definitions) or agree mutually on the virus scanning software and specific versions of said software (hereinafter referred to as the "Virus Scanning Software") on any compact disc (CD), data or other media supplied. If required, the Service Provider's Representative will contact the AESO Representative to agree on acceptable Virus Scanning Software. In the case that the AESO's or the Service Provider's computing system is infected by a virus found to be traced back to the distributing party's activities and detectable by the Virus Scanning Software, the distributing party will be liable for the cost(s) of: (i) curtailing the impact of said virus; (ii) correction of all affected system(s) and/or (iii) replacement of affected system(s) with functionally equivalent system(s).

8.0 OWNERSHIP OF DELIVERABLES

8.1 All custom work done by the Service Provider and covered by this Agreement will be treated as "work for hire" on behalf of the AESO, with all rights, title, and interest in all intellectual property that come into existence through the performance of the Services, being assigned to the AESO. Additionally, the Service Provider waives any author rights and similar retained interests in custom-developed material. The Service Provider will provide the AESO with all assistance reasonably needed to vest such rights of ownership in the AESO provided however, the Service Provider will retain ownership of all tools, methods, techniques, standards, and other development procedures, as well as generic and pre-existing shells, subroutines and similar material incorporated in any product delivered to the AESO.

9.0 COPYRIGHT

9.1 AESO OWNERSHIP

The Service Provider acknowledges that the Service Provider may create works in which copyright will subsist, or which will be patentable inventions, and agrees that the AESO is the first owner of copyright or patentable inventions. To confirm, the AESO's ownership of the copyright or patent in Canada and elsewhere in the world, the Service Provider hereby sells and assigns to the AESO, the entire right, title and interest in and to the copyright or patent as well as the right to receive any copyright or patent registrations for such works.

9.2 FURTHER ASSURANCE

The Service Provider agrees to do all things and execute without further consideration, such further assurances, confirmatory assignments, applications and other instruments as may reasonably be required to obtain copyright or patent registrations for such works and documentation and vest the copyright or patent registrations in the AESO, its successors and assigns.

9.3 WAIVER

The Service Provider waives as against the AESO, its successors, assigns and licensees, all moral rights which the Service Provider may have or will acquire in respect of the copyright in the works created during the Term. The Service Provider must obtain in favour of the AESO, its successors and assigns and licensees, a waiver of moral rights from all individuals providing any authorship in connection with such works.

9.4 MORAL RIGHTS

In addition, the Service Provider agrees to enforce the moral rights in and to any copyright or other product developed by the Service Provider under the provisions of this Agreement, as against others as directed by and at the cost of the AESO or any successor in interest to the AESO.

10.0 SOFTWARE

10.1 It is the Service Provider's responsibility to ensure the AESO has all licenses to use any software that may be supplied by the Service Provider pursuant to this Agreement

11.0 INSURANCE

11.1 The Service Provider, at its own expense must carry insurance covering this Agreement in not less than the following kinds and amounts:

- (a) Employer's Liability Insurance covering each employee or Key Personnel engaged in the Services, to the extent of \$2,000,000 where such individual is not covered by Worker's Compensation;
- (b) Comprehensive General Liability Insurance (including coverage for all non owned automotive units) including products and completed operations and contractual liability covering the Services, with a combined single limit of \$2,000,000 for each occurrence for bodily injury, death or property damage;
- (c) Professional Liability Insurance covering the Service Provider, each employee and Key Personnel engaged in the Services, with a limit of liability of \$2,000,000 per claim of professional negligence or misconduct; and
- (d) Automobile Public Liability Insurance covering all vehicles, owned, leased, operated and/or licensed by the Service Provider, with a combined single limit of \$2,000,000 for each occurrence for bodily injury, death or property damage.

- 11.2 Each policy as described must name the AESO as an additional insured and must provide a waiver of subrogation against the AESO. Each policy must also contain a provision obligating the insurer to provide the AESO thirty (30) days written notice of cancellation or material change to the policy.
- 11.3 The Service Provider, at the AESO's request and cost, will obtain such additional insurance coverage with insurance carriers satisfactory to the AESO as the AESO may require.
- 11.4 At the AESO's request, the Service Provider will furnish the AESO with certificates setting forth the required insurance coverage.

