Active Power Control Groups

Information Note

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EirGrid SONI

1. Contents

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1 Introduction

EirGrid can select and apply pre-set frequency deadbands to Power Park Modules (PPMs) to control aspects of their response to system frequency. To manage this process, we have set-up predefined groups of PPMs on which we can remotely, and in real-time, select the response required. These groups are known as Active Power Control (APC) groups. APC groups contain wind farms or solar farms in Ireland. Due to differing Grid Code requirements, PPMs in Northern Ireland do not currently provide this capability. This document provides an overview of APC and presents the currently defined APC groups. We intend to review this document on an annual basis and update to summarise the current configuration. For any queries or comments related to this document please contact info@eirgrid.com or info@soni.ltd.uk.

2 Active Power Control

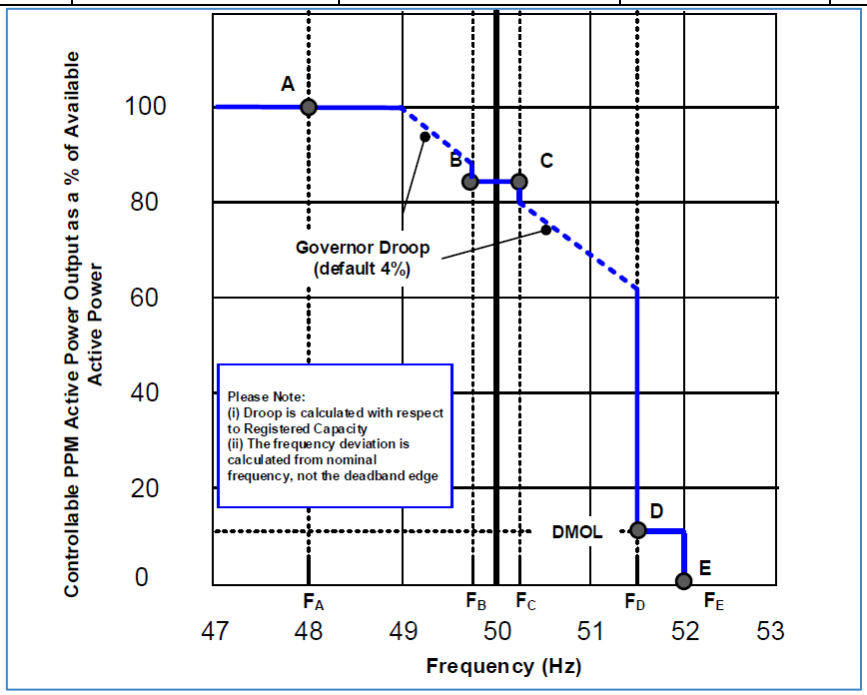
1.1. Frequency Deadband

Most PPMs normally operate with frequency response 'on' (per TSO defined 'Curve 1' settings) but with APC 'off'. In this mode the PPM is only frequency responsive outside of a deadband of +/- 200 mHz. This ensures that the PPMs do not normally adjust their output in response to frequency unless there is a contingency event on the power system such as the tripping of a generator or interconnector.

When frequency response and APC are both 'on', the PPM frequency deadband is reduced to +/-15mHz. This is the same deadband as the normal setting as most conventional synchronous generators. In this mode PPMs adjust their output much more dynamically to contribute to the control of system frequency under normal, pre-contingency, conditions.

The table and diagram below illustrate the impact of APC on frequency deadband settings.

Active Power Control	Frequency Response	Frequency Deadband	F_B	F_C
Off	On, Curve 1	-/+ 200 mHz	49.800 Hz	50.200 Hz
On	On, Curve 1	-/+ 15 mHz	49.985 Hz	50.015 Hz



Power-Frequency Response Curve for a PPM (EirGrid Grid Code Fig. PPM 1.2)

1.2. Grouping of PPMs

Each controllable PPM in Ireland (that is compliant with the 2012 EirGrid Grid Code provisions associated with frequency response as developed as part of the DS3 project) is assigned to one of six wind APC groups or 2 PV groups to allow for more selective management of the level of frequency response provided.

Membership of each APC group is mainly based on ensuring that there are broadly equal total capacities of PPMs within each group. The PPMs in each of the eight APC groups are listed in Appendix 1.

1.3. Turning APC ON/OFF

To manage the collective frequency response of PPMs, we turn APC groups on/off by issuing control signals from our Energy Management System (EMS) to the control systems of PPMs.

For frequency response purposes, APC is turned on under the following conditions:

- During periods of high-power exports over the interconnectors to GB or high-power transfers on the tie-line between Ireland and Northern Ireland. The frequency response provided by PPMs assists in managing any high frequency condition that will arise in the event of an interconnector or tie-line tripping.
- When there are frequency oscillations on the power system, or the frequency is difficult to regulate. The frequency response of PPMs assists in damping these oscillations and regulating the frequency.
- During trials of new system operating conditions such as the increase to the Rate of Change of Frequency (RoCoF) limit. The frequency response provided by PPMs provides additional system resilience.
- When the Control Centre stability assessment tool indicates unacceptable high frequency zeniths.
- All the groups may be turned on if system conditions dictate[1] or to support trialling of new operating conditions.

Normally we enable three out of six wind APC groups and one out of two PV APC groups at a time to limit the impact on PPM production. The ‘odd’ APC groups (1, PV1, 3 and 5) may be enabled during ‘odd’ weeks[2]. The ‘even’ groups (2, PV2, 4 and 6) may be enabled during ‘even’ weeks.

1 As of the 15th of August 2025, all APC groups are being enabled constantly to mitigate the risk posed by high frequency events on the system. This change is subject to ongoing review.
2 Week numbers per ISO Week Date Standard (ISO 8601), all weeks starting Monday, ending Sunday.

