

# Firm Frequency Response

## Market Information for Tenders for October 2005

National Grid publishes this information, in order to inform potential participants for the Firm Frequency Response tender round for October 2005.

### Total Frequency Response Requirements

Our indicative daily Total Requirement for Frequency Response in October is shown on a Settlement Period basis for weekdays, in Figure 1 and for Saturdays, Sundays and Bank Holidays, in Figure 2. The graphs show the requirement at maximum frequency deviation: 0.8 Hz for Primary and 0.5 Hz for Secondary and High Response.

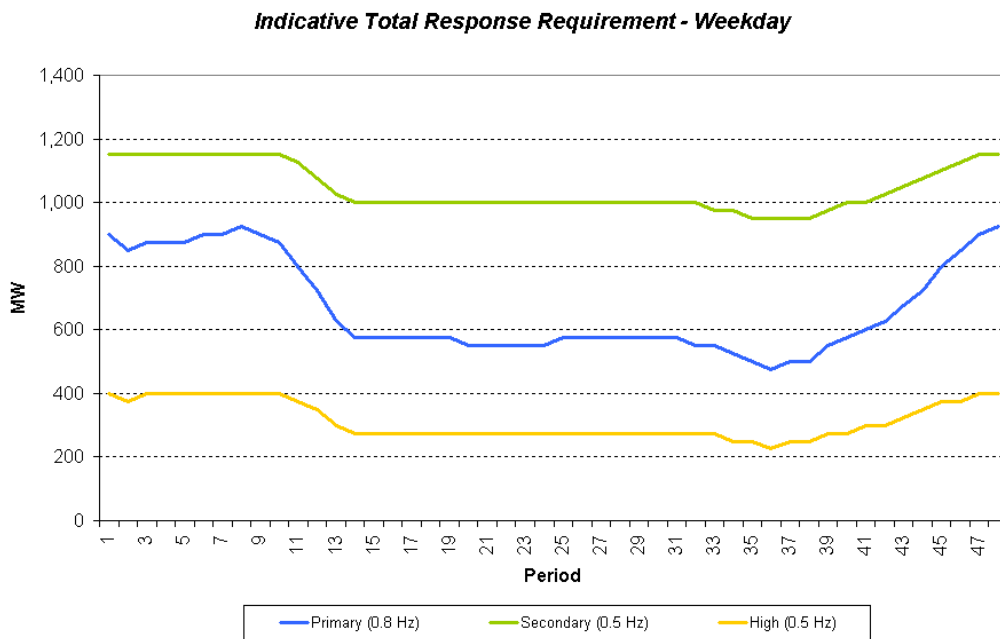


Figure 1

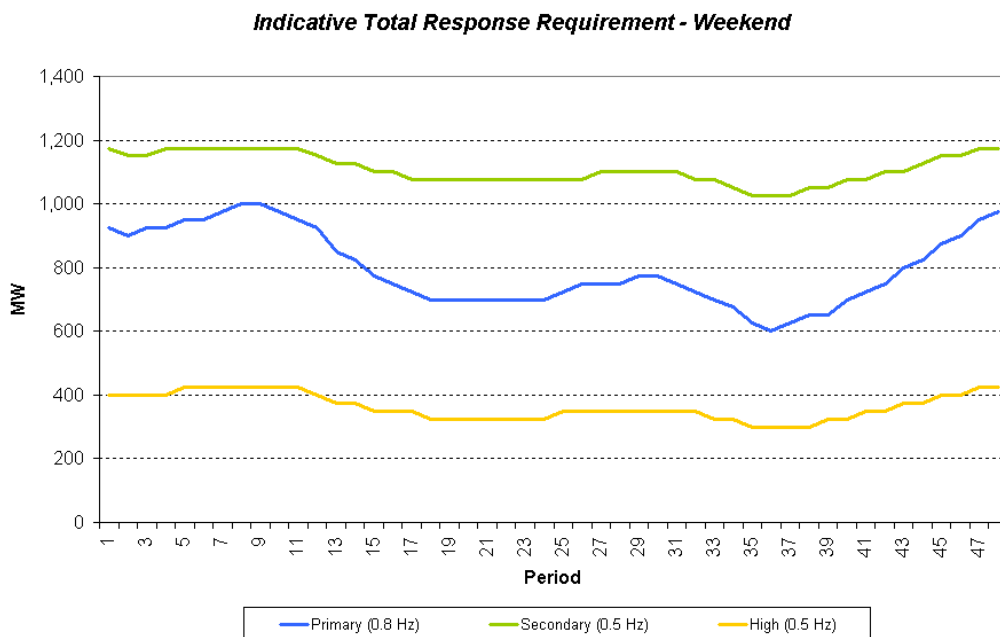


Figure 2

