

# **Monthly Balancing Services Summary**

**2006/2007**

**August 2006**

**nationalgrid**

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# Monthly Balancing Services Summary

## 1. Introduction

National Grid procures Balancing Services to operate the transmission system in an efficient, economic and co-ordinated manner. A number of statements and market reports pertaining to the procurement and use of Balancing Services are already published on the industry information web site. National Grid has undertaken to publish on a monthly basis to increase the timeliness and visibility of the Balancing Service actions taken during the given month. This Monthly Summary provides information on the procurement of Balancing Services in twelve separate monthly publications.

### 1.1 Purpose of Monthly Balancing Services Summary Report

The purpose of the Monthly Balancing Services Summary Report is to provide information in respect of Balancing Services that National Grid has bought or acquired during the relevant month for the purpose of operating the electricity transmission system. This publication contains volume and cost information associated with these balancing services. The information is based on settlement data and information available at the time of publication. This data and information is subject to change as a result of more accurate information becoming available post publication and disputes raised at a later date. National Grid will not retrospectively re-publish the document to take into account any future changes. The Monthly Balancing Services Summary is intended only to give an indication of the balancing actions National Grid has undertaken.

### 1.2 Nature of information Provided in this report

The information provided for the relevant month is based upon preliminary data. As future monthly summaries are produced, information in the graphs and tables will be updated to reflect the latest information available at that time. Changes to preliminary data that occur after the publication of the relevant month's report will thus be visible in the graphs and tables of future reports. National Grid will not re-publish past reports to reflect any such changes in preliminary data. Each monthly report will report volume data on a monthly rolling basis. The cost values contained in this document are reported to 1 decimal place (£m) in and have been rounded up to the nearest £100,000. Due to confidentiality agreements in place within Balancing Services contracts and the resolution of utilisation on a monthly basis, some information cannot be published in relation to the provision of some of these services. Where there are only a limited number of providers in a given month, cost information will not be separately identified on a monthly basis against the relevant service, however the aggregated costs associated with such services will be reported within the 'All other Services' section of this document.

### 1.3 Balancing Services

The Balancing Services National Grid has procured, either via market arrangements or bilateral contracts, throughout the period covered by the Report, are:

- Frequency Response
- Reactive Power
- Fast Start
- Black Start
- Reserve Services - Fast Reserve, Standing Reserve, Warming and Hot Standby
- All Other Services
- System to System Services
- Energy Related Products (including PGBT)

It is important to note that Balancing Services are procured from both Balancing Mechanism and Non Balancing Mechanism Parties.

For further information regarding the type of providers of Balancing Services please consult the [Procurement Guidelines](#)

### 1.4 Structure of Report

This report presents the Balancing Services under three main titles –

- Services Procured via Market Arrangements
- Services Procured via Non-Tendered Bilateral Contracts
- A summary section providing the high level information for all services for the relevant month.

### 1.5 Services not included in the report

This document intentionally does not report the acceptance of Bids or Offers in the Balancing Mechanism. Further information on Bid and Offer acceptances is contained within the [Balancing Principles Statement Report](#). All Bid and Offer information is available by clicking the following link to the NETA web site - [Balancing Mechanism Reporting System \(BMRS\)](#).

