

Requirements for Generators: Banding Thresholds – SO View

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Topics

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- Justification:
 - Consistency
 - Ensuring proportionate generator response
 - Changes in generation mix
- Aspects out of scope for banding setting
- Next Steps

SO position on banding position

- NGET recommends that the RfG 'type' thresholds for GB are adjusted from their maximum positions as set in the current draft of the code to:

	Type A	Type B	Type C	Type D
Connection Voltage:	<110kV	<110kV	<110kV	>110kV
Module Capacity:	0.8KW-1MW	1MW-30MW	30-50MW	50MW+

- This reduces the levels at which generators will be designated type C or D on the basis of capacity from the draft code position which is:

	Type A	Type B	Type C	Type D
Connection Voltage:	<110kV	<110kV	<110kV	>110kV
Unit Capacity:	0.8KW-1MW	1MW-50MW	50-75MW	75MW+

- SO believes it *could* also build a case for adopting the more onerous January 2014 draft position if future requirements dictate this (i.e. B = 1-10MW, C = 10-30MW)

Justification: Consistency

- Greater consistency with existing generator designations in the Grid Code – particularly existing levels in Scottish TO.

Generator Size	Direct Connection to:		
	SHET	SPT	NGET
Small	<10MW	<30MW	<50MW
Medium			50-100MW
Large	10MW+	30MW+	100MW+

- However the NGET proposal is still higher than the existing level set in the SHET TO region:
- Grid Code (CC 6.3.7(e)) requirements on Frequency Response – setting a consistent levels of support on both synchronous and non-synchronous technologies

Justification: Proportionate Response

- SO believes generators inherently capable of providing support (e.g. Frequency Response) should be bound by a codified obligation. Relying on commercial inclination is too uncertain
- This makes the setting of the Type B/C threshold critical
- Manufacturers of equipment in a 'medium-large' scale already configure majority of hardware to support the more onerous GB and EU regional Grid Code requirements. Post-RfG this will be no different
- **Hypothetically**, the majority of operational schemes that would fall within the Type C MW range proposed by NGET, would largely be technically capable today

Justification: Changes in generation mix

- Predicted 22GW of Type A and 7-9GW of Type B generation (majority is non-synchronous + embedded) by 2025 represents **significant concern** to SO in continued secure operation of the system
- This is exacerbated by predictions of larger thermal plant being decommissioned in the next decade
- RfG's obligations on smaller generators ensure that, where reasonable, there is sufficient replacement volume to assist. This will indirectly assist with proliferation of renewables
- Active power cessation, Fault Ride Through and voltage / reactive performance requirements set for Type A and Type B respectively, will become all the more critical if banding thresholds remain at a 'high' level.
- Co-ordination between Transmission & Distribution critical

Aspects out of scope for GB banding setting

- Path to market for delivering ancillary services:
 - The SO acknowledges this is an important consideration to generators, and shares concerns about 'stranded' assets
 - However RfG as a **connection code** is focused on setting obligations based on technical capability - *not* encouraging commercial behaviours or setting out contractual/market arrangements
 - We want to work with industry to resolve these points (for example under GC0087 Frequency Response), but this is not covered by GC0048
- The upper threshold for Type A generator banding is not debatable being set across Europe at 1-1.5MW

Next Steps

- Thursday 12 March onwards - workgroup submit any comments on the draft report (back to RJW)
- Thursday 19 March – GC0048 – initial presentation of workgroup report (+ these slides)
- Friday 20 March – Tuesday 14 April – workgroup additions to report:
 - Finalise generator cost gathering
 - Finalise generator + SO (GC0048) CBA
- Tuesday 21 April – GC0048 presentation of comprehensive draft of workgroup report + **indicative position on where GB banding should be** (noting that any final position can only be ratified via industry consultation, NRA approval, and RfG entry into European Law)