

27 May 2016

Attn. Clare Greenwood, Forecasting, AEMO  
GPO Box 2008  
Melbourne VIC 3001

Dear Ms Greenwood,

### **Energy Conversion Model Consultation May 2016**

As the operational controller for TWF (Taralga Wind Farm) and BRWF (Boco Rock Wind Farm) in the NEM, CWPR (CWP Renewables) appreciates the opportunity to contribute its experience and knowledge regarding the ECM guidelines consultation paper.

CWPR's response to the questions raised in the ECM Guidelines consultation issues paper are provided below and specifically relate to BRWF which operates as an embedded generator within the Essential Energy distribution network in southern NSW.

#### **3.1.7 - SCADA Local Limit**

**Do you agree that the requirement for a SCADA Local Limit will improve your dispatch outcomes?**

CWPR does not believe its transformer or connection assets would be constrained to a point where the local limit signal will impact the dispatch level. Should internal feeder/collector groups be offline, this would be reflected within the local limit, however the 'turbines available' SCADA signal should already be contributing to this. CWPR believe the SCADA 'Local Limit' would be beneficial so long as it incorporated any distribution network constraints, CWPR acknowledge that this would require an amendment to the rules. An example is provided below regarding the unfavourable impact of the exclusion of a distribution network constraint.

**Do you agree with the proposed validation of the SCADA Local Limit, and the proposed validation range (see Section 3.1.6)? If not, how should quality be handled?**

Based on the information available, it is CWPR's belief that the local limit should be applied if it is less than the Dispatch UIGF as opposed to the nameplate rating of the wind farm.

**What types of limits affect your semi-scheduled generating unit? Who is responsible for determining those limits, how dynamic are they, how often do they occur, and how they are applied?**

Majority of limits imposed on BRWF have been the result of AEMO network constraints and less commonly the TNSP/DNSP (Transgrid/Essential Energy) as a result of yard work in the local area outside of BRWF. When instructed to 'idle' by the DNSP, CWPR operators insert the instruction via the SCADA system, implementing a set point cap manually. Should BRWF be required to de-energise, CWPR operators shut down each of the WTG's and proceed to open up the appropriate circuit breakers. This happened a number of times within 2015.

**Please quantify for your wind/solar farm(s) the likely impact of the exclusion of distribution network constraints not managed by AEMO from the SCADA 'Local Limit' definition (see Section 3.1.1).**

The impact of the exclusion of the distribution network constraint from the SCADA 'Local Limit' has been demonstrated to be significant for BRWF when considering historical events. As an example, CWPR was notified by the TNSP and DNSP that a four day outage would be required from the 7<sup>th</sup> of December to the 10<sup>th</sup> of December, 2015. This outage was required for the new Transgrid 132kV yard built in Cooma. During this outage, CWPR was notified by AEMO that the outage was not captured in the NOS system and were unaware of any system outages. As a result of this new information, CWPR operators changed BRWF's STPASA bid to reflect zero availability. Regardless of the STPASA update, AEMO's dispatch systems were still providing targets whilst BRWF was de-energised. Please refer to appendix A for a graphical representation. As a result, this contributed to a high CPF (Causer Pays Factor) for the period, ~0.985.

**What do you estimate are your upfront and ongoing costs in providing and maintaining a SCADA 'Local Limit'?**

Costs are difficult to quantify at this stage, however CWPR is investigating.

**Are there any other related matters you wish to raise?**

Although an amendment to the rule is required to include distribution limits within the SCADA 'Local Limit' (Section 3.1.3), it would be prudent to incorporate it. Such a limit would have been advantageous to BRWF during the network outage as represented in Appendix A.

### **3.2.3 - Changes to SCADA Wind Speed**

**Do you agree that the proposed changes will improve your dispatch outcomes?**

CWPR agrees the proposed changes would improve its dispatch outcomes.

**What do you estimate are your upfront and ongoing costs in applying this proposed definition?**

CWPR is unable to quantify the costs at this stage, however an investigation is underway to determine this.

**The vendor of AWEFS prefers wind speed measurements from turbine nacelle anemometers over meteorological mast measurements. Do you agree, and what information can you give about the suitability and relative accuracy of the two measurement types for your wind farm(s)?**

BRWF acknowledges and has observed reliable data obtained from the nacelle mounted anemometers in contrast to the operational met masts. CWPR's experience has determined 1st class instruments mounted on met masts are considerably more accurate than a nacelle mounted anemometer even after the application of a transfer function. However, when considering the site topography and the span of the BRWF, a single met mast point is incapable of accurately estimating the generation across the entire wind farm irrespective of the anemometers measurement accuracy. With consideration to the aforementioned statements, CWPR believes that providing a single averaged instantaneous reading, derived from averaging all nacelle mounted anemometers, would be more representative of the site and result in increased accuracy in dispatch targets.

**3.3.4 - SCADA Possible Power**

**Do you agree with the definition of SCADA Possible Power?**

CWPR agrees with the definition of SCADA possible power.

**Does your wind farm control system currently produce an estimate of Possible Power, or an equivalent? If not equivalent, what can it produce?**

Yes the GE's wind controller system at BRWF currently produces a possible power output in real time (MW).

**How is this estimate calculated?**

It is believe the estimate is calculated from the instantaneous nacelle anemometer reading and the power curve of the turbine. Turbines that are not communicating or not generating are not believed to be contributing to the possible power. BRWF is waiting on confirmation of the exact calculation the system performs.

**If the control system does not currently produce a suitable Possible Power estimate, what would be the implementation costs of doing so?**

Not applicable to BRWF.

## How should data quality, validation and update frequency issues be handled for Possible Power?

There are numerous approaches which could be adopted to ensure the quality of data for the 'Possible Power' data point, this would need to be discussed in greater detail should this point be utilised in AWEFS. However, at a general level the number should be greater than zero, whilst remaining less than or equal to the registered capacity. With respect to frequency, should possible power become an included data point for AWEFS, CWPR believes this should be provided to AEMO at a high resolution if not instantaneous.

Thank you for providing the opportunity for a consultation regarding the ECM, we look forward to participating and assisting in improving the NEM/AEMO systems as Australia continues to transition to renewable energy future.

Kind regards,



*Peter Veljkovic*

Senior Engineer – Operations

CWP Renewables

Appendix A