## 2. Services Procured Via Market Arrangements

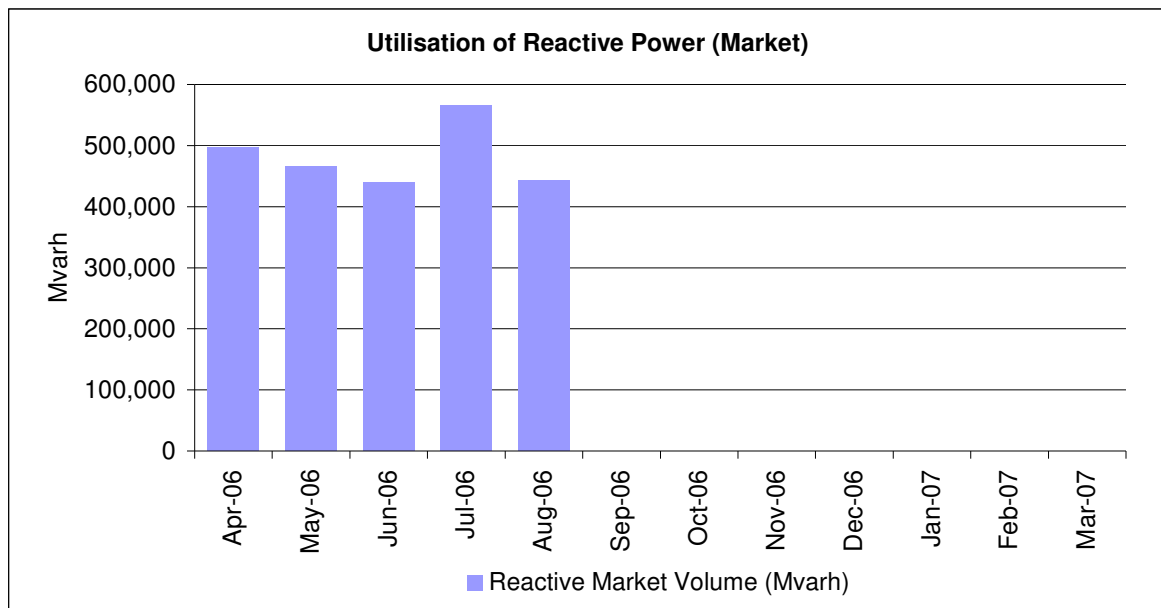
### 2.1 Reactive Power

National Grid manages voltage on the transmission system within statutory limits to ensure quality of supply. In doing this we ensure that reactive power resources are provided on a localised basis to meet the constantly varying needs of the system, and that there is sufficient reactive power reserve available to meet contingencies.

#### Market Arrangements for Reactive Power

All contracts awarded via tender round 17 (TR17) commenced on the 1<sup>st</sup> April 2006. Further information regarding the nature of these contracts can be found in the [Reactive Market Report TR17](#).

Utilisation of Reactive Power under market arrangements over the relevant period is detailed in the chart below.



Over this period, the total spend relating to the capability and utilisation costs of reactive power procured via market arrangements was **£1.1m**.

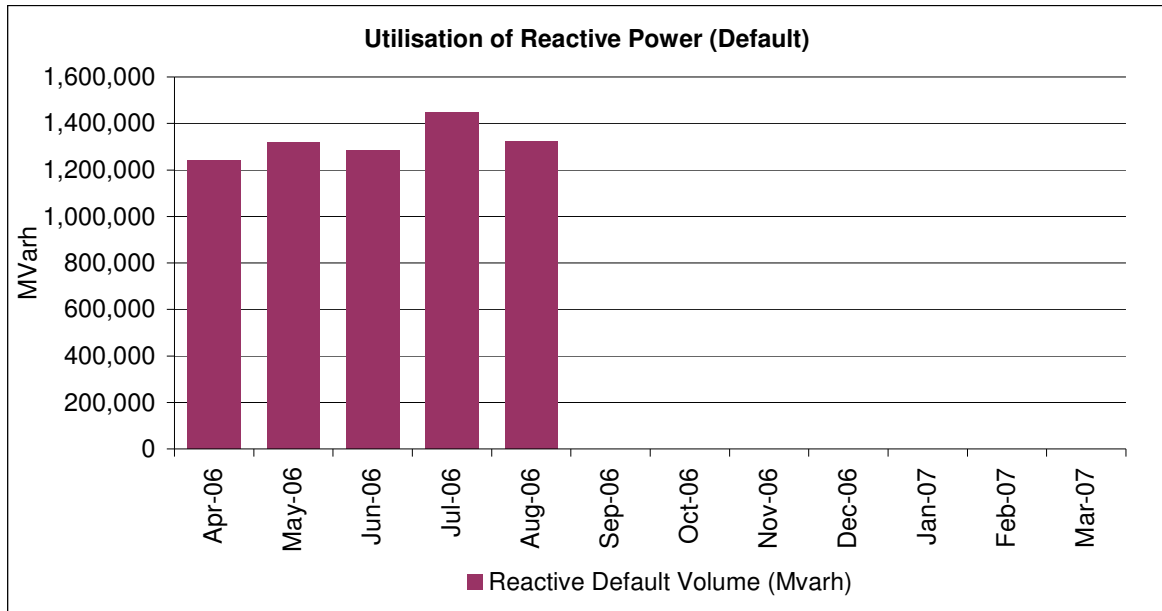
Further information is contained on the National Grid Industry information Web Site, please click on the following link to be re-directed to the relevant information on the [Reactive Power Market](#).

**Default Arrangements for Reactive Power**

The total amount spent on Reactive Power under the default arrangements during this reporting period was **£2.6m**.

Utilisation of Reactive Power under Default arrangements over the relevant period is detailed in the chart below.

