



Terms of Reference

Wind Power Management Protocol Work Group

Date: February 4, 2008

Wind Power Management Protocol Industry Work Group

FINAL

INTRODUCTION TO WORK GROUP TERMS OF REFERENCE

On September 26, 2007, the AESO issued the final Market and Operational Framework for Wind Integration in Alberta (“**MOF**”) and at the October 19 stakeholder session announced the development of various work streams to implement the MOF. To assist with the implementation of specific technical/complex initiatives in the MOF, the AESO will set up specialized industry work groups to provide the AESO with expert advice for the development of recommendations that may be used by the AESO in its completion of the full stakeholder consultation contemplated in the MOF. Discussion papers and work groups will be used for implementation of the MOF.

Work groups’ recommendations that are acceptable to the AESO will be issued for stakeholder consultation through existing AESO consultation processes¹.

One of the mitigating tools included in the MOF was “wind power management”. The wind power management work stream was envisioned to have three separate but interrelated work groups. Those being;

- Supply Surplus Protocol² work group
- Wind Power Management Protocol work group
- Wind Power Technical Requirements work group

The attached Terms of Reference for the Wind Power Management Protocol Work Group (“**Work Group**”) is intended to ensure the Work Group understands its purpose, scope and responsibilities.

¹ AESO Rules, OPPs, Tariff and Standard consultation processes.

² Where Protocol describes what will be done, when, how, and why.

PURPOSE

The Work Group will assist the AESO's MOF implementation by developing technically feasible and reasonable recommendations to the AESO for a protocol on the use of the ramp rate limiting and/or power limiting for wind power facilities from the AESO's ADaMs³ (Automated Dispatch and Messaging System). The protocol is to determine when, to which facilities and to what MW level will power limiting and/or ramp rate limiting be dispatched on (or activated) at wind power facilities and when the power limiting and/or ramp rate limiting can be dispatched off (de-activated). The protocol at minimum will consider:

- *Forecast loss of wind and insufficient ancillary services or ramping services*
- *Insufficient ancillary services due to market conditions or emergency conditions (e.g. SCADA failure)*
- *Unforeseen (i.e. not forecasted) wind conditions such as a microburst*
- *Disturbance and emergency conditions – wind may be dispatched off during islanding conditions or system emergencies where wind variability cannot be tolerated*

SCOPE OF WORK FOR THE WORK GROUP

The Scope of the “**Work Group**” includes:

- Dispatch/directive to the wind power facility operator using the AESO's Automatic Dispatch and Messaging system (**ADaMs**) where the wind power facility operator shall within 10 minutes (activate/de-activate) power limiting and/or ramp rate limiting.
- Consideration of which Wind Power Facilities (WPF) are exempt are per the Technical Requirements Work Group
- Consideration of minimum stable operation of a WPF
- Consideration of safety and environmental hazards

- Consideration as to whether this will be a dispatch or a directive
- Consideration of periods of time where a facility is unable to comply

Out of Scope for the “**Work Group**” includes:

- Automatic control of WPFs from the AESO
- Protocol for wind power facilities to deal with local congestion management. This will fall under the Congestion Management protocol.

RESPONSIBILITIES

Responsibilities of the AESO

The AESO’s responsibilities include:

- Coordination of the Work Group to its timely completion. The AESO will determine when the Work Group is to be concluded.
- Chairing the Work Group, which will be comprised of a cross section of industry participants in the technical, operational and market domains.
- The AESO Chair shall make reasonable efforts to ensure that there is “balance” on industry representation and balance on the recommendations or options provided to industry.
- While consensus on some issues may not be possible, the AESO will encourage full discussion in order to ensure that all views are understood and to allow the development of balanced and reasonable recommendations.
- The AESO Chair will ensure that meeting notes are recorded and circulated to all members Power Management work groups (Supply Surplus Work Group, Wind Power Management Protocol Work Group and Wind Power Management Technical Requirements Work Group).

³ Currently ADaMs requires a 10 minute compliance timeframe
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- Points of concern raised that are outside the Scope of the Work Group will be logged by the AESO Chair and provided to the AESO to be addressed in a timely manner.
- Provide and request logistical support and resources as necessary.
- Ensure Work Group recommendations align with other AESO initiatives and protocols.
- Coordinate Work Group communication with the rest of industry.
- Review recommendations and determine inclusion of same in AESO industry consultation.

Responsibilities of the Work Group members

The Work Group member's responsibilities include:

- Attendance at and constructive participation in all meetings.
- Providing reasonable and competent input to Work Group activities and communications.
- Providing logistical support and resources as necessary.
- Promoting the Purpose of the Work Group.
- Advise and assist the AESO by developing technically feasible and reasonable recommendations in accordance with these Terms of Reference.
- Provision of input as requested and in a timely manner and will most likely represent the views of their industry sector⁴.

In addition:

- In order to be acceptable to the AESO, all Work Group recommendations must be reasonable and must consider the AESO's mandate as per the *Electric Utilities Act* and its regulations, as well as other AESO initiatives and protocols. In addition, all Work Group recommendations must be consistent with the MOF.
- The Work Group is not a forum to debate the implementation of the MOF or develop recommendations that amend the intent of the MOF⁵.

⁴ For example, a Work Group member from a coal fired generation facility is assumed to not only represents the views of their facility but other coal fired generation facilities.

- Participation as a Work Group member does not imply agreement to recommendations produced by the Work Group.
- Work Group members are not precluded from participating in any AESO industry consultation.

WIND POWER MANAGEMENT PROTOCOL STRATEGY

Process

The Work Group shall meet as required by the AESO to achieve the following target dates.

Target Dates

Terms of Reference	Complete by Dec 31, 2007
Work Group recommendations	Complete by March 31, 2008

Communication of Documents and Information

All Work Group communication to the industry will be through the AESO. As documents are approved by the AESO they will be posted onto the AESO website. The AESO will take reasonable efforts to ensure that Work Group members' comments and submissions will remain confidential to the Work Group and will not be posted or otherwise distributed, except as otherwise contemplated in these Terms of Reference. Work Group members must treat all documentation and information provided to them as confidential information.

WORK GROUP MEMBERS

Alberta Electric System Operator

Airtricity

Alberta Consumer Advocate

Creststreet

⁵ I.e. the MOF indicates that wind power facilities are not eligible to set a non-zero pool price, thus a Work Group recommendation where wind power can set price will not be accepted by the AESO.

ENMAX

Natural Power Consulting

Naturener

TransAlta Wind

TransCanada

Shell Canada Limited