

Register of Granted Grid Code Derogations

Aug-10

Version 5



* Remaining service life of facility or equipment responsible for non-compliance to the Grid Code.

DAID	Submitted by	Plant	Section	Clause	Grid Code Version Number	Required Length of Derogation	Extent of Compliance to the Provision
817	Booltiagh Wind Ltd.	Booltiagh Wind Farm	WFPS1	5.1	V1.1 incl. WFPS1	Until 01/03/2006	Wind Farm will comply with all requirements in WF1.5.1, with the exception of the requirement for "No additional WTG shall be started while the Transmission System Frequency is above 50.2Hz".
818	Booltiagh Wind Ltd.	Booltiagh Wind Farm	WFPS1	5.2	V1.1 incl. WFPS1	Until 01/03/2006	Booltiagh Wind Farm will postpone implementation of Frequency Control and the signals required to control it.
819	Booltiagh Wind Ltd.	Booltiagh Wind Farm	WFPS1	5.3	V1.1 incl. WFPS1	Until 01/03/2006	Booltiagh Wind Farm will postpone implementation of ramp rate control as required by WF1.5.3, and its associated signals.
820	Booltiagh Wind Ltd.	Booltiagh Wind Farm	WFPS1	7.1	V1.1 incl. WFPS1	Until 01/03/2006	Booltiagh Wind Farm will comply will supply WFPS1.7.1 Signals list #1 as required, but will postpone implementation of signals list #2, #3, #4 and #5.
821	Booltiagh Wind Ltd.	Booltiagh Wind Farm	WFPS1	7.2	V1.1 incl. WFPS1	Until 01/03/2006	Booltiagh Wind Farm will comply with WFPS1.7.2.1 & WFPS1.7.2.5, but implementation of WFPS1.7.2.2, WFPS1.7.2.3 and WFPS1.7.2.4 will be postponed.
824	Hibernian Wind Power	Derrybrien Wind Farm	WFPS1	1.4	V1.2	Indefinite*	WFPS1.4.1: The Fault Ride Through (FRT) capability curve for the WTGs with the installed control system is only marginally non-compliant with WFPS1.4.1 . At 100% output, the wind farm as a whole is compliant. The FRT capability of the WTGs with the installed control system is essentially compliant with the requirements for conventional plant. WFPS1.4.2 (a): Plant is fully compliant. WFPS1.4.2 (b): If the WTG experiences voltage dips >60% below nominal that last for between 300 and 700 ms, under certain circumstances it could take up to 2 seconds after the voltage recovers before the turbine is back to 90% of available active power.
825	Hibernian Wind Power	Derrybrien Wind Farm	WFPS1	5.2.2	V1.2	Indefinite*	Facility is marginally non-compliant. Derrybrien submitted a Power-Frequency Response Curve to ESBNG (now EirGrid).
826	Hibernian Wind Power	Derrybrien Wind Farm	WFPS1	5.3	V1.2	Indefinite*	Wind farm is capable of adhering to a maximum ramp rate setting for start-up of the wind farm. Each WTG has a maximum ramp rate limit of ± 50 kW/s during start-up. Wind farm does not have the capability to impose overall one-minute and ten-minute average ramp rate limitations.
827	Hibernian Wind Power	Derrybrien Wind Farm	WFPS1	6.2.3	V1.2	Indefinite*	The slope of the Voltage Regulation System is capable of being set to any value between 1% and 5% and give full reactive power range for any active power output. The slope can also be set between 5% and 10%, however this will limit the reactive power range (lagging).
845	SWS (Kilgarvan Wind Farm Ltd.)	Coomagearlahy Wind Farm	WFPS1	4.2 (b)	V1.1 incl. WFPS1	Indefinite*	Following a low voltage incident that is longer than 500ms and lower than 50% retained voltage, the wind farm may take up to 4 seconds to return to 90% active power output. This only occurs under certain other conditions, including wind speeds above 8 m/s, turbulence, and tower oscillation position.
846	SWS (Kilgarvan Wind Farm Ltd.)	Coomagearlahy Wind Farm	WFPS1	6.2.4	V1.1 incl. WFPS1	Until 30/04/2007	Following a step change in voltage at the connection point, the wind farm power station will achieve 90% of its steady-state reactive power response within 5-20 seconds.
856	Glanlee Windfarm	Glanlee Windfarm	WFPS1	6.3		Until 31 October 2007	Power Factor is 0.98 exporting to 0.95 importing until end Oct 2007 when wind farm will comply.
857	Glanlee Windfarm	Glanlee Windfarm	WFPS1	6.2.4		Until 31 October 2007	The wind farm can only provide 90% in 4-20 seconds until additional Reactive Power Compensation is installed by October 2007
858	Glanlee Windfarm	Glanlee Windfarm	WFPS1	1.4.2 (b)		Lifetime of the project	For faults longer than 0.5 seconds and deeper than 50% voltage dip, and with wind speeds that are experiend for only 36% of the year, the turbines shall take up to 4 seconds to provide 90 % Active Power repsonse.
859	Glanlee Windfarm	Glanlee Windfarm	WFPS1	1.4.2		Until 31 October 2007	The full FRT capability will not be available until additional Reactive Power Compensation is installed by October 2007
956	Green Energy Company Ltd	Boggeragh Mountain Windfarm	WFPS1	4.2(b)	v3.1	15 Years	For certain combinations of voltage dip/ duration and the shape of voltage recovery to pre-fault level, the turbines cannot return to their Maximum Active Available Power within 1 second after the Transmission voltage is re-established. Dependant on the unique situations (wind load, turbulence and tower position) the some turbines in a windfarm will return to their available power only within 1-4 seconds.

957	Green Energy Company Ltd	Boggeragh Mountain Windfarm	WFPS1	6.3	v3.1	1st April 2010 to 1st April 2011	The WTG's do not have the full power factor range required in the grid code and cannot meet the grid code requirement without the provision of reactive power compensation equipment.
958	Green Energy Company Ltd	Boggeragh Mountain Windfarm	WFPS1	6.2.4	v3.1	1st April 2010 to 1st April 2011	The V90-3 MW turbines are not capable of providing 90% of it's steady state reactive power response within 1 second. The turbines are equipped with a Voltage control feature but it requires between 4 to 20 seconds to reach 90% of requested kVAR response.
955	SWS (Kilgarvan Wind Farm Ltd.)	Coomagearlahy Wind Farm Phase 3	WFPS1	6.2.4	v3.1	March 2009 to December 2009	The grid code requires that the speed of response of the Voltage Regulation System (AVR) shall be such that, following a step change in Voltage at the Connection Point the Controllable WFPS shall achieve 90 % of its steady-state Reactive Power response within 1 second. The response may require a transition from maximum Mvar production to maximum Mvar absorption or viceversa. In fact Nordex N90 2500kW turbines (more specifically their CWE SCADA control system) can only achieve 90% of its steady state reactive power response within a period of around 20s.
964	Gort Wind Farms Ltd	Derrybrien Wind Farm, Co.	WFPS1	6.2.2	v3.2	Permanent	The required speed of response of the Set-point Voltage Controller within 20 seconds of a change in Set – Point from EirGrid is not achievable in all circumstances. The attached document details the operation of the voltage control system response.