**Minimum Dynamic Response Requirement**

The indicative minimum required levels for Dynamic response are shown for Weekdays, Figure 3 and Saturdays, Sundays and Bank Holidays, Figure 4. The levels are shown for delivery at 0.5 Hz deviation, although 0.2 Hz is the largest frequency deviation within normal operational range. The total amount of response delivered by Dynamic providers contributes to meeting the Total Response Requirement, Figures 1 and 2, above.

**Indicative Minimum Dynamic Response Requirement - Weekday**

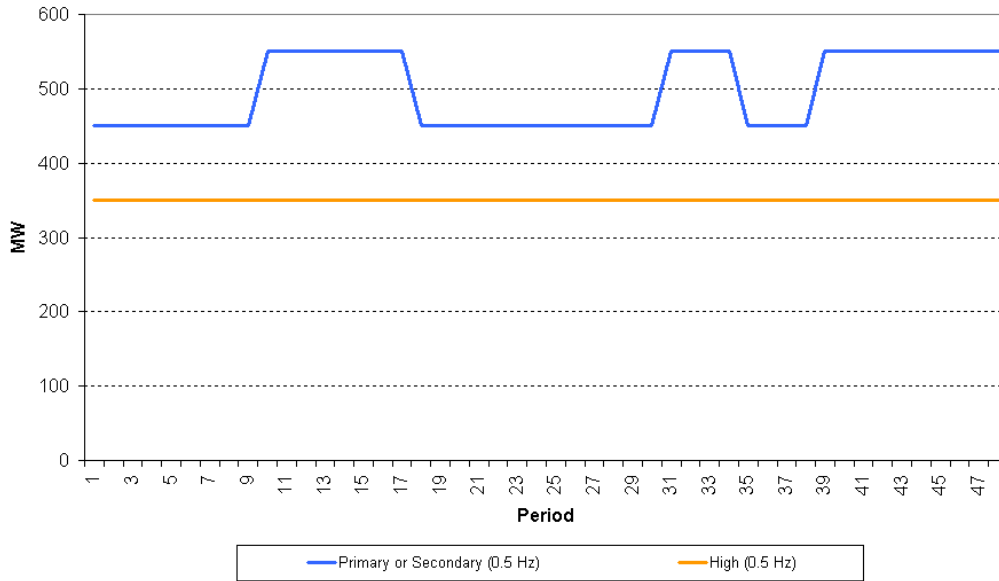


Figure 3

**Indicative Minimum Dynamic Response Requirement - Weekend**

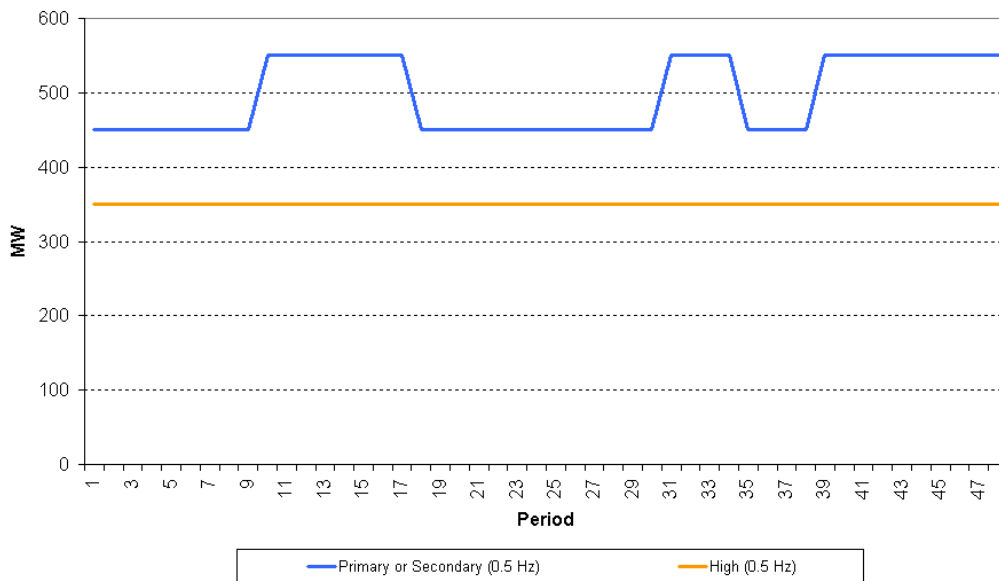


Figure 4

**Maximum Non-Dynamic Response Level**

The expected maximum level of Non-Dynamic Response is shown below for Weekdays, Figure 5, and for Saturdays, Sundays and Bank Holidays, Figure 6.