For further information regarding the default payment arrangements please click on the following the link - [Obligatory Reactive Power Service \(ORPS\) Default Payment Arrangements](#)



Over this period, the combined total spend on reactive power was **£3.7m**

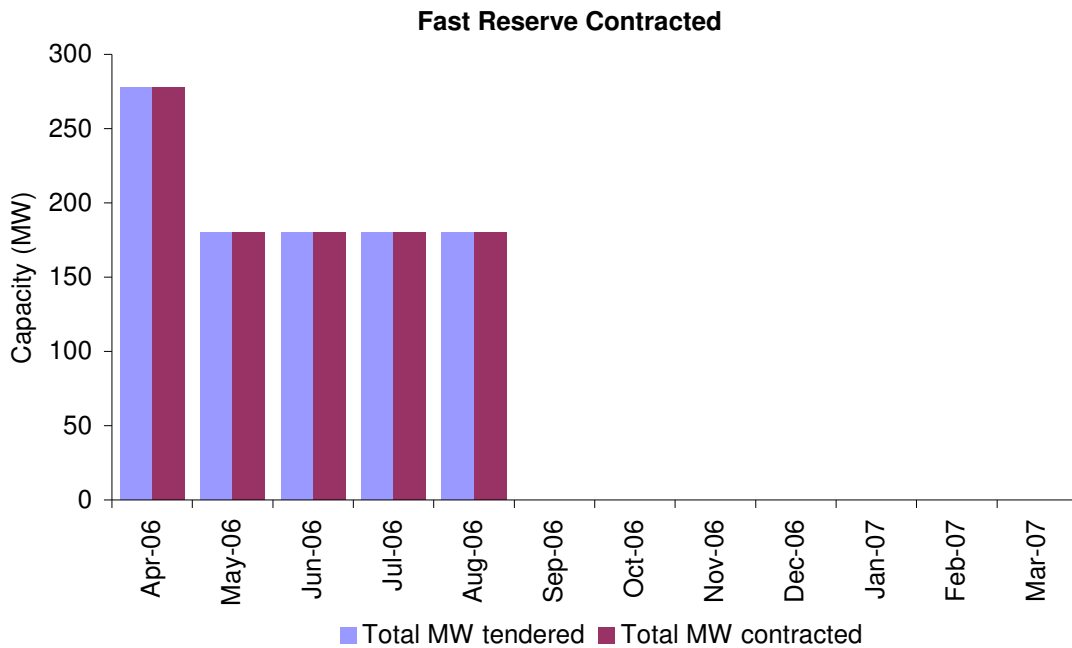
## 2.2 Fast Reserve (Tendered)

Further information explaining the service and assessment criteria of tenders for this Balancing Service can be found by clicking the following link for [assessment principles for firm fast reserve](#).

The table detailed below lists the tender details for the relevant month.

	Eligible companies	Eligible units	Units tendered	Units Accepted	Total MW Tendered	Total MW contracted	Max GWh tendered	Max GWh contracted
Apr-06	6	18	3	3	278	278	111.81	111.81
May-06	6	18	2	2	180	180	87.12	87.12
Jun-06	6	18	2	2	180	180	84.96	84.96
Jul-06	6	18	2	2	180	180	87.48	87.48
Aug-06	6	18	2	2	180	180	84.96	84.96

The following graph shows the variation in Fast Reserve capacity contracting by month.



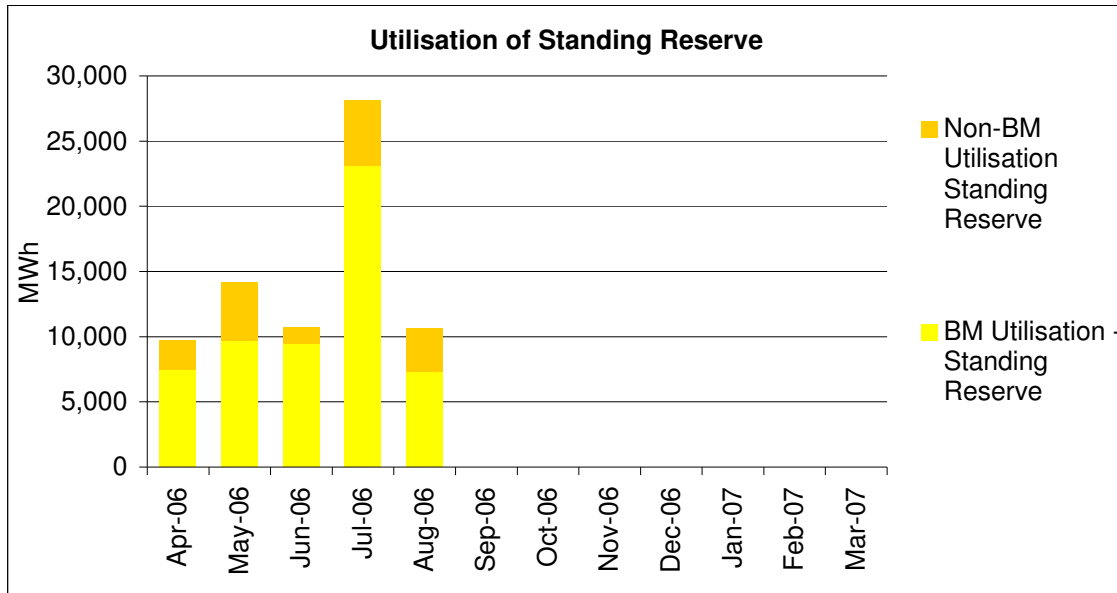
A total of **180MW** of capacity was contracted during the period. The total spend on availability and utilisation excluding bids and offers was **£0.7m**.

