National Grid

Procurement Guidelines Report for 1 May 2002 to 30 April 2003

30 May 2003

As required by Special Condition AA4
of the Electricity Transmission Licence

Contents

Procurement Guidelines Report for 1st May 2002 to 30th April 2003

1. Introduction

National Grid procures Balancing Services subject to the framework laid down in Special Condition AA4 of the Transmission Licence. This framework obliges National Grid to "operate the transmission system in an efficient, economic and co-ordinated manner" and also requires a number of statements and reports on the procurement and use of Balancing Services to be established. The **Procurement Guidelines** is one of these statements, and sets out the principles used in our procurement of Balancing Services, the kinds of Balancing Services that we may be interested in purchasing and the mechanisms by which we do so. The Procurement Guidelines statement is published on the National Grid Industry Information website and is subject to annual review and industry consultation. When a new Procurement Guidelines statement is published annually (covering the forthcoming relevant period), National Grid are required to produce a **Procurement Guidelines Report** ("Report") covering the preceding relevant period, having previously agreed the 'form' of the Report with the Authority.

1.1 Purpose of Procurement Guidelines Report

The purpose of the Procurement Guidelines Report is to provide information in respect of the relevant[1] Balancing Services which National Grid has bought or acquired in the defined reporting period.

1.2 Form of the Procurement Guidelines Report

The proposed form of the report, as submitted to the Authority, was circulated by National Grid to Market Participants in order to highlight the opportunity available to them to make comments to the Authority. No such representations were submitted, and The Authority approved the form of this Report on 13th May 2003. The opportunity still remains for Participants to submit comments and suggestions to the Authority on the scope and content of any subsequent Procurement Guidelines Reports.

1.3 Reporting Period

In accordance with Special Condition AA4 of the Transmission Licence, the Report will be produced within one month after the publication date of the revised Procurement Guidelines. Version 3.0 of the Procurement Guidelines became effective on 1st May 2003, therefore the period covered by this Report is 1st May 2002 – 30th April 2003. Although this is a twelve-month period, it is not aligned with the financial year and so for ease of reporting, some information is presented for the financial year 1st April 2002 – 31st March 2003.

[1] Other than balancing services acquired by the mere acceptance of an offer or bid in the Balancing Mechanism, provided such offer or bid was not made pursuant to any prior agreement.

1.4 Relevant Balancing Services

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

- Reactive Power
- Frequency Response
- Black Start
- Fast Start
- Reserve Services - Fast Reserve, Standing Reserve, Warming
- Intertrip Services
- System to System Services
- Energy Related Products (including PGBT's)
- Other services

Further definitions and descriptions of Balancing Services can be found in the Procurement Guidelines and on the "Balancing Services Home" pages of the National Grid industry information website.

http://www.nationalgrid.com/uk/indinfo/balancing/index.html

1.5 New Balancing Services

Pre-Gate BMU Transactions ("PGBT's") were included in the Procurement Guidelines which became effective on 1st May 2002. The development of PGBT's was required prior to the introduction of 1 hour gate closure which came into effect on 2nd July 2002. A PGBT allows National Grid to secure a BMU specific service ahead of the balancing mechanism, where it is economic or necessary to do so. A PGBT may be used, for example, where plant characteristics dictate that a BM Unit cannot be synchronised in Balancing Mechanism timescales.

1.6 Excluded Services

As laid down in Special Condition AA4 - paragraph 4 of the Transmission Licence, the Report will specifically exclude Balancing Services acquired solely through the acceptance of an offer or bid in the Balancing Mechanism, providing such offer or bid was not made pursuant to any prior agreement. Further information on offer and bid acceptances is contained within the Balancing Principles Statement Report, which is available at.

http://www.nationalgrid.com/uk/indinfo/balancing/pdfs/Second_BPS_report.pdf

2. Services Procured Via Market Arrangements

2.1 Reactive Power Market

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.

Potential providers that fulfil the qualification criteria (specified in CUSC schedule 3) may tender for a market agreement to provide reactive power. Tenderers may elect to choose the length of their tender from a minimum of 12 months and thereafter in 6 month increments. Tenderers may tender for either ORPS (Obligatory Reactive Power Service) or ERPS (Enhanced Reactive Power Service).

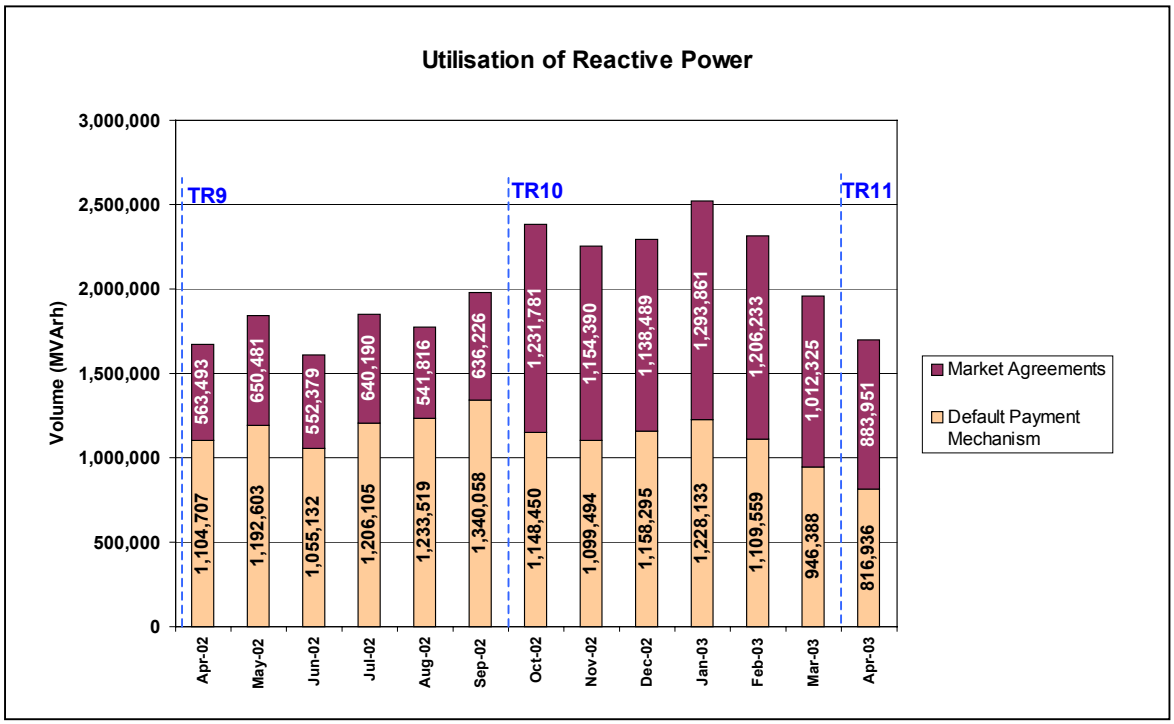
Three Reactive Power Market tender rounds have been held during the period. Tender round 9 effective from 1 April 2002, tender round 10 effective from 1 October 2002, and tender round 11 effective from 1 April 2003. The tender rounds define the start date of any contract awarded via the tender process. The tables below detail the outcome of each tender round, along with the overall contracted MVAr available via market contracts throughout the reporting period.