Appendix 1 - APC Groups

Below are the PPMs (their three-letter code and MW capacity) in each of the six APC groups (with total MW capacity of each group summated).

PV Group 1		283.00
Ballymacadam	YM1	21.00
Blusheens	JA1	8.00
Coolyduff	OH1	5.00
Curraghmartin	WF1	4.00
Dromalour	JB1	5.00
Gallanstown	IA1	119.00
Gorey	OB1	5.00
Lurrig	ND1	4.00
Macallian	NS1	9.00
Millvale North	JD1	8.0
Rosspile	RO1	95.00

PV Group 2		221.00
Beauliu	BR1	4.00
Blundlestown	NA1	6.00
Bullstown	OF1	8.00
Crossfield	WR1	5.00
Davidstown	NB1	5.00
Gillinstown	IA2	95.00
Lehinch	QL1	4.00
Lysaghstown	L0o1	87.00
Painestown Hill	PT1	7.00

Wind Group 1		484.70
Athea	AH1	34.34
Ballincollig	BH1	13.23
Ballybane 1	BA1	27.95
Ballymartin 1	BX1	6.00
Bawnmore	BN1	24.00
Boggeragh 1	BG1	57.00
Boolynagleragh	BJ1	37.01
Bunnyconnellan	GJ1	27.57
Carrickallen	AL1	20.60
Carrigdangan	XA1	55.00
Cordal 2	DL2	54.00
Lisheen 2	LS2	23.00
Uggool Seecon	SO1	105.00

Wind Group 2		526.00
Ballybay	BS1	13.80
Ballymartin 2	BX2	8.00
Coollegrean	OG1	18.50
Derrycarney	NC1	37.80
Derrynadivva	MX2	8.00
Glanaruddery 1	DA1	20.00
Glanthaunyalkeen 1	GC1	10.00
Glencarbry	GY1	33.00
Killin Hill	KL1	6.00
Leanamore	LM1	20.70
Lisheen 3	LS3	28.80
Meenaward	MI1	6.90
Mulreavy 1	MB1	89.00
Raheenleagh	RL1	36.50
Sheskin	SS1	18.00
Sliabh Bawn	SB1	58.00
Srahnakilly	OY1	90.20
Teevurcher	TV1	9.00
Tullabrack	TK1	13.80

Wind Group 3		508.25
An Cnoc	AC1	11.50
Boggeragh 2	BG2	65.70
Bruckana	BU1	39.60
Cappawhite B	CP3	13.20
Clahane 1	CJ1	37.80
Cloghboola	CL1	46.00
Cloghervaddy	YV3	10.80
Grousemount	GD1	115
Cronelea 1	CC1	4.60
Derrynadivva Extension	MX3	6.80
Killala	KF1	19.20
Knockawarriga 2	KW2	6.60
Knocknagoum	KM1	44.36
Lissycasey	LY1	13.40
Meenwaun	MW1	9.99
Scartaglen	ST1	41.00
Tullynamoyle	KD1	9.2
Tullynamoyle 3	TM3	13.50

Wind Group 4		542.20
Ballybane 2	BA2	13.05
Ballycumber	YR1	18.00
Black Lough	XL1	12.50
Booltiagh Ext	BT2	12.00
Cloghaneleskirt	KI1	12.00
Cronelea 2	CC2	4.60
Derrysallagh	DS1	32.00
Dromdeeveen	DV1	27.00
Esk	ES1	23.20
Faughary	FU1	6.00
Garraneragh	GG1	8.75
Grove Hill	GR1	16.10
Hollyford	HY1	9.00
Kelwin 1	KZ1	37.05
Kill Hill	KH1	36.00
Knockacummer	KC1	100.00
Knockalour	KA1	8.95
Lysaghtstown	LO1	87.00
Boolinrudda	RD1	45.00
Sorrell Island 1	SF1	24.00
Tullynamoyle 2	TM2	10.00

Wind Group 5		694.15
Cahermurphy	XM1	6.00
Cappawhite A	CP1	52.00
Carrickeeny	CF1	7.65
Carrowleagh	XR1	35.00
Castlepook	PO1	33.10
Cronalaght 2	YC2	18.00
Foyle	FY1	9.20
Gibbet Hill	GT1	14.80
Glanaruddery 2	DA2	12.00
Kilbranish 1	KR1	2.50
Kilcumber	OE1	75.60
Knockaneden	KO1	9.20
Leitir Guingaid	LG1	40.90
Lenalea	LL1	30.10
Lisdowney	LW1	9.50
Lisheen 1	LS1	36.00

Wind Group 6		465.09
Ballybane 3	LM1	4.45
Barranafaddock	BS1	32.40
Clahane 2	BX2	13.80
Cleanrath	NC1	42.64
Clogheravaddy 1	OG1	9.20
Clogheravaddy 2	DA1	10.80
Cordal 1	GC1	35.85
Glenough	GU1	32.50
Derrybrien	GY1	59.50
Killaveenoge	MI1	24.80
Knocknatallig	KQ1	18.30
Knockalough	MB1	33.60
Moneypoint WF	MP9	17.25
Mulreavy 2	RL1	5.40
Spaddan	SB1	17.50
Taghart	TV1	23.10

Mauricetown	MR1	13.80
Monaincha Bog	MH1	36.00
Mountlucas	MO1	79.20
Raragh 2	RR2	11.50
Scartaglen 2	ST2	5.00
Sorrell Island 2	SF2	8.00
Derrinlough	DN1	126.00
Beenanaspuck and Tobertoreen	XT1	23.10

Uggool	TK1	64.00
Woodhouse	WS1	20.00