For more information on [Fast Reserve](#) please click the link. Fast Reserve Contracts placed through non-tendered bilateral agreements are detailed in section 3.6 of this report.

### 2.3 Standing Reserve and Supplemental Standing Reserve

#### Standing Reserve

The following graph shows the utilisation of Standing Reserve.



The average availability payment for Standing Reserve during this period was **£5.85/MW/h** for non-working days, and **£5.84/MW/h** for working days. The total spend on availability payments, plus utilisation payments to NBM providers, in the period was **£4.6m**.

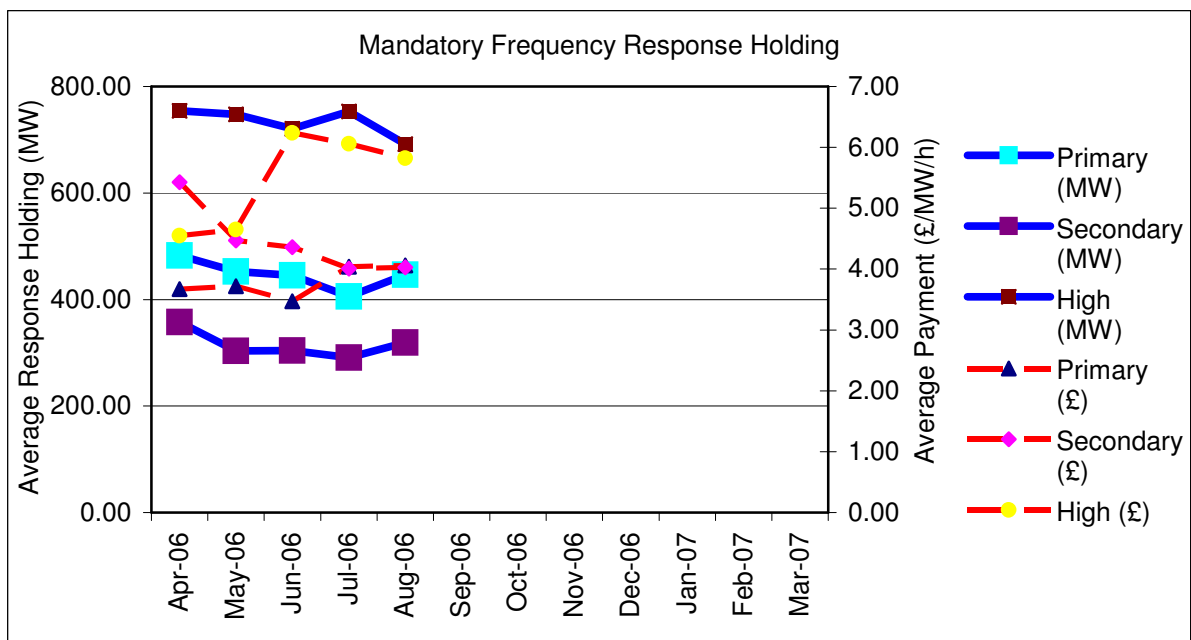
For further information on the nature of this service please see the [Standing Reserve Introduction document](#) or the [Standing Reserve Market Report](#)

### 3 Services Procured via Non-Tendered Bilateral Contracts

#### 3.1 Mandatory Frequency Response

Mandatory Frequency Response is a mandatory service provided by large generators (>100MW) to automatically change their active power output in response to a change in system frequency. The Grid Code Connection Condition 6.3.7 and 8.1 describe the technical requirements for this service.

Payments for Mandatory Frequency Response comprised a Holding Payment (£/MW/h) and a [Response Energy Payment](#) (£/MWh). Details on frequency response holding are given below.



The total spend on Mandatory Frequency Response holding for the reporting period was **£5.2m**.

The total spend on Response Energy Payments was **(£0.2m)<sup>1</sup>**. The methodology for calculating these payments is given in CUSC section [4.1.3.9 & 4.1.3.9A](#).

The total spend on Mandatory Frequency Response during the reporting period was **£5.0m**.