Tender Round	Period Starting	Units Eligible to Tender	Tenders Received	Contacts Offered	Contracts Signed	Lagging MVAr Contracted from Tender Round
9	1 April 02	138	76	32	32	5887
10	1 Oct 02	123	52	29	27	5687
11	1 April 03	125	59	31	30	5243

Six month period	Total contracted Lagging MVAr
1 Apr 02 – 30 Sep 02	8908
1 Oct 02 – 31 Mar 03	11686
1 Apr 03 – 30 Sep 03	11571

No tenders were received for the Enhanced Reactive Power Service.

Utilisation of Reactive Power over the period 1st April 02 – 30th April 03 is detailed in the figure below.



A payment summary for reactive power contracted via market arrangements is given below.

Period	No. of Months	Availability Payments	Actual MVArh Utilised	Utilisation Payment	Total Payments	Average Total Payment per MVArh Utilised
1/4/02 – 30/9/02	6	£ 3,963,283	3,584,586	£ 1,765,823	£ 5,729,105	£ 1.60
1/10/02 – 31/3/03	6	£ 5,705,409	7,037,078	£ 3,784,497	£ 9,489,906	£ 1.35
1/4/03 – 31/4/03	1	£ 856,428	883,951	£ 491,335	£ 1,347,763	£ 1.52
Total	**13**	**£ 10,525,119**	**11,505,615**	**£ 6,041,655**	**£ 16,566,774**	

Over the 12 month reporting period 1st May 2002 – 30th April 2003, the total spend on reactive power procured via market arrangements was **£15M**.

More information on the Reactive Power Market is available at http://www.nationalgrid.com/uk/indinfo/balancing/mn_reactive.html

Default Arrangements for Reactive Power

Where Generators are either unsuccessful in their tender for a Reactive Power Market Contract, or choose not to tender, default rules for the payment of the obligatory service apply.

Default payment rates for the provision of the Obligatory Reactive Power Service (ORPS) have been calculated in accordance with Appendix 1 of CUSC Schedule 3. The default payment rates applicable during the reporting period are as follows:

Year	From - To	Indexation Factor (I)	BP_U (£/Mvarh)	
			X = 1	X = 0.2
2001/2002	1/4/01 – 31/3/02	1.208	1.329083	0.265817
2002/2003	1/4/02 – 31/3/03	1.2246	1.347346	0.269469
2003/2004	1/4/03 – 31/3/04	1.2625	1.389045	0.277809

Utilisation and payment information for ORPS is given below.

Period	Utilised MVArh	Utilisation Payment
1/4/02 - 30/9/02	7,132,124	£ 9,006,789
1/10/02 - 31/3/03	6,690,318	£ 8,727,703
1/4/03 - 31/4/03	816,936	£ 1,118,343
Total	**14,639,378.49**	**£ 18,852,835**

The total amount spent on Reactive Power under the default arrangements during the 12-month reporting period, 1st May 2002 – 30th April 2003, was **£18M.**

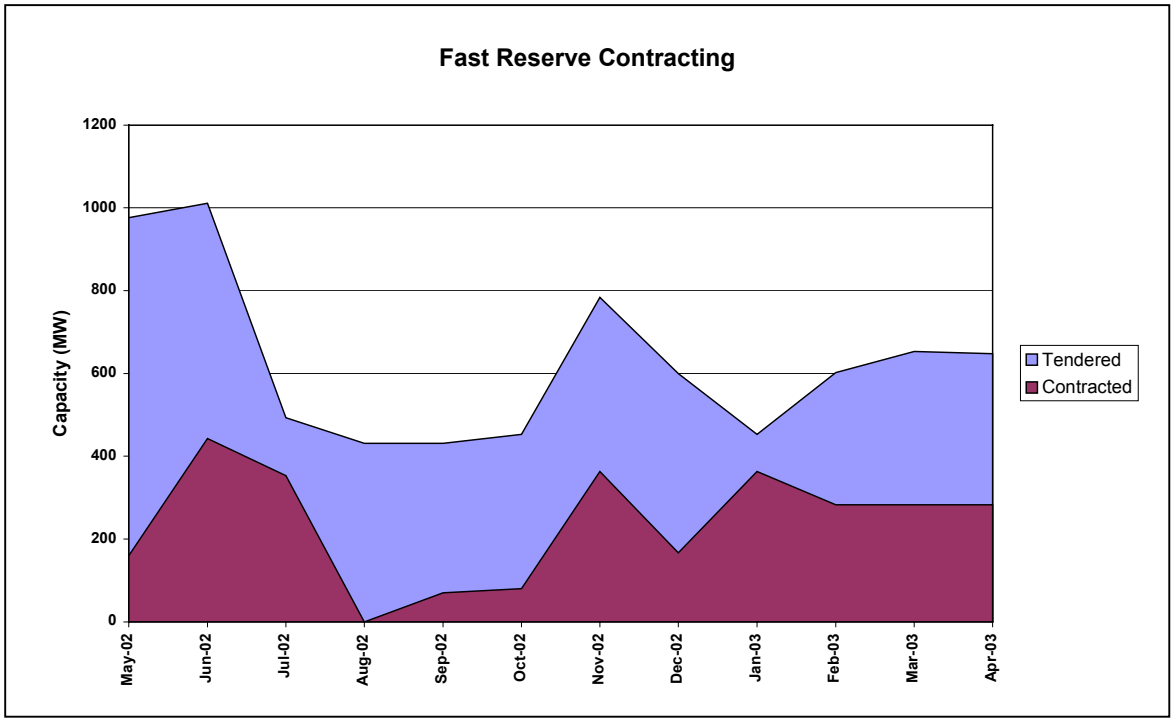
2.2 Fast Reserve

Fast Reserve is a fast acting, reliable, flexible service provided by plant capable of increasing energy production or reducing energy consumption, following receipt of an electronic despatch instruction from National Grid. Active power delivery must start within 2 minutes of the despatch instruction at a ramp rate of at least 25MW/minute, and the reserve energy should be sustainable for a minimum of 15 minutes. In order to be eligible to provide this service, a Commercial Services Agreement ("CSA") is required for the applicable unit(s).