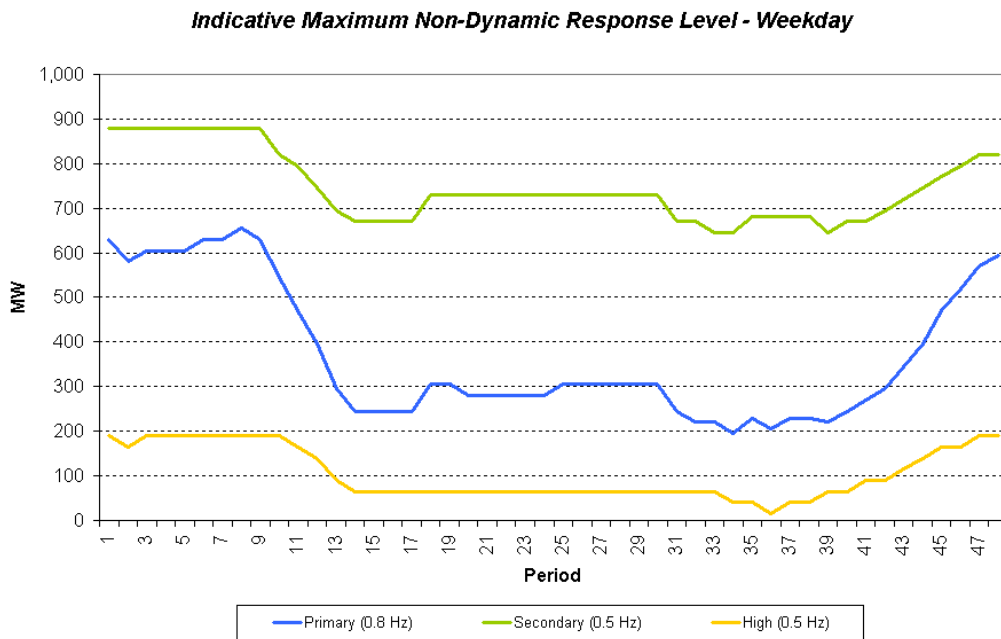


Figure 5

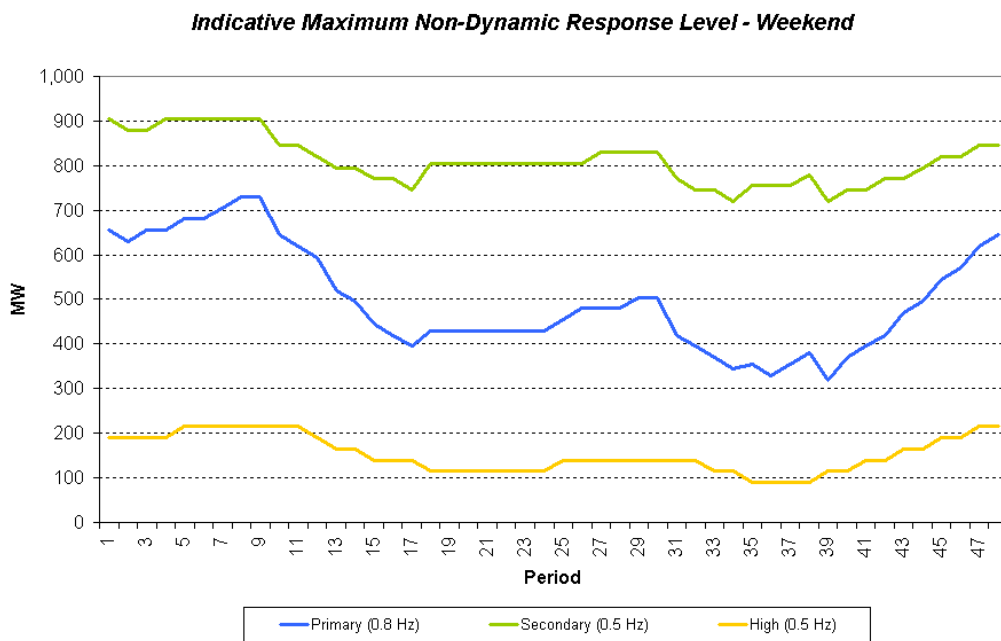


Figure 6

The maximum level of Non-Dynamic Response achievable is the Total Response Requirement (at 0.5 and 0.8Hz) less the Minimum Dynamic Response Requirement delivery (at 0.5 and 0.8Hz as appropriate).