<sup>1</sup> The Response Energy Payment can be both a positive or negative payment, dependant upon the relative volumes of high and low frequency response dispatched during the course of the relevant month.

### 3.2 Commercial Frequency Response

Commercial Frequency Response is a service that can be provided by demand side participants and generation plant. The technical characteristics of this service are different to those required under mandatory service arrangements, and range from enhanced mandatory dynamic services through to non-dynamic services effected via LF relays. Part of the contract portfolio includes services provided by demand side participants through Frequency Control Demand Management (FCDM). This is an aggregated volume service procured from demand side participants via a single agent.

The total amount spent on Commercial Frequency Response holding during the reporting period was **£4.4m**.

Further information is available by clicking the [Commercial Frequency Response](#) link.

### 3.3 Fast Start

Fast Start is the ability of Open Cycle Gas Turbine (OCGT) plant to start rapidly from a standstill condition and to deliver its rated power output automatically within a defined time period. Fast Start details below;

Average Capability Payment Rate	<b>£10.76/MWh</b>
Total spent	<b>£0.2m</b>

Further information is available by clicking the [Fast Start](#) link.

### 3.4 Black Start

During the reporting period there were up to **23** stations with Black Start agreements in place. No new agreements were entered into during the period. The total amount paid during the relevant reporting for the availability of the Black Start service was **£1.0m**.

Further information is available by clicking the [Black Start](#) link.

### 3.5 Warming & Hot Standby

The table below contains information relating to the procurement of Warming and Hot Standby Balancing Services;

	Total contracted capacity MW	Total Actual MW Instructed	Average warming contract price £/MWh	Average hot standby contract price £/MWh	Average actual warming price £/MWh	Average actual hot standby price £/MWh
Apr-06	28,711	8,592	10.86	8.62	0.31	7.71
May-06	28,711	14,364	10.86	8.62	1.65	3.15
Jun-06	28,711	25,937	10.86	8.62	4.21	8.97
Jul-06	28,711	37,489	10.86	8.62	2.43	14.98
Aug-06	28,711	6,618	10.86	8.62	0.00	8.80

The total amount spent on Warming and Hot Standby during the reporting period was **£0.0m**.

Further details are available by clicking the [Warming & Hot Standby](#) link.

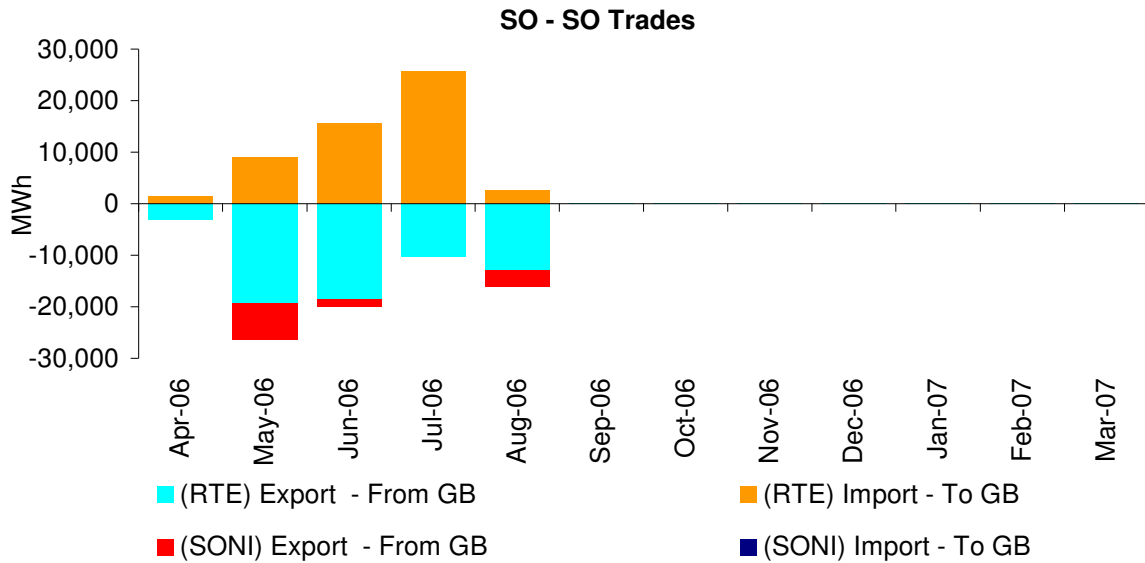
### 3.6 Fast Reserve (Procured on a Non-Tendered basis)

Non-Tendered Fast Reserve is a service that is contracted on a bilateral basis with service providers. The nature of the service is similar to the Firm Fast Reserve service although the payment and utilisation mechanisms differ for each service.