All fast reserve contracts were derived from monthly market tenders. During the period covered by this report there have been 12 monthly tender rounds. The tables below detail the outcome of each tender round.

Tender Round	Eligible companies	Eligible units	Units tendered	Units accepted	Total MW tendered	Total MW contracted	Max GWh tendered	Max GWh contracted
May-02	6	14	6	2	976	160	293.9	80
Jun-02	6	14	6	3	1011	443	402.9	136.8
Jul-02	6	14	4	2	493	353	178.6	74.4
Aug-02	6	14	3	0	431	0	132.5	0
Sep-02	6	14	3	1	431	70	128.2	12.6
Oct-02	6	18	3	1	453	80	84.6	14.9
Nov-02	6	18	5	2	784	363	207.7	78.6
Dec-02	6	18	5	2	600	167	168	84.6
Jan-03	6	18	3	2	453	363	87.2	81.3
Feb-03	6	18	5	1	602	283	150.3	55.5
Mar-03	6	18	3	1	653	283	196.3	61.4
Apr-03	6	18	3	1	648	283	144.3	67.9

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



A total of **2848MW** of fast reserve capacity was contracted during the period, with a total spend on availability, and utilisation (excluding Bid / Offer acceptances) of **£4.2M**.

More information on Fast Reserve is available at
www.nationalgrid.com/uk/indinfo/balancing/mn_fast_reserve2.html

2.3 Standing Reserve

Standing Reserve is provided by plant that is not synchronised to the transmission system, but which can synchronise and generate within a defined time period. There are two types of contract for Standing Reserve:

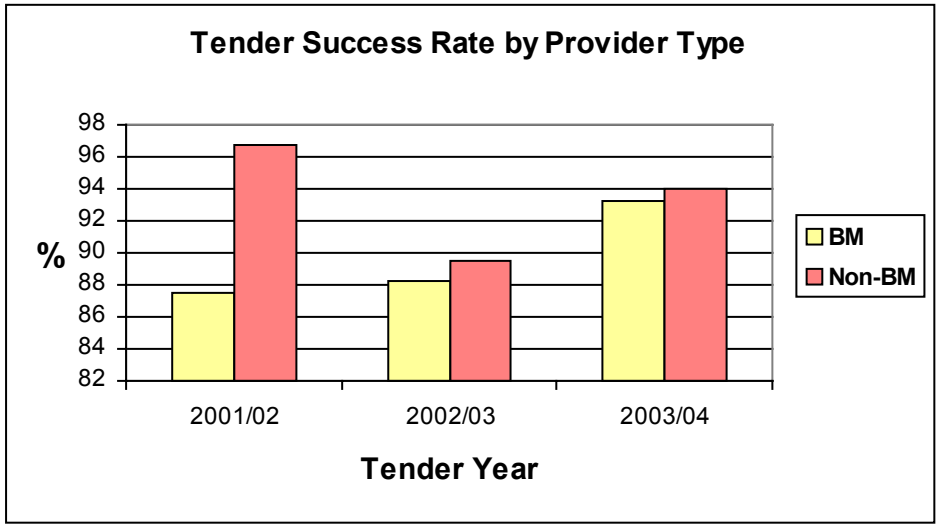
> **Balancing Mechanism Participant:** these are remunerated for utilisation of reserve via acceptance of offers in the Balancing Mechanism. Under the Standing Reserve Agreement, National Grid will pay the reserve provider directly for Standing Reserve availability (£/MW/hour).
>
> **Non-Balancing Mechanism Participant:** these are remunerated for both availability (£/MW/hour) and utilisation of Standing Reserve (£/MWh) directly through the Standing Reserve Agreement.

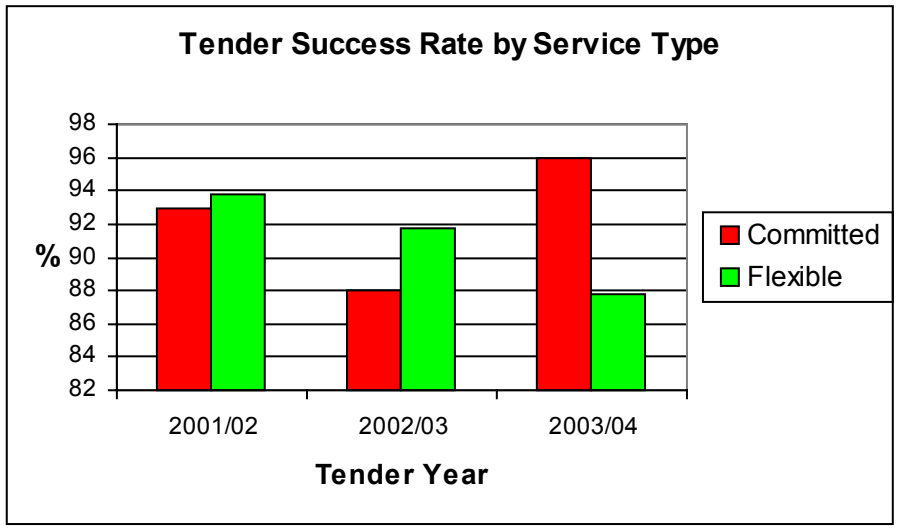
National Grid's annual requirement for Standing Reserve is split into 5 seasons, each with a defined time "window". Standing Reserve can be provided on a "Committed" or "Flexible" basis. A Committed service provider undertakes to offer service availability for all the required availability windows in each season and National Grid commits to accept and buy all services offered. A Flexible service provider is not obliged to offer services in all availability windows and National Grid is not obliged to accept and buy all the services offered.