12.0 LIABILITY AND INDEMNITY

12.1 GENERAL

The Service Provider is liable for and will reimburse the AESO and will indemnify and hold the AESO, its affiliates, members, officers, employees, servants and agents, harmless from all losses, expenses (including without limitation all legal expenses on a solicitor and its client basis), damage and injury to property and persons, all claims (whether in contract or tort) arising from any breach of contract, negligence or willful misconduct of the Service Provider, any person under contract to the Service Provider or any of its subcontractors in the performance of the Services. The Service Provider will be responsible for the defense of any suit brought against any of the foregoing, on account of any such claim and will satisfy any judgment against the AESO, its members, officers, employees, servants and agents, resulting therefrom. The AESO may, however, participate in the defense of any suit to which it is a party without relieving the Service Provider of its responsibility for the defense of the suit. The AESO will forthwith, upon receiving notice of any suit brought against it, deliver to the Service Provider full particulars thereof and render all reasonable assistance requested by the Service Provider in the defense thereof.

12.2 DEFENSE OF CLAIMS

If a restraining order or preliminary injunction is granted, the Service Provider will make reasonable efforts by giving of a satisfactory bond, or otherwise, to secure the suspension of any such restraining order or injunction. If in any such suit the performance of the Services or any part thereof, or the product developed as part of the Services is held to constitute an infringement and its use is permanently enjoined, the Service Provider will at once, at the Service Provider's sole cost, make every reasonable effort to secure for the AESO a license authorizing the continued use of such product. If the Service Provider is unable to secure such license within a reasonable time it will, at its own expense and without impairing performance requirements, either replace the products created by the Services with non-infringing products or modify the Services, in addition to indemnifying and saving harmless the AESO as aforesaid.

12.3 LIMITATION OF LIABILITY

In no event will the total of the liabilities and indemnities of the Service Provider, its successor and assigns under this exceed the limits of the insurance as specified in Section 11.1.

13.0 ASSIGNMENT

This Agreement must not be assigned or subcontracted by the Service Provider without prior written consent of the AESO, which consent may be arbitrarily withheld.

14.0 GENERAL TERMS

- 14.1 This Agreement is exclusively governed by and construed in accordance with the laws of the Province of Alberta.
- 14.2 If any provisions of this Agreement are invalid under any applicable statute or rule of law, they are, to that extent, omitted, but the remainder of this Agreement will continue to be binding upon the parties hereto.
- 14.3 If there is any conflict or inconsistency between the body of this Agreement and that of a Schedule, the provision of the body of this Agreement will prevail.
- 14.4 The division of this Agreement into Articles and Sections and the insertion of headings are for the convenience of reference only and not affect the construction or interpretation of this Agreement. The terms "this Agreement", "hereof", "hereunder" and similar expressions refer to this Agreement and not to any particular Article, Section or other portion hereof and include any agreement or instrument supplemental or ancillary hereto. Unless something in the subject matter or context is inconsistent therewith, references herein to Articles and Sections are to Articles and Sections to this Agreement.
- 14.5 This Agreement will inure to the benefit of and be binding upon the successors and permitted assigns of the Service Provider and the AESO respectively.
- 14.6 This Agreement may only be amended by written instrument executed by the AESO and the Service Provider.
- 14.7 Time is of the essence.
- 14.8 Delay or failure of performance by Service Provider will not constitute default under this Agreement nor give rise to any claim for damage to the extent that such delay or failure is caused by occurrences beyond the reasonable control of Service Provider, including acts of war whether or not declared, public disorders, riots, strikes, or acts of God including lightning, earthquakes, storms, landslides, floods and washouts. Lack of money, however, will not operate to excuse or permit any delay in or failure of performance of this Agreement.
- 14.9 This Agreement constitutes the entire agreement between the Parties relating to the subject matter hereof and there are no collateral or other statements, understandings, covenants, agreements, representations or warranties, written or oral, relating to the subject matter hereof. This Agreement supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written, between the parties or the predecessors relating to the subject matter of this Agreement.
- 14.10 Any word in this Agreement is deemed to include the masculine, feminine, neuter, singular or plural form thereof as the context may require.