The availability payments during the relevant month totalled **£2.4m**. (Excluding Utilisation Via Offers and Bids Accepted in the Balancing Mechanism).

### 3.7 System to System Services

System to System services are provided mutually with other Transmission System Operators connected to the GB system via interconnectors. Such services are typically used to manage interconnector transfer profiles and to increase or reduce power flows across an interconnector to resolve transmission constraints on either side, or provide Emergency Assistance if required. The graph below shows the total net volume imported and exported between GB, France (RTE) and Ireland (SONI).



The total energy volumes associated with system to system services during the reporting period was **16GWh** Export (from GB) and **3GWh** Import (to GB).

A total net spend associated with system to system services during the reporting period was **£0.0m**

### 3.8 System to Generator Operational Intertripping Schemes

National Grid is party to a number of agreements relating to Intertripping schemes as defined under section 4.2.A of the CUSC.

These schemes fall under a number of different category types, a proportion of these categories entitle the counter party to payments for the arming (capability fee) and utilisation of this service.

System to Generator Operational Inter-tripping scheme costs

Capability Payments **£0.0m**

Utilisation Payments **£0.0m**

### 3.9 All Other Services

During the reporting period a number of Balancing Services were utilised that are not reported specifically due to contract confidentiality and commercially sensitive information. For the purpose of reporting this spend has been aggregated. These include bespoke services to manage specific system conditions and costs relating to fee and liabilities.

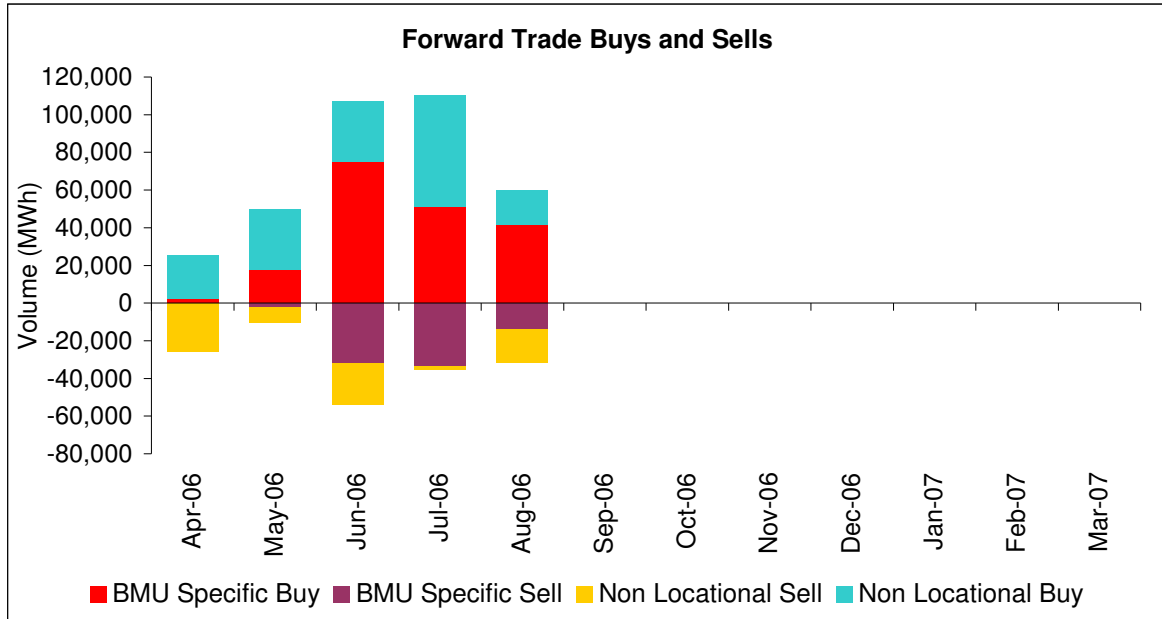
A total spend on All Other Services during the reporting period was **£2.5m**.