**Balancing Mechanism instructions on Frequency Responsive plant**

Figure 7, below, shows a post-event analysis of the volume of Bid Offer Acceptances instructed on Balancing Mechanism Units that were, in conjunction with the delivery of the BOA energy, also providing Frequency Response. This analysis covers July 2005 (1<sup>st</sup> to 31<sup>st</sup>) and August 2005 (1<sup>st</sup> to 30<sup>th</sup>) on a daily basis. This data gives an indication of periods during which National Grid takes balancing actions which also contribute to the optimisation of the response holding across the system. However, readers should be aware that this is only indicative and actions may have been required for other reasons apart from (or as well as) Frequency Response optimisation (such as resolving energy imbalance or transmission system constraints).

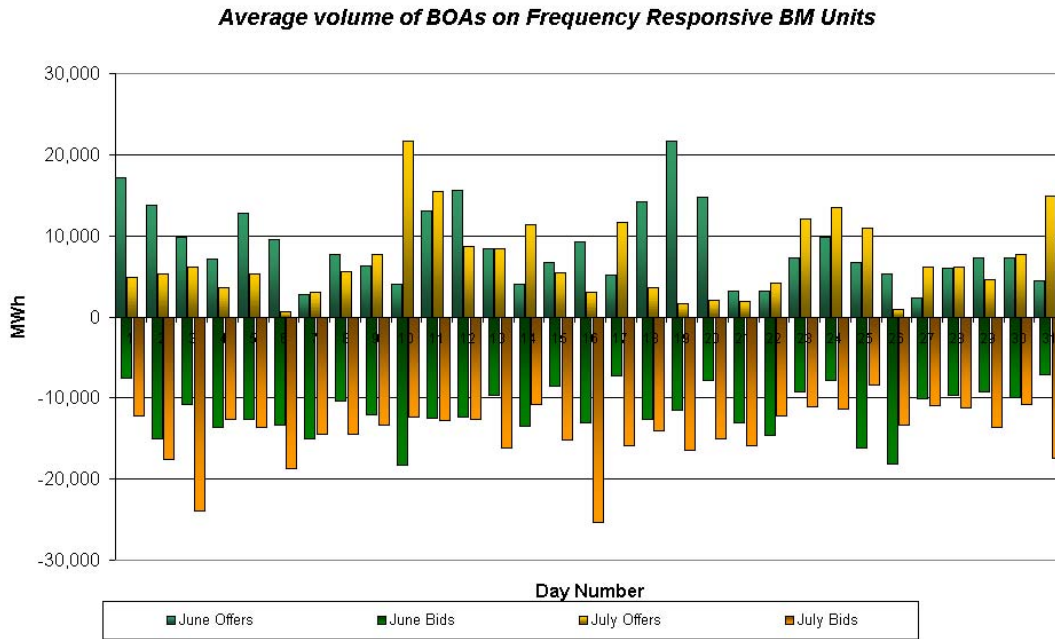


Figure 7

Figure 8 represents this data on a settlement period basis.