- 14.11 Each party will appoint and maintain an attorney in Alberta for service of process in respect of actions, suits or proceedings arising out of or in connection with this Agreement or the transactions contemplated hereby and will advise the other party from time to time of the name and address of such attorney, provided that it will not change the attorney so appointed or terminate the appointment unless (and no change or termination will be effective until) they have previously given written advice to the other party of a new attorney in Alberta for such purpose, in which case this proviso will again apply in respect of the new attorney so appointed.
- 14.12 This Agreement may be executed and delivered by the parties in counterparts (each of which shall be considered for all purposes an original) and by facsimile and when a counterpart has been executed and delivered by each of the parties, by facsimile or otherwise, all such counterparts and facsimiles will together constitute one agreement.

15.0 ERRORS, OMISSIONS OR DISCREPANCIES

- 15.1 The documents comprising this Agreement are complementary and interdependent, and are to be construed as a whole.
- 15.2 If the Service Provider discovers any errors, omissions, discrepancies or conflicts in this Agreement, the Service Provider must, before proceeding with the Services, immediately so inform the AESO Representative in writing. The AESO Representative will decide the intent of this Agreement and make any corrections that may be required, which will be final and binding upon the Service Provider. If the Service Provider fails to provide the written notice as aforesaid, the Service Provider will without additional compensation make any and all corrections, additions, changes or modifications to the Services as may be required by the AESO Representative to resolve the aforesaid errors, omissions, discrepancies or conflicts to the satisfaction of the AESO Representative, whose decision will be final and binding on the Service Provider. Failure of the Service Provider to provide the written notice as aforesaid and to obtain a change notice from the AESO Representative prior to proceeding with the Services also be conclusively deemed to be a waiver by the Service Provider of all rights to claim any additional compensation or damages as a result of such errors, omissions, discrepancies or conflicts.
- 15.3 Any errors or omissions in this Agreement or in any part thereof will not relieve the Service Provider of its responsibility to perform the Services reasonably required, pursuant to generally accepted practice governing the type of work being performed.

16.0 DISPUTE RESOLUTION

16.1 DISPUTES

In the event any dispute, claim, question or difference, (the "Dispute") arises with respect to this Agreement or its performance, enforcement, breach, termination or validity, such Dispute shall be resolved in accordance with this section.

16.2 REPRESENTATIVES

Any Dispute shall first be submitted for resolution to the AESO Representative and the Service Provider's Representative. Any Dispute submitted to the AESO Representative and the Service Provider's Representative (collectively referred to as the

"Representatives") within five (5) business days following submission of the dispute to the Representatives, or such further period as may be agreed in writing by the Representatives, shall be submitted in writing by the Representatives to an officer of each party for resolution by good faith negotiations.

Each party shall designate in writing at the time of execution of this Agreement the name of the officer to act in this regard. Such designation may be changed from time to time, but only by notice in writing delivered prior to the submission of any Dispute to the officers under this subsection.

16.3 ARBITRATION

If any party delivers an Arbitration Notice to the others, then the dispute shall be forwarded to and resolved by arbitration in accordance with the Arbitration Act (Alberta), by a board of arbitrators in accordance with the following provisions:

- (a) the AESO shall appoint one arbitrator and the Service Provider shall appoint one arbitrator, each such being qualified by education and training and having appropriate technical expertise with respect to the matter in dispute, within ten (10) days after delivery of an Arbitration Notice from one party to the others or such longer period agreed to by the parties. If any of the parties shall fail to appoint an arbitrator within such ten (10) day period, then upon application by a party that has appointed an arbitrator, the second arbitrator shall be appointed by any Justice of the Court of Queen's Bench of Alberta. The two arbitrators thus appointed shall appoint a third arbitrator, who shall be qualified by education and training and have appropriate technical expertise with respect to the matter in dispute, within ten (10) days of the appointment of the second arbitrator. If the two arbitrators shall fail to appoint the third arbitrator within such ten (10) day period, then upon application by either party, the third arbitrator shall be appointed by any Justice of the Court of Queen's Bench of Alberta;
- (b) the board of arbitrators shall proceed promptly to determine the matters in issue and shall render its decision within thirty (30) days from the date of final submissions of the parties to the board of arbitrators, except where the parties agree to a different period of time;
- (c) the parties consent to the arbitration being conducted in Calgary, Alberta, or any other place mutually agreed upon, no later than fifteen (15) days following the appointment of the third arbitrator, at which time the parties shall present such evidence and witnesses as they may choose, with or without counsel;
- (d) the board of arbitrators shall not have the discretion to shorten or lengthen time frames for actions to be taken by a party pursuant to this Agreement with respect to any matter which is the subject of arbitration before such board of arbitrators;
- (e) each party shall be responsible for its own costs and shall share the costs associated with the arbitration equally; provided that the board of arbitrators shall have the discretion to allocate costs in a different manner;
- (f) any determination or award of the board of arbitrators made in relation to the dispute shall be final, binding and non-appealable (whether on a question of law,

a question of fact, or a question of mixed fact and law);

- (g) it shall be a condition of the appointment of any arbitrator that such arbitrator shall maintain in strict confidence all documents, the transcripts of the proceedings and other materials and all information disclosed by or on behalf of the parties and shall not use the same or allow the same to be used for any purpose not collateral to such arbitration and, at the request of a party that provided any documents or other printed materials, shall return all originals and any copies of such documents and printed materials to such party. Each arbitrator shall be responsible for ensuring that its officers, employees, representatives and consultants comply with the obligation of confidentiality set forth in this Section 16; and
- (h) the board of arbitrators may make rulings with respect to the production of documents, the ability of the parties to call witnesses or any other procedural matter.

Save as otherwise expressly provided in this Agreement, the provisions of the Arbitration Act (Alberta) shall apply to any arbitration undertaken hereunder. Pending resolution of any dispute, the Service Provider and the AESO shall continue to perform their respective obligations under this Agreement.

16.4 COSTS

Each party shall be responsible for all legal costs incurred by it in resolving any dispute under this Section 16 and the decision of the arbitrator relating to costs shall deal only with the costs of the arbitrator.

17.0 PERMITS

- 17.1 The Service Provider must obtain and maintain all permits and licenses required to authorize it to perform the Services.

18.0 NOTICES

- 18.1 Any notice or other communication to be made or given in connection with this Agreement must be made or given in writing and may be made or given either by personal delivery or by registered mail to the recipient as follows:

To the AESO:

Alberta Electric System Operator
2500, 330 - 5th Avenue SW
Calgary, Alberta T2P 0L4
Attention: James Shen, RFP Project Manager

With a copy to:

Alberta Electric System Operator
2500, 330 - 5th Avenue SW
Calgary, Alberta T2P 0L4
Attention: Senior Legal Counsel

To the Service Provider:

[SERVICE PROVIDER FIRM ADDRESS]

Attention: [SERVICE PROVIDER'S CONTACT NAME]

18.2 All notices under this Agreement will be deemed duly given upon delivery if personally delivered or five days after posting if sent by registered mail during normal postal service conditions. In the event of disruption of normal mail services all notices must be sent by personal delivery.

IN WITNESS WHEREOF, the Service Provider and the AESO have executed this Agreement as of the day and year first above written.

[•]

**Independent System Operator, operating
as AESO**

Per:

Per:

Date:

Date:

Per:

Per:

Date:

Date:

Schedule "A" attached to and forming part of the Services Agreement dated the [DATE] day of [MONTH], [YEAR] between the Independent System Operator, operating as AESO ("AESO") and [SERVICE PROVIDER FIRM NAME] ("the Service Provider")

Scope of Services and Compensation

[Insert scope of Services and description of compensation, including any milestones, deliverables, dates for performance/delivery, fee schedules, hourly rates or other compensation structures, reimbursable expenses, etc., as applicable.]