### 3.10 Forward Trading

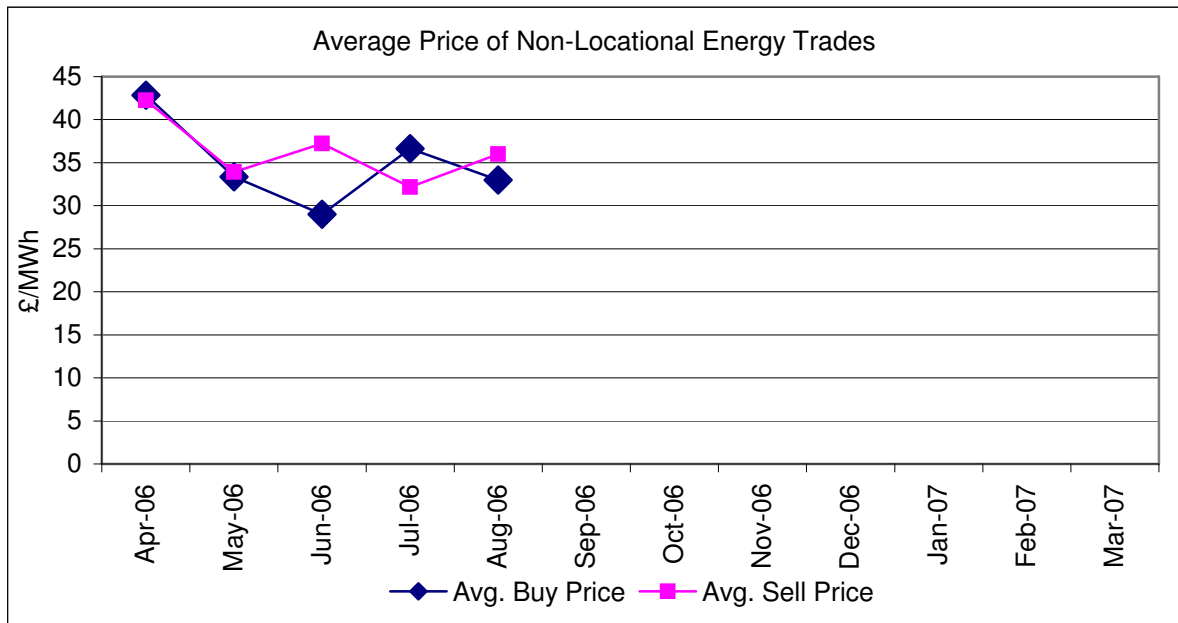
National Grid's forward trading is undertaken to reduce the overall costs of balancing the system, and to resolve system issues as appropriate. There are a number of products and procurement mechanisms available. During the reporting period, National Grid traded a gross volume of **91,578 MWh**.

<b>Non Locational</b>		} Total Net Spend <b>£3.4m</b>
Buy Volume	18,180 MWh	
Sell Volume	17,801 MWh	
<b>BMU Specific</b>		
Buy Volume	41,616 MWh	
Sell Volume	13,981 MWh	

The following chart shows the monthly profile of our trading activities, both for non-locational energy trades and BMU-Specific trades;



The following chart shows the monthly profile of our trading activities, combined for buy and sell non-locational energy trades;



Further details are available by clicking the [Energy Related Products](#) link.

### 3.11 Pre-Gate BMU Transactions (PGBT)

Information on PGBT activity is given in the table below.

PGBT Transactions Sourced and Agreed

PGBT	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sourced	2	9	0	4	11							
Agreed	2	4	0	1	7							
Price £/MWh	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Avg Buy	359	96	0	449	55							
Avg Sell	0	6	0	0	0.33							
Volume MWh	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Buy	1,568	2,084	0	793	335							
Sell	0	11,173	0	0	20,548							
Total	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Buy	0.6	0.2	0	0.4	0.0							
Sell	0.0	-0.1	0	0	-0.0							
Cost £m	0.6	0.1	0	0.4	0.0							

The total net spend on PGBT during the reporting period was **£0.0m**.

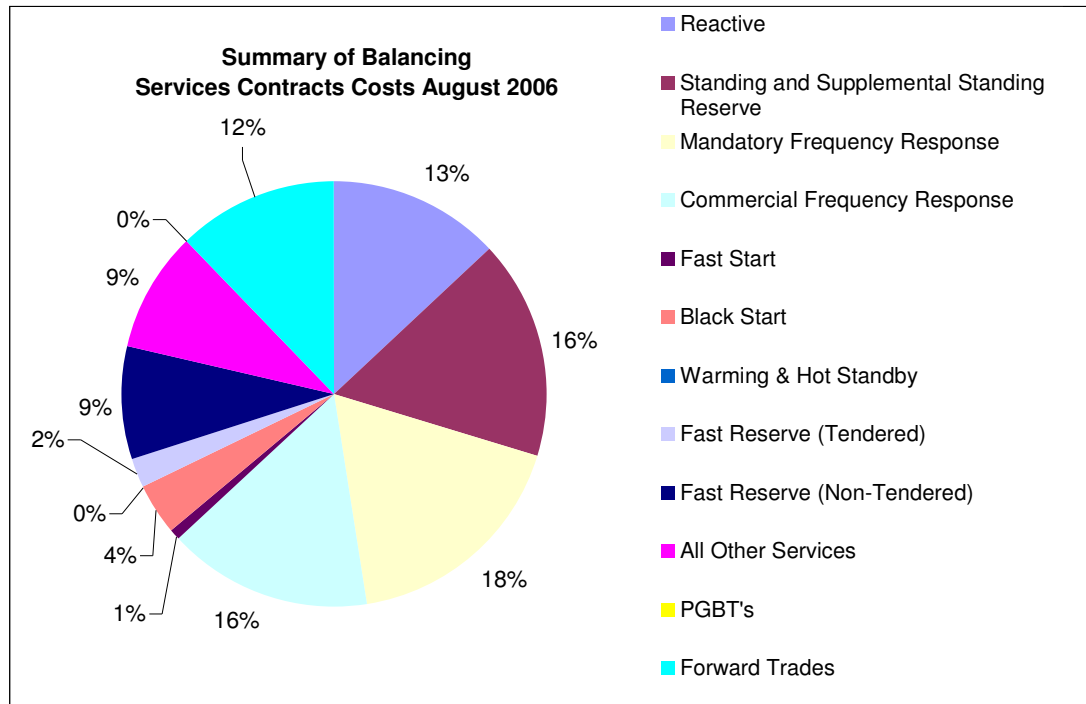
Details on real time PGBT transactions can be found on the BMRS (system warning page) and post event, on the [National Grid information website](#).

