

Modification request for the definitions of Operating Reserve

This is a modification request to change the definitions of certain classes of Operating Reserve. These will also apply to the Glossary definitions which should now just refer to section OC 4.6.3.4.x. These new definitions reflect the fact the recovery of the system frequency after the nadir depends on the total additional energy provided, and not on the lowest instantaneous Power output. The new definitions cover both the delivered and expected reserve.

The previous definitions are;

- 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**.
- OC4.6.3.6 **Replacement Reserve** 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 20 minutes to 4 hours following an **Event**.

The new definitions should be;

- OC4.6.3.4.1 **Secondary Operating Reserve (SOR) delivered** is the average of the additional MW output (and/or reduction in **Demand**) compared to the pre-incident output (or **Demand**), over the period from 15 to 90 seconds following an **Event**.
- OC4.6.3.4.2 For generators the required additional MW output in each second is that determined by the **governor droop** limited to the **Declared SOR**. The required **SOR** is the average of these values 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 average of the additional MW output (and/or reduction in **Demand**) compared to the pre-incident output (or **Demand**) over the period from 90 seconds to 5 minutes following an **Event**.
 - OC4.6.3.5.2 For generators the required additional MW output in each second is that determined by the **governor droop** limited to the **Declared TOR1**. The required **TOR1** is the average of these values over the period from 90 seconds to 5 minutes following an **Event**.

- OC4.6.3.5.3 **Tertiary Operating Reserve band 2 (TOR2)** is the average additional MW output (and/or reduction in **Demand**) compared to the pre-incident output, as modified by **Dispatch Instructions**, (or **Demand**) over the period from 5 minutes to 20 minutes following an **Event**.
- OC4.6.3.5.4 For generators the required additional MW output in each second is that determined by **Dispatch Instructions** and the **governor droop** limited to the **Declared TOR2**. The required **TOR2** is the average of these values over the period from 5 minutes to 20 minutes following an **Event**.
- OC4.6.3.6 **Replacement Reserve** is the average additional MW output (and/or reduction in **Demand**) compared to the pre-incident output, as modified by **Dispatch Instructions**, (or **Demand**) over the period from 20 minutes to 4 hours following an **Event**.