[Consider referencing and attaching Service Provider's Proposal, either in its original form or in a revised form resulting from negotiations with the AESO, if applicable. >> *Consult with AESO's legal counsel.*]

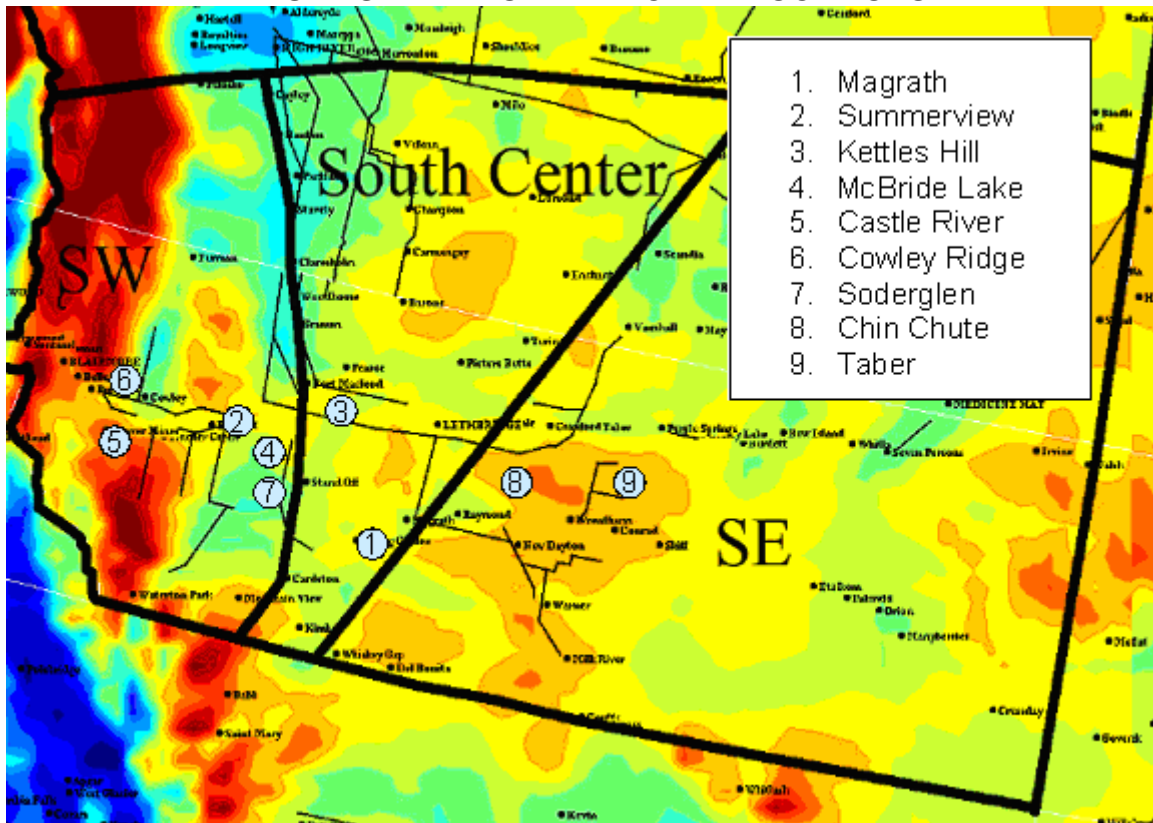
Schedule "B" attached to and forming part of the Services Agreement dated the [DATE] day of [MONTH], [YEAR] between the Independent System Operator, operating as AESO ("AESO") and [SERVICE PROVIDER FIRM NAME] ("the Service Provider")

Key Personnel

[Insert list of Service Provider's Key Personnel.]

Appendix "G" attached to and forming part of the Request for Proposals issued by the Alberta Electric System Operator on June 23, 2009

EXISTING WIND POWER FACILITY LOCATIONS



Note: Locations are approximate.

Location	WPF	Max. Capacity
1	Magrath	30
2	Summerview	68
3	Kettles Hill	63
4	McBride Lake	75
5	Castle River	40
6	Cowley Ridge	38
7	Soderglen	71
8	Chin Chute	30
9	Taber	81