

Power Available
TERMS OF REFERENCE

Governance

1. The Workgroup was established by Grid Code Review Panel (GCRP) at the July 2012 GCRP meeting.
2. The Workgroup shall formally report to the GCRP.

Membership

3. The Workgroup shall comprise a suitable and appropriate cross-section of experience and expertise from across the industry, which shall include:

Name	Role	Representing
Michael Edgar	Chair	National Grid
Robyn Jenkins	Technical Secretary	National Grid
Graham Stein	National Grid Representative	National Grid
Tony Johnson	National Grid Representative	National Grid
Steve Lam	National Grid Representative	National Grid
Andrew Kensley	National Grid Representative	National Grid
	Industry Representative	Transmission Users
	Industry Representative	Wind Turbine Manufacturers
	Industry Representative	Wind Industry Experts
	Authority Representative	Ofgem
	Observer	

Meeting Administration

4. The frequency of Workgroup meetings shall be defined as necessary by the Workgroup chair to meet the scope and objectives of the work being undertaken at that time.
5. National Grid will provide technical secretary resource to the Workgroup and handle administrative arrangements such as venue, agenda and minutes.
6. The Workgroup will have a dedicated section on the National Grid website to enable information such as minutes, papers and presentations to be available to a wider audience. The link to the Grid Code Workgroups page is:

<http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/workinggroups/>

Scope

7. The Workgroup shall consider and report on the following:
 - Clearly define the defect that Power Available attempts to resolve by:

- Quantifying the current accuracy of FPNs from intermittent generators
 - Quantifying the volume of energy curtailed from intermittent generators
 - Identify how the concept of Power Available can be implemented by:
 - Creating a technical standard to calculate Power Available across different turbine manufacturers
 - Identify the method by which data will be collected
 - Identify the obligations on wind farms to collate data
 - Identify how data will be aggregated and converted into a Power Available signal
 - Assess the accuracy (based on time intervals) required for the provision of such data
 - Identify the technical equipment required
 - Examine any required information systems changes
 - Quantify the benefits to wind farms that can be gained from Power Available by:
 - Examining the potential volumes of generation that can utilise such a signal for settlement purposes, within both current and future connections
 - Review the information that is currently available to wind farm operators and assess the value of this to National Grid as National Electricity Transmission System Operator (NETSO).
 - Take into account any analysis carried out by the high wind speed shutdown Workgroup
 - Identify additional items of information which could be of benefit and assess the value of providing these to National Grid as NETSO
 - Take into account any analysis carried out by the high wind speed shutdown Workgroup
 - Assess the investment required to implement a minimal Power Available signal versus a highly accurate signal aggregated on a per turbine basis
 - Examine how Power Available will operate under different scenarios such as:
 - high wind speed shutdown
 - turbine faults
 - Assess whether retrospective application of Power Available will be appropriate
 - Assess whether other renewables should be taken into account
8. The Workgroup will also:

- Take account of and feed into the "high wind speed shutdown" work being carried out under a Grid Code Workgroup
- Take account of the work in C/11 – BM Unit data from Intermittent Generation. This proposed a concept of calculating a generator's Maximum Export Limit (MEL) based on predicted/actual wind speed
- Take account of relevant international practice and the approach taken in European Code development.

Deliverables

9. The Workgroup will provide updates and a Workgroup Report to the Grid Code Review Panel which will:
 - Detail the findings of the Workgroup;
 - Draft, prioritise and recommend changes to the Grid Code and associated documents in order to implement the findings of the Workgroup; and
 - Highlight any consequential changes which are or may be required,
 - Provide a recommendation on how to progress the solution(s)

Timescales

10. It is anticipated that this Workgroup will provide an update to each GCRP meeting and present a Workgroup Report to the January 2013 GCRP meeting.
11. If for any reason the Workgroup is in existence for more than one year, there is a responsibility for the Workgroup to produce a yearly update report, including but not limited to; current progress, reasons for any delays, next steps and likely conclusion dates.