

**GB FREQUENCY HVDC FREQUENCY RESPONSE PARAMETERS
DC CONNECTED POWER PARK MODULES (TITLE III)**

HVDC Article	Requirement	Range		Suggested GB Value		Comments	Policy Req'd? (e.g. Non-compatibility to be defined)	Code Change req'd?
38	All Frequency related aspects eg Frequency Range, LFSM, FSM, Active Power Controlability	As per RfG unless stipulated below						
39(1)	Frequency communication Signals and co-ordination	100ms signaling and processing time required Co-ordination between control areas required		Mandatory requirement		Amend CC.6.3.3 and CC.6.3.6	No	Yes
39(2)(a) Annex VI	Frequency Range	47 – 47.5Hz	20 seconds	47 – 47.5Hz	20 seconds	As per RfG	TSO values to be specified where the nominal frequency is not 50Hz	No
		47.5 – 49Hz	90 minutes	47.5 – 49 Hz	90 minutes	As per RfG		No
		49.0 – 51.0 Hz	Unlimited	49.0 – 51.0 Hz	Unlimited	As per GB Code		No
		51.0 – 51.5Hz	90 minutes	51.0 – 51.5Hz	90 minutes	As per RfG		No
		51.5Hz - 52	15 minutes	51.5Hz - 52	15 minutes	As per RfG		No
39(2)(b)	Wider Frequency ranges / operating times	Specified by TSO – as per RfG						

39(2)(c)	Automatic Disconnection at specified frequencies	Specified by TSO – as per RfG						
39(3)	ROCOF	-2.0Hz/s to +2.0Hz/s	Measured over the previous 1 second	-2.0Hz/s to +2.0Hz/s	Measured over the previous 1 second	Mandatory requirement	?	Yes
39(4) – 39(9)	LFSM-O, Output Power with Falling Frequency, Active Power Controlability, LFSM-U, FSM, Frequency Restoration	As per PPM RfG settings						
39(10)	DC Connected PPM's connected to AC systems with frequencies other than 50Hz	Specified by TSO – would be included in Bilateral Agreement and treated as new and emerging technology						