nationalgrid

Requirements for Generators: Banding Setting Progress

nationalgrid

RfG Latest

- Joint Grid Code/D-Code workgroup GC0048 has been meeting to progress implementation since early 2014
- Code text was adopted by EU Member States on 26th June 2015. It is expected to 'Enter Into Force' (EIF) in Q1/Q2 2016
- Code determines users as 'New' or 'Existing' depending on when they procure main plant items. From two years after EIF onwards, RfG applies (user is 'New')
- GC0048 are looking to conclude GB implementation in 12 months to maximise lead-time for manufacturers and developers to understand new requirements
- **Immediate priority is agreeing RfG banding levels**

nationalgrid

Background #1

- Technical requirements in RfG are arranged into x**4 Types** based on a user's connection voltage and MW capacity
- Type A and B requirements are close to a **product standard**
- Type C and D requirements need **active generator management**
- Thresholds must be set on a national basis by the designated TSO, based on sound justification. This is then ratified by industry consultation and regulatory approval; a cost benefit analysis is **not** mandated
- **This process is ongoing in GC0048 at the moment!**

Maximum RfG banding levels permitted for GB:		
Type	**Connection Voltage**	**Capacity**
A	**< 110kV**	**800 W – 1 MW**
B	**< 110kV**	**1 MW – 50 MW**
C	**< 110kV**	**50 MW – 75 MW**
D	**> 110kV**	**75 MW +**

Current GB Definitions:			
Generator Size	**SHET**	**SPT**	**NGET**
Small	<10MW	<30MW	<50MW
Medium			50-100MW
Large	>10MW	>30MW	>100MW

nationalgrid

Background #2

- Pertinent topics that follow on from setting the thresholds are:
  - New **Fault Ride Through** requirements which apply at Type B † and above
  - Mandatory **Frequency Response** for Type C and above †
  - National choice of **parameters** affecting all Types, where ranges are specified in RfG:
    - Voltage + Reactive Power
    - Frequency
    - Control + Protection
  - Process for new compliance testing and monitoring
- General conditions such as the criteria for new vs existing, processes for cost-benefit analysis and derogations also have to be done

† All banding thresholds are still subject to agreement.

Banding key points #1

- In RfG maximum/starting levels were drafted by ENTSO-E to be proportional to the size of each synchronous area
- GB values started lower than CE block, but were amended to be the same as these due to GB stakeholder pressure. They can be lowered if justified
- Three options considered and consulted on within the workgroup for GB:

Type	Option 1 - High Max GB levels	Option 2 - Medium	Option 3 – Low (Similar to Irish levels)
A	800W – 1MW	800W -1MW	800W – 1MW
B	1-50MW	1-30MW	1 – 5 MW
C	50-75MW	30-50MW	5 – 10MW
D	75MW	50MW+	10MW+

- Mid option was proposed by NGET, focused primarily on reducing the wide band of Type B (1-50MW) and achieving some more frequency response capability. Low option is close to Irish values, and continues theme of consistency to a neighbouring synchronous area
- All member states are currently considering reductions

nationalgrid

Way Forward

- **Workgroup agreed to focus assessment of the 'high' option**
- Based on current predictions of generator connections little benefit in pushing for the medium position (only affects generators of 30-50MW capacity connecting at <132kV. Hardly any of these)
- Further engagement with Scottish TOs critical
- Grid Code legal text changes for banding will explicitly refer to a SO three-yearly review of the levels (as allowed by RfG)
- Imperative that no more time is spent debating banding – implementation timescales for Connection Codes very tight
- RfG bandings are not a panacea; lots of issues for SO managing existing sub-1MW generation which RfG bandings do not affect! NGET will consider solutions to managing this outside RfG

nationalgrid

Any questions?