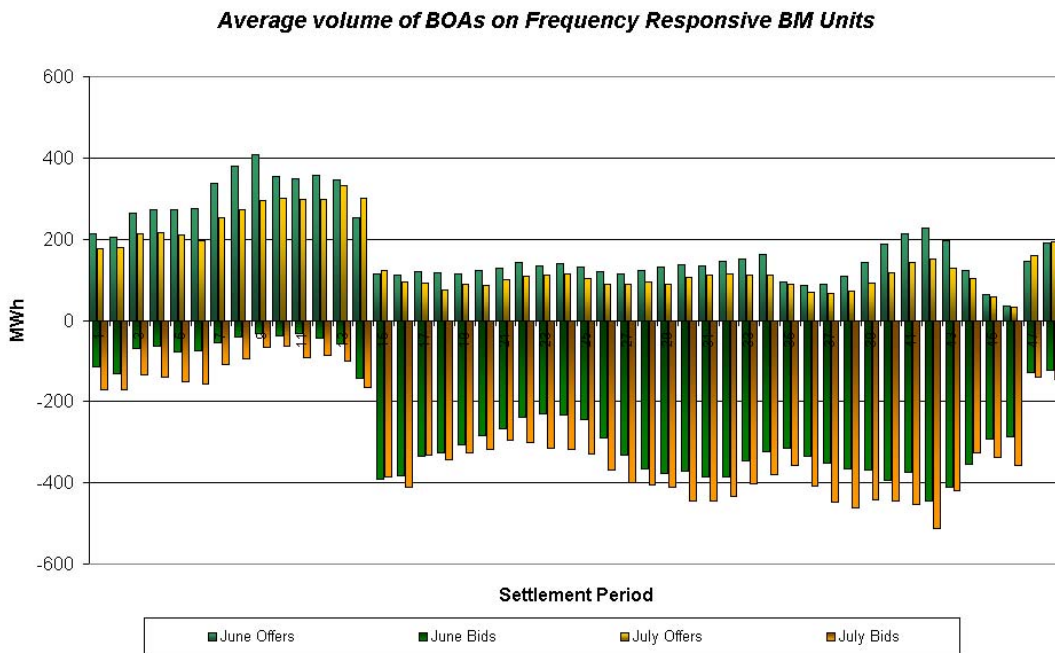


Figure 8

The total volumes for Frequency Response holding on Mandatory service providers of **1,351 GWh** for June and **1,428 GWh** for July break down into price bands as follows:

JUNE	Primary	Secondary	High
Price band (£/MW/h range)	Volume (MWh)	Volume (MWh)	Volume (MWh)
2 and greater	399,202	273,602	24,902
1.5 to 2	1,590	907	0
1 to 1.5	831	3,023	38,578
0.5 to 1	0	2,472	405,229
0 to 0.5	0	4,699	196,241
<b>Totals</b>	<b>401.6 GWh</b>	<b>284.7 GWh</b>	<b>665.0 GWh</b>
<b>Cost</b>	<b>£1.03 m</b>	<b>£0.80 m</b>	<b>£0.45 m</b>
<b>Total Frequency Response Holding Volume</b>			<b>1,351 GWh</b>
<b>Total Frequency Response Holding Cost</b>			<b>£2.28 m</b>

JULY	Primary	Secondary	High
Price band (£/MW/h range)	Volume (MWh)	Volume (MWh)	Volume (MWh)
2 and greater	427,101	301,879	26,062
1.5 to 2	3,277	137	0
1 to 1.5	218	4,245	33,980
0.5 to 1	0	4,112	468,594
0 to 0.5	0	10,115	148,093
<b>Totals</b>	<b>430.6 GWh</b>	<b>320.5 GWh</b>	<b>676.7 GWh</b>
<b>Cost</b>	<b>£1.14 m</b>	<b>£0.90 m</b>	<b>£0.48 m</b>
<b>Total Frequency Response Holding Volume</b>			<b>1,428 GWh</b>
<b>Total Frequency Response Holding Cost</b>			<b>£2.52 m</b>

The above charts and tables show that from June to July overall Frequency Response holding volumes increased by ~6% leading to an increase in costs of ~10%. Please note that the MW/h units of payment are defined in the CUSC and do not relate to the units of 0.8Hz Primary and 0.5 Hz Secondary and High Response as quoted for the requirements, above.

For October 2005, Frequency Response Requirements are anticipated to be in line with the forecast figures 1 – 6, above. The availability of response services on optional contracts and on part loaded units means that it is unlikely that National Grid will seek to procure the entirety of its forecast requirement through this tender round. However, National Grid will procure in line with the principles laid out in the [Assessment Principles \[Hyperlink\]](#).

For the month of **October** tenders from eligible Service Providers for Firm Frequency Response should be submitted by 7th September 2005. National Grid will notify Service Providers of the outcome of the tender assessment by 16th September 2005. For successful tenders, National Grid will notify nominated windows, following assessment, by the 20<sup>th</sup> September 2005.

Tenders should be sent for the attention of:

Bea Ennim  
Operations & Trading  
National Grid plc  
NGT House  
Warwick Technology Park  
Gallows Hill  
Warwick  
CV34 6DA

Tenders can be sent by email to [Bea.Ennim@ngtuk.com](mailto:Bea.Ennim@ngtuk.com)