Further information is available through the link on [PGBT offers](#).

## 4. Summary

This report has provided information on the Balancing Services procured (or acquired) during the relevant period.

As a summary of financial activity, the following breakdown of balancing service costs is provided by category, for this reporting period.



## 5. Further information

For further information on the types of Balancing Services that National Grid intends to procure, please refer to the prevailing **Procurement Guidelines**. Information on bid and offer acceptances in the Balancing Mechanism is contained within the **Balancing Principles Statement Report**. These documents, along with the **Procurement Guidelines Report**, are published in accordance with Standard Condition C16 of the Transmission Licence and are available on the National Grid Industry Information website at:

<http://www.nationalgrid.com/uk/Electricity/>

### **Electricity Balancing Development**

Email: [Balancingservices@uk.ngrid.com](mailto:Balancingservices@uk.ngrid.com)

## 6. Information Summary Page

Balancing Service	Info Provision	Value
Reactive Power Market	Utilisation Volume (MA)	442,832 Mvarh
	Utilisation Volume (DefaultPM)	1,321,221 Mvarh
	Total Spend (MA)	£1.1m
	Total Spend (Default PM)	£2.6m
Standing Reserve	<u>Average availability payments:</u>	
	Non-Working Days	£5.85/MW/h
	Working Days	£5.84/MW/h
	Total Spend	£4.6m
Supplemental Standing Reserve	<u>Average availability payments:</u>	
	Non-Working Days	£0.00/MW/h
	Working Days	£0.00/MW/h
	Total Spend	£0.0m
Mandatory Frequency Response	<u>Holding Volumes &amp; Prices:</u>	
	Average Volume held MW	Pri / Sec / High 446 319 692
	Average price £/MW/h	4.06 4.03 5.82
	Total Holding Spend	£5.2m
Commercial Frequency Response	Total Response Energy Payment Spend	(£0.2)m
	No. Of Contracts	6
Fast Start	Total Spend	£4.4m
	Average Capability Rate	£10.76/h
Black Start	Total Spend	£0.2m
		£1.0m
Warming	Total Cost of Warming & Hot Standby	£0.0m
	MWh Utilised during period (warming)	5,618 MWh
Fast Reserve-Tendered	Total Spend on Availability & Utilisation <sup>2</sup>	£0.7m
Fast Reserve Non-Tendered	Total Spend on Availability	£2.4m
SO to SO	Volume Imported	3 GWh
	Volume Exported	16 GWh
	Total Spend	£0.0m
System to Generator operational inter-trips	Capability Payments	£0.0m
	Utilisation Payments	£0.0m
All Other Services	Total Spend	£2.5 m
Forward Trading	Traded gross volume	91,578 MWh
	Net cost of forward trading	£3.4m
	<b>OTC – Power Exchange &amp; Energy</b>	
	Buy Volume	18,180 MWh
	Sell Volume	17,801 MWh
	<b>OTC – BMU Specific</b>	
Buy Volume	41,616 MWh	
Sell Volume	13,981 MWh	

<sup>2</sup> Other than Fast Reserve utilisation achieved through the acceptance of bids or offers

PGBT	<u>No. of PGBT entered into:</u>	
	Sourced	11
	Agreed	7
	<u>Average PGBT Prices £/MWh:</u>	
	Buy	£55.0/MWh
	Sell	£0.3/MWh
	<u>Volume MWh:</u>	
	Buy	335 MWh
	Sell	20,548 MWh
	Total Cost of PGBT	£0.0m
Summary	Total	£27.9m