Since 1994, National Grid has carried out an annual tender process for the competitive procurement of Standing Reserve services as an economic alternative to reserve delivered from part-loaded generation. The results from tenders during the relevant period are given below:

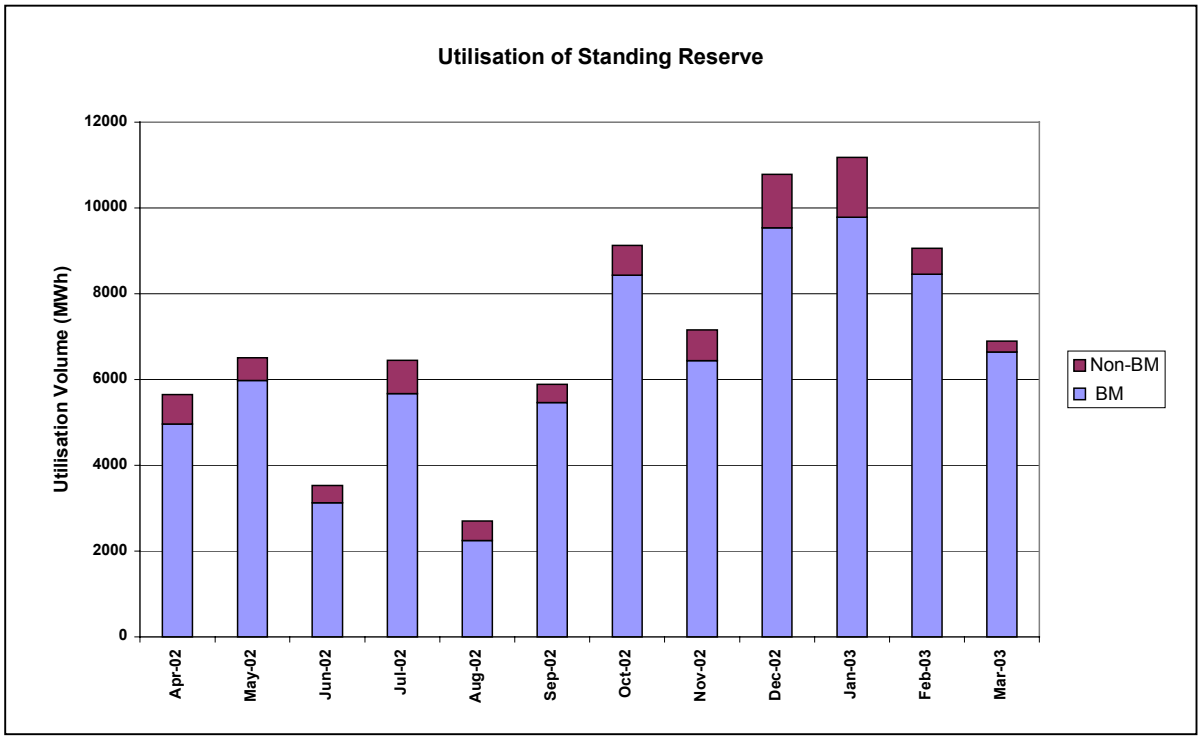
Tender Round	NUMBER TENDERED					NUMBER CONTRACTED				
	Tenders Received	BM	Non-BM	Committed	Flexible	Tenders Contracted	BM	Non-BM	Committed	Flexible
2001/02	103	40	63	71	32	96	35	61	66	30
2002/03	108	51	57	84	24	96	45	51	74	22
2003/04	111	44	67	78	33	104	41	63	75	29

Tender Round	VOLUME TENDERED (MW)					VOLUME CONTRACTED (MW)				
	Volume Received	BM	Non-BM	Committed	Flexible	Volume Contracted	BM	Non-BM	Committed	Flexible
2001/02	2130	1649	481	1804	326	1623	1206	417	1333	290
2002/03	2337	1873	464	1989	348	1822	1400	422	1484	338
2003/04	2493	1868	625	2170	323	1971	1400	571	1702	269





A monthly breakdown of the utilisation of Standing Reserve in the period 1st April 2002 – 31st March 2003 is given below.



The average availability payment for Standing Reserve during the period 1st April 2002 – 31st March 2003 was **£3.14 /MW/h** for non-working days, and **£3.16 /MW/h** for working days. The total spend on availability payments in the same period was **£21.9M**. More information on the Standing Reserve market can be found at:

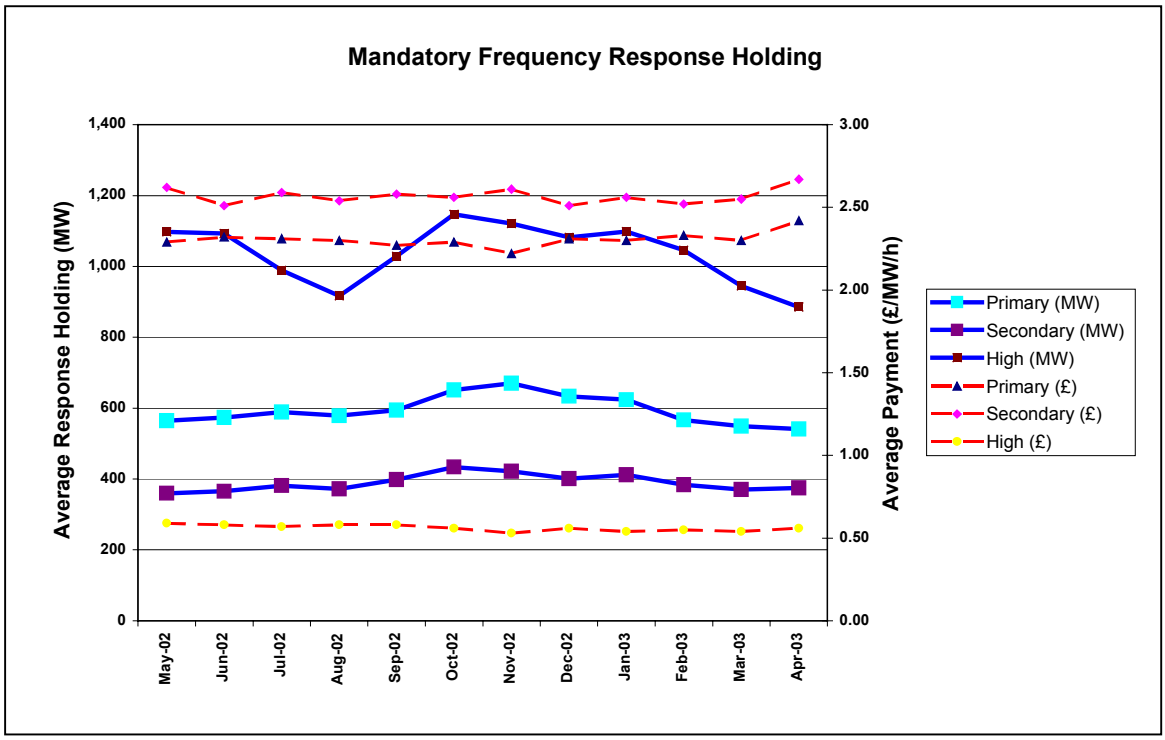
http://www.nationalgrid.com/uk/indinfo/balancing/mn_standing.html

3. Services Procured via Non-Tendered Bilateral Contracts

3.1 Mandatory Frequency Response

Mandatory Frequency Response is a mandatory service provided by generators to automatically change their active power output in response to a change in system frequency.

