

MODIFICATION RECOMMENDATION

FORM MPID 252 POR Definition

RECOMMENDATION TO CER BY EIRGRID OF MODIFICATION TO GRID CODE.



ABSTRACT / TITLE OF MODIFICATION	POR Definition
MODIFICATION NUMBER	MPID 252
RECOMMENDED AT GCRP MEETING NUMBER	42
LIST OF GRID CODE SECTION(S) AFFECTED BY PROPOSED MODIFICATION:	OC4.6.3.3 and Glossary DEFINITIONS
CURRENT GRID CODE VERSION :	5
MODIFICATION DESCRIPTION Overview THE REASON FOR THE RECOMMENDED MODIFICATION	<p>The current definition for Primary Operating Reserve (POR) does not include a requirement for sustained response over the POR timeframe. This modification aims to clarify this requirement.</p> <p>The purpose of the modification is to ensure that POR is provided on a consistent basis over the POR timeframe ensuring the system can be run more securely.</p>
History of Progression through GCRPs, Working Group and/or Consultation	<p>EirGrid presented the modification proposal MPID 252 to the Grid Code Review Panel members at a meeting held at The Spencer Hotel in Dublin on 11th June 2014. There was some discussion and an action was taken for further work between EirGrid and ESB to capture the intent of the definition.</p> <p>A further action was taken at the Grid Code Review Panel Meeting held at The Hilton Hotel, Belfast 12th November 2014 to include the assessment of this modification proposal as part of a Joint Grid Code POR Working Group which was formed 11th February 2015.</p> <p>The first meeting of the POR Working Group was held 25th February at The Ballsbridge Hotel and it was agreed that EirGrid would present the modification proposal MPID 252 to the Grid Code Review Panel Members at the next meeting 13th May 2015.</p>

<p>Summary Note of any Objections to the Recommended change from GCRP Members or Consultation Responses</p>	<p>Following some discussion, at the Grid Code Review Panel Meeting on 13th May, with ESB the words “which is subject to Governor Droop” were removed from both the body of the text and the Glossary, and the Members agreed that subject to the change the TSO would send the recommendation to the CER. The revised version of the modification was circulated with the minutes of the GCRP (13th May) and no comments were received..</p>
<p>Outcome of any GCRP Meeting Actions Relating to the Recommended Modification</p>	
<p>Implication of not implementing the Modification</p>	<p>Without the approval of this modification there is the risk of POR not being provided over the full timeframe. Inconsistent performance of generators over this timeframe could lead to system security issues during frequency excursions.</p>

RED-LINE VERSION

OC4.6.3.3 Primary Operating Reserve (POR).

OC4.6.3.3.1 **Primary Operating Reserve (POR)** is the additional MW output (and/or reduction in **Demand**) required at the **Frequency** nadir (minimum) compared to the pre-incident output (or **Demand**), **which is fully available and sustainable between 5 seconds and 15 seconds after the Event and** where the nadir occurs between 5 and 15 seconds after ~~an~~ **the Event**.

OC4.6.3.3.2 If the actual **Frequency** nadir **occurs less than 5 seconds or more than 15 seconds after the Event, is before 5 seconds or after 15 seconds after the event,** then for the purpose of **POR** monitoring (in accordance with OC10.4.4) the nadir is deemed to be the lowest Frequency which did occur between 5 and 15 seconds after the **Event**.

OC4.6.3.4 Secondary Operating Reserve (SOR)

OC4.6.3.4.1 **Secondary Operating Reserve (SOR)** is the additional MW output (and/or reduction in **Demand**) required compared to the pre-incident output (or **Demand**), which is fully available and sustainable over the period from 15 to 90 seconds following an **Event**.

OC4.6.3.5 Tertiary Operating Reserve

OC4.6.3.5.1 **Tertiary Operating Reserve band 1 (TOR1)** is the additional MW output (and/or reduction in **Demand**) required compared to the pre-incident output (or **Demand**) which is fully available and sustainable over the period from 90 seconds to 5 minutes following an **Event**.

OC4.6.3.5.2 **Tertiary Operating Reserve band 2 (TOR2)** is the additional MW output (and/or reduction in **Demand**) required compared to the pre-incident output (or **Demand**) which is fully available and sustainable over the period from 5 minutes to 20 minutes following an **Event**.

Glossary:

DEFINITIONS

Primary Operating Reserve (POR)

The additional MW output (and/or reduction in **Demand**) required at the **Frequency** nadir (minimum), compared to the pre-incident output (or **Demand**), which is fully available and sustainable between 5 seconds and 15 seconds after an **Event** and where the nadir occurs between 5 and 15 seconds after ~~an~~ the **Event**. If the actual **Frequency** nadir ~~occurs less than 5 seconds or more than 15 seconds after the Event, is before 5 seconds or after 15 seconds after the event,~~ then for the purpose of POR monitoring the nadir is deemed to be the lowest **Frequency** which occurred between 5 and 15 seconds after the event.

GREEN-LINE VERSION

OC4.6.3.3 **Primary Operating Reserve (POR).**

OC4.6.3.3.1 **Primary Operating Reserve (POR)** is the additional MW output (and/or reduction in **Demand**) required at the **Frequency** nadir (minimum) compared to the pre-incident output (or **Demand**), which is fully available and sustainable between 5 seconds and 15 seconds after the **Event** and where the nadir occurs between 5 and 15 seconds after the **Event**.

OC4.6.3.3.2 If the actual **Frequency** nadir occurs less than 5 seconds or more than 15 seconds after the **Event**, then for the purpose of **POR** monitoring (in accordance with OC 10.4.4) the nadir is deemed to be the lowest Frequency which did occur between 5 and 15 seconds after the **Event**.

OC4.6.3.4 **Secondary Operating Reserve (SOR)**

OC4.6.3.4.1 **Secondary Operating Reserve (SOR)** is the additional MW output (and/or reduction in **Demand**) required compared to the pre-incident output (or **Demand**), which is fully available and sustainable over the period from 15 to 90 seconds following an **Event**.

OC4.6.3.5 **Tertiary Operating Reserve**

OC4.6.3.5.1 **Tertiary Operating Reserve band 1 (TOR1)** is the additional MW output (and/or reduction

in **Demand**) required compared to the pre-incident output (or **Demand**) which is fully available and sustainable over the period from 90 seconds to 5 minutes following an **Event**.

OC4.6.3.5.2 **Tertiary Operating Reserve band 2 (TOR2)** is the additional MW output (and/or reduction in **Demand**) required compared to the pre-incident output (or **Demand**) which is fully available and sustainable over the period from 5 minutes to 20 minutes following an **Event**.

Glossary:

Primary Operating Reserve (POR)

The additional MW output (and/or reduction in **Demand**) required at the **Frequency** nadir (minimum), compared to the pre-incident output (or **Demand**), which is fully available and sustainable between 5 seconds and 15 seconds after an **Event** and where the nadir occurs between 5 and 15 seconds after the **Event**. If the actual **Frequency** nadir occurs less than 5 seconds or more than 15 seconds after the **Event**, then for the purpose of POR monitoring the nadir is deemed to be the lowest **Frequency** which occurred between 5 and 15 seconds after the event.