Payments for Mandatory Frequency Response, in the period covered by this report, comprised a Holding Payment (£/MW/h) and an Imbalance Compensation Payment[2] (£/MWh). Details on frequency response holding are given below.



The total spend on Mandatory Frequency Response holding during the reporting period was **£25.9M**

The total spend on Imbalance Compensation Payments ("Response Energy Payments" from 11/3/03) was **£8.0M**. The methodology for calculating these payments is given in CUSC section 4.1.3.9A.

[2] As of 11/3/03 the Imbalance Compensation Payment has been replaced by a "Response Energy Payment" as a result of CUSC Amendment CAP011. Further information at http://www.nationalgrid.com/uk/indinfo/cusc/mn_consultation_index.html

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. National Grid has 6 contracts in place for both firm and optional (high and low) frequency response services. The maximum response available under these contracts was 2074MW.

Frequency Control by Demand Management (FCDM) is provided by a number of demand side participants, which when aggregated together by an agent, can form a significant proportion of the total response requirement. At the start of the reporting period, 2 contacts were in place – one for a firm service, and one for a "probabilistic" service (where a minimum level of probable Response was required in order to achieve a useable, reliable service). At the end of the reporting period, only the contract for the firm service was in place.

The total amount spent on Commercial Frequency Response holding during the reporting period was **£24.2M.**

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.

There has been no requirement for any additional Fast Start capability beyond the pre-NETA provision. There were 37 Fast Start contracts in place during the period 1st April 02 – 31st March 03, with an average Capability Payment Rate of **£10.65 /h**. The total spent on Fast Start in that period was **£2.9M.** Two parties have not yet signed renewal contracts for the year 2003/04.

3.4 Warming & Hot Standby

Warming is required to ensure that there is sufficient flexible plant available at Gate Closure to meet system needs. It involves contracting with plant to reduce its notice to deviate from zero and subsequently be available to submit a Balancing Mechanism offer that can be accepted within current Balancing Mechanism timescales. Hot standby is a service subsequent to warming, whereby National Grid may ask the BMU to remain in a ready state, beyond the agreed warming period.

18 Power stations were contracted to provide this service during the reporting period, with a total contracted warming capacity of 25GW.

Payment for this service comprises two elements, each paid on a £/MW/h basis. A warming rate (alpha) which is paid in order to warm plant within a given period, and a hot standby rate (beta) which is paid to hold plant in a ready state beyond the agreed warming period. Once warmed, if plant is utilised in the Balancing Mechanism by accepting a bid, the alpha component

is not paid. The beta component, if used, will be paid regardless of plant utilisation.

- The average Contracted Warming Rate (alpha) was £8.96/MW/h.
- The average Contracted Hot Standby Rate (beta) was £6.28/MW/h.

The total spent on Warming and Hot Standby during the reporting period was **£30.4M**

Further details are available at:
http://www.nationalgridinfo.co.uk/balancing/mn_warming.asp

3.5 Intertrip Services

The intertrip service assists National Grid in securing the transmission network within agreed security standards. For certain network configurations and loadings, we may need to apply pre-fault output restrictions to power stations (or import restrictions for demand side participants), to preserve system security in the event of a transmission fault. The use of the intertrip service minimises the need for this, as the intertrip can be used to reduce the output of a power station (or demand) if such a fault occurs.

There were three generation and two demand intertrip contracts in place during the reporting period. The total amount spent on intertrip services was **£0.14M**.

3.6 Black Start

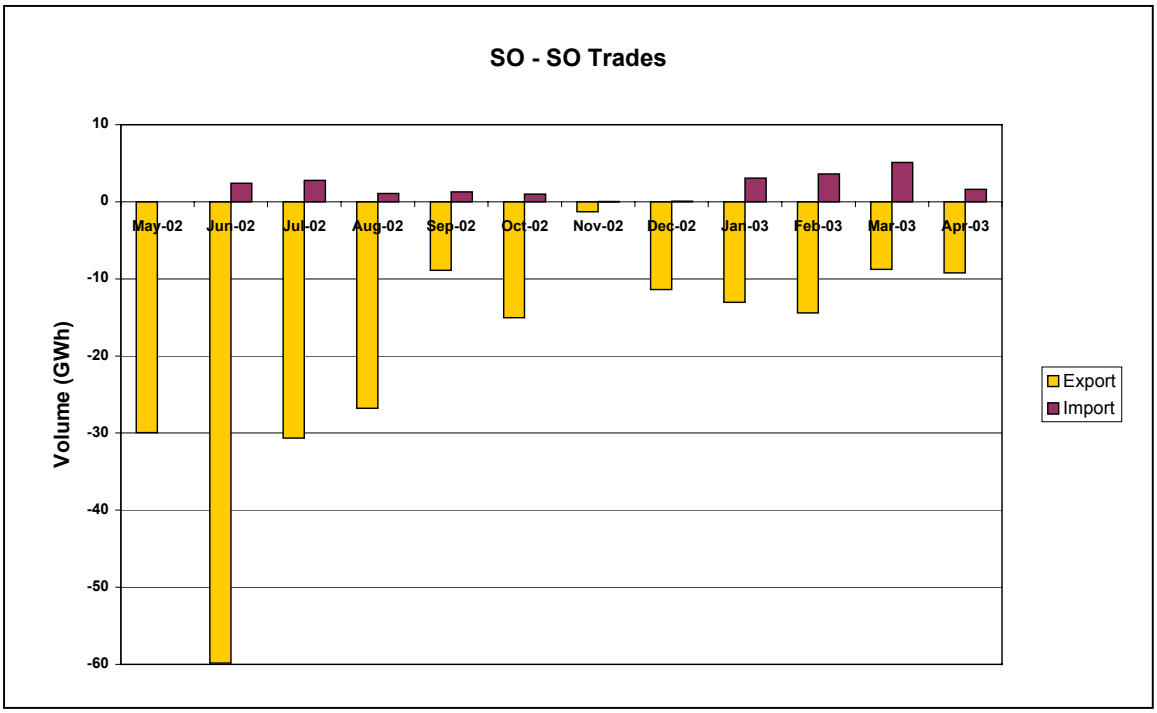
All large power systems require some contingency arrangements to enable a restart in the unlikely event that all or part of the transmission system becomes de-energised. The process of restoring the power system is known as Black Start, details of which can be found in Grid Code OC9.

During the reporting period there were 18 stations with Black Start agreements in place. The basis for providing service availability is dependent on the duration of the contract. No new agreements were entered into during the period.

The total amount spent for the availability of the Black Start service was **£9.8M**

3.7 System to System Services

System to system services are provided mutually with other Transmission System Operators connected to the England and Wales system via an interconnector. Such services may be to increase or reduce power flows across an interconnector to resolve transmission constraints on either side, or provide Emergency Assistance if required.



The total volumes of energy involved in providing system to system services during the reporting period was 229GWh Export (from England & Wales) and 22GWh Import (to England & Wales).

3.8 Other Services

National Grid procured a number of other services during the reporting period. These were to resolve specific transmission system constraints, to secure short term availability of generation during exceptional circumstances and provision of reserve by demand tele-switching.

Specific Transmission System Constraints

During the reporting period 6 contracts were entered into (with generators and demand side participants) for specific service availability in order to resolve some specific transmission system constraints. The cost of these contracts was **£11.4M**.

Short Term Secured Availability

National Grid entered into an options contract with a generator to secure its continued availability in the balancing mechanism over a 5 business day period. This action was taken in response to the exceptional circumstances in relation to the uncertainty surrounding the contractual arrangements of the generator, and the conditions on the transmission system that were prevailing at the time. The cost of this contract was **£5.34M**.

Demand Tele-switching

National Grid entered into three contracts for reserve via demand tele-switching. The service is to either temporarily interrupt domestic heating load, or shift the time that tele-switching occurs, in order to smooth the off peak system demand profile. The total spent on these contracts was **£1.3M.**

3.9 Forward Trading

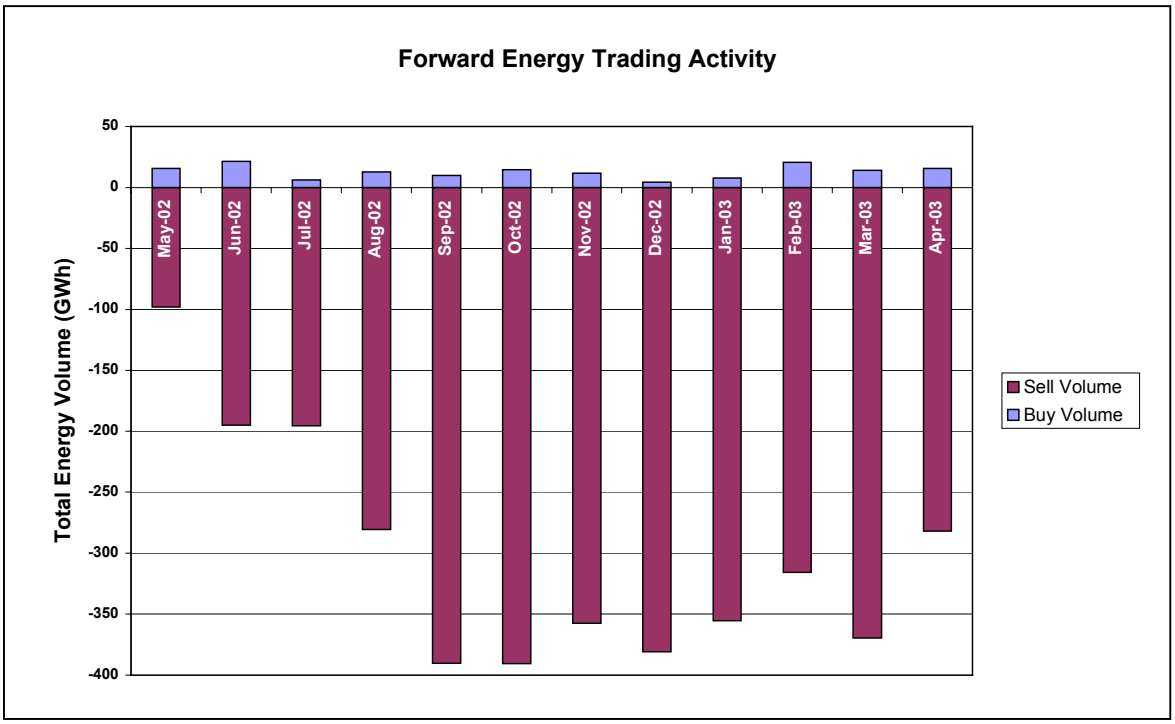
National Grid's forward trading is undertaken to reduce the overall costs of providing balancing energy, and resolve system issues as appropriate. There are a number of products and procurement mechanisms available. During the reporting period, National Grid traded a gross volume of 4571 GWh. The net cost of forward trading during the reporting period was **-£37.7M** (i.e. a net payment from counterparties to National Grid). This is due to the market being predominantly 'long' and hence National Grid trading energy in the sell direction to reduce the net imbalance. The route to market (by gross energy volume) were proportioned as follows:

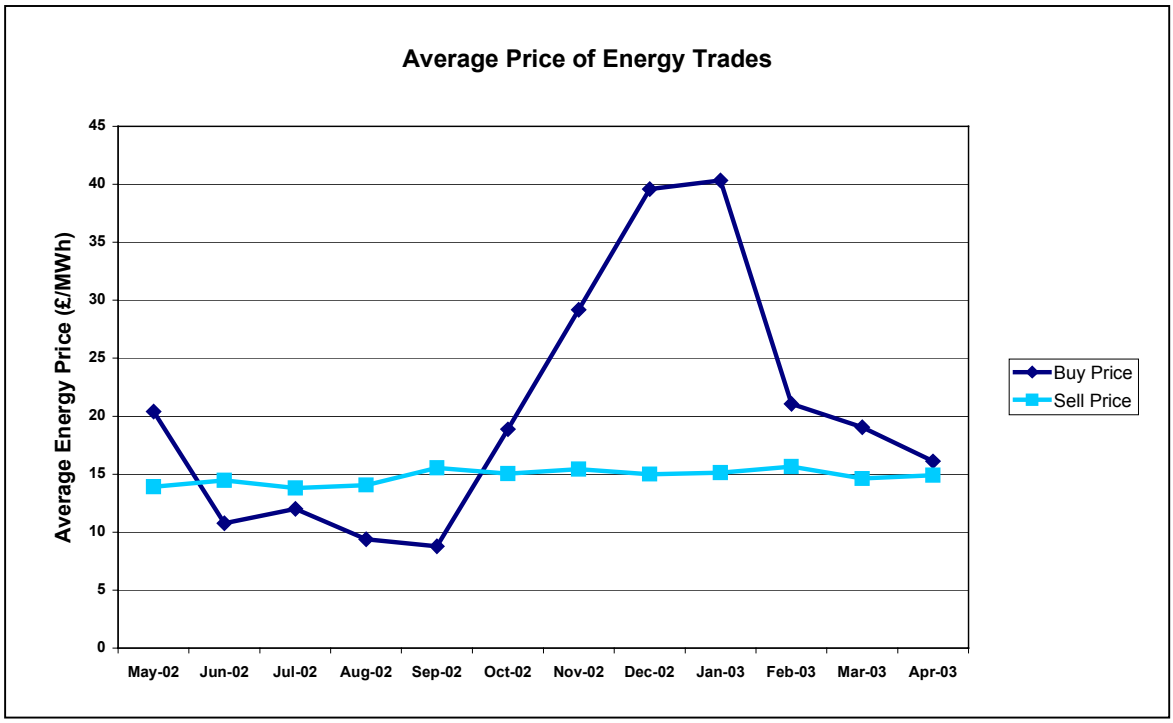
- Direct 22%
- Brokered 71%
- Power Exchanges (UKPX and APX) 7%

Over 82% of National Grid's forward trading activity (by volume) was entered into for energy balancing purposes, with the remainder being for system related reasons.

Energy Trading (excluding BMU specific trades)

During the period a total volume of over **3765 GWh** was traded for Energy Balancing purposes. Volume and average price information on these energy trades is given below:


Forward Energy Trading Activity
Total Energy Volume (GWh)
50
0
-50
-100
-150
-200
-250
-300
-350
-400
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
Sell Volume
Buy Volume


Average Price of Energy Trades
Average Energy Price (£/MWh)
45
40
35
30
25
20
15
10
5
0
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
Buy Price
Sell Price

Trading Activity by Product (including BMU Specific trades)

Power Exchanges

National Grid has traded a gross volume of 306 GWh of energy via the UKPX and APX power exchanges at an average buy price of £14.98 /MWh and an average sell price of £14.76 /MWh.

Grid Trade Master Agreements (GTMA)

National Grid trades with participants, both directly and through brokers, via GTMA's. GTMA's provide a generic framework to cover energy trading between counter-parties. An amending agreement, Schedule 7A, is available and this provides a contractual framework for BMU Specific Trades.

At 1st May 2002 there were 24 GTMA's in place which has increased to 29 as at 30th April 2003. Three of these have Schedule 7A amendments, with 10 others currently being progressed. A total of 4265 GWh of energy was traded under GTMA contracts during that period.

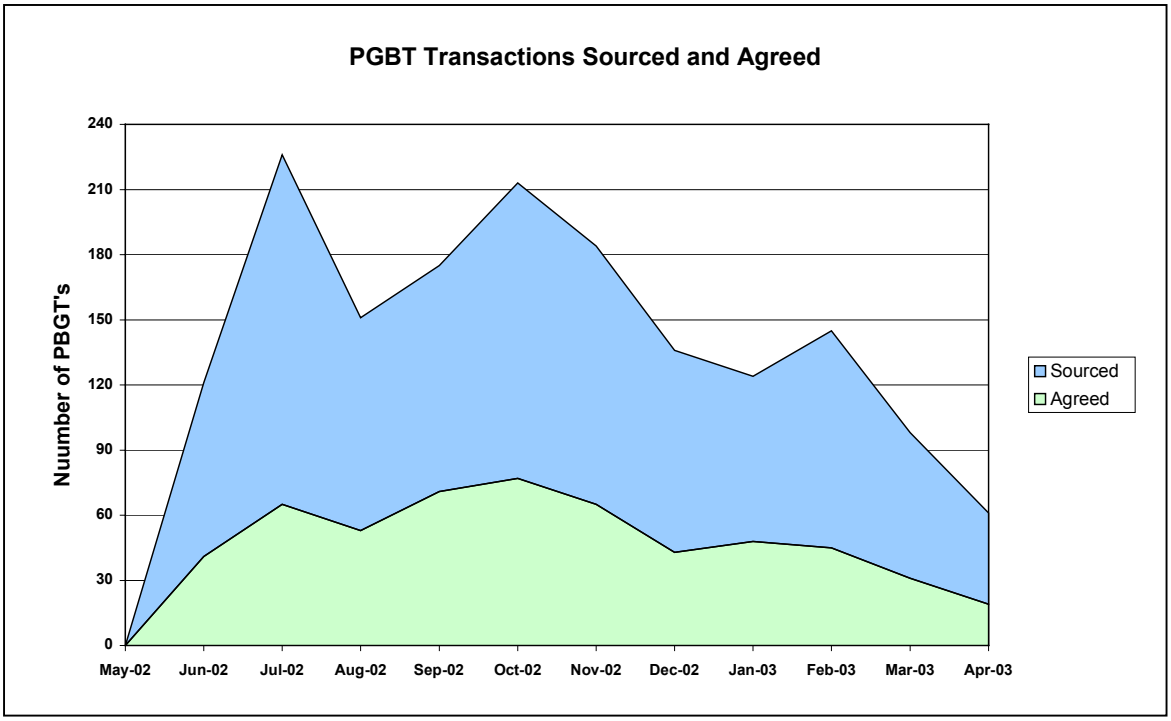
Options

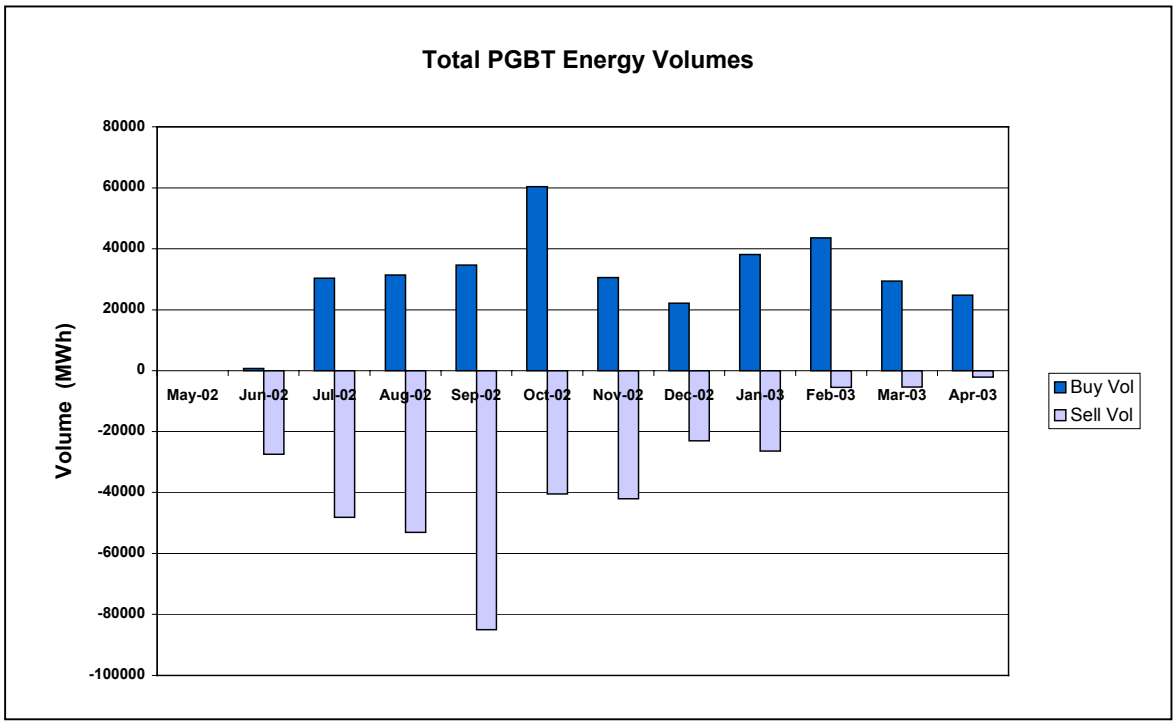
A total of 11 *specific* call options were purchased during the period, being exercised on 100 occasions out of a possible 147. One *energy* call option was purchased and exercised on 14 occasions out a possible 15, and one existing *energy* put option was exercised on 30 occasions out of possible 130. The maximum energy available via these options was 628GWh.

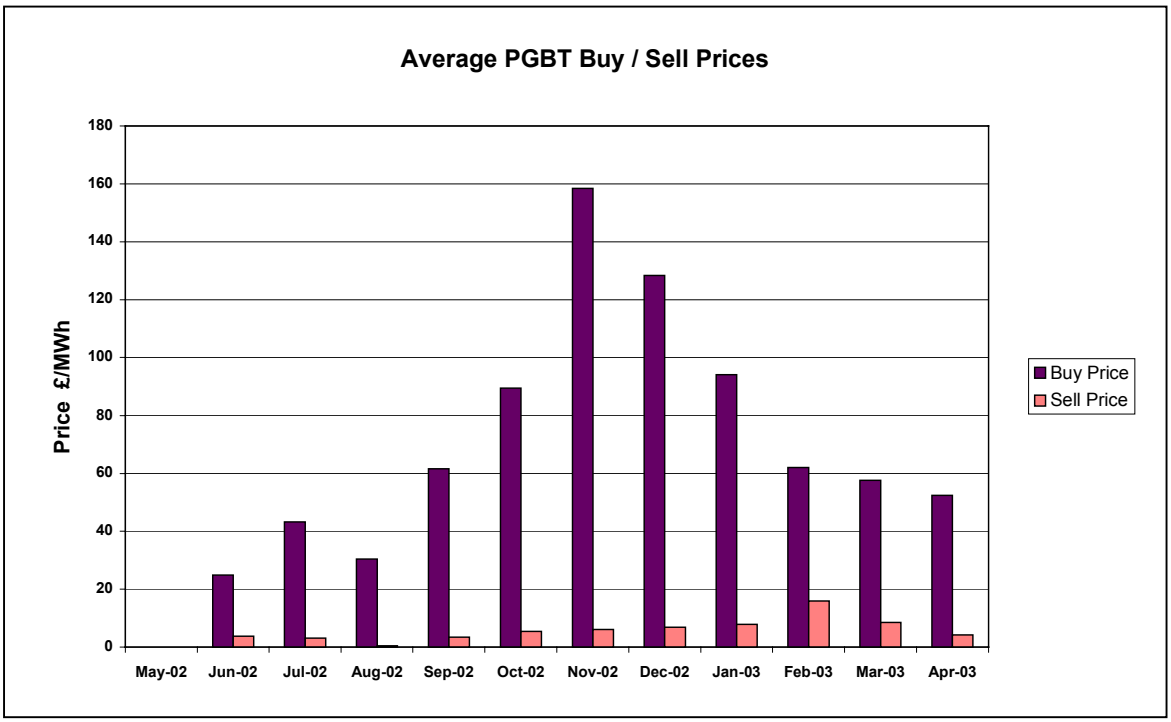
3.10 Pre-Gate BMU Transactions (PGBT's)

The development of PGBT's was as a result of "1 hour gate closure" which came into effect on 2nd July 2002. A PGBT allows National Grid to secure a BMU specific service ahead of the balancing mechanism, where it is economic or necessary to do so. In order to be able to enter into a PGBT, the counter-party must have signed a GTMA with National Grid, including schedule 7, which provides for PGBTs. At the end of the reporting period there were 14 counter-parties in this position.

Information on PGBT activity, including price, volumes and number of transactions is given in the figures below.


PGBT Transactions Sourced and Agreed
Nuumber of PBGT's
240
210
180
150
120
90
60
30
0
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
Sourced
Agreed


Total PGBT Energy Volumes
Volume (MWh)
80000
60000
40000
20000
0
-20000
-40000
-60000
-80000
-100000
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02
Jan-03
Feb-03
Mar-03
Apr-03
Buy Vol
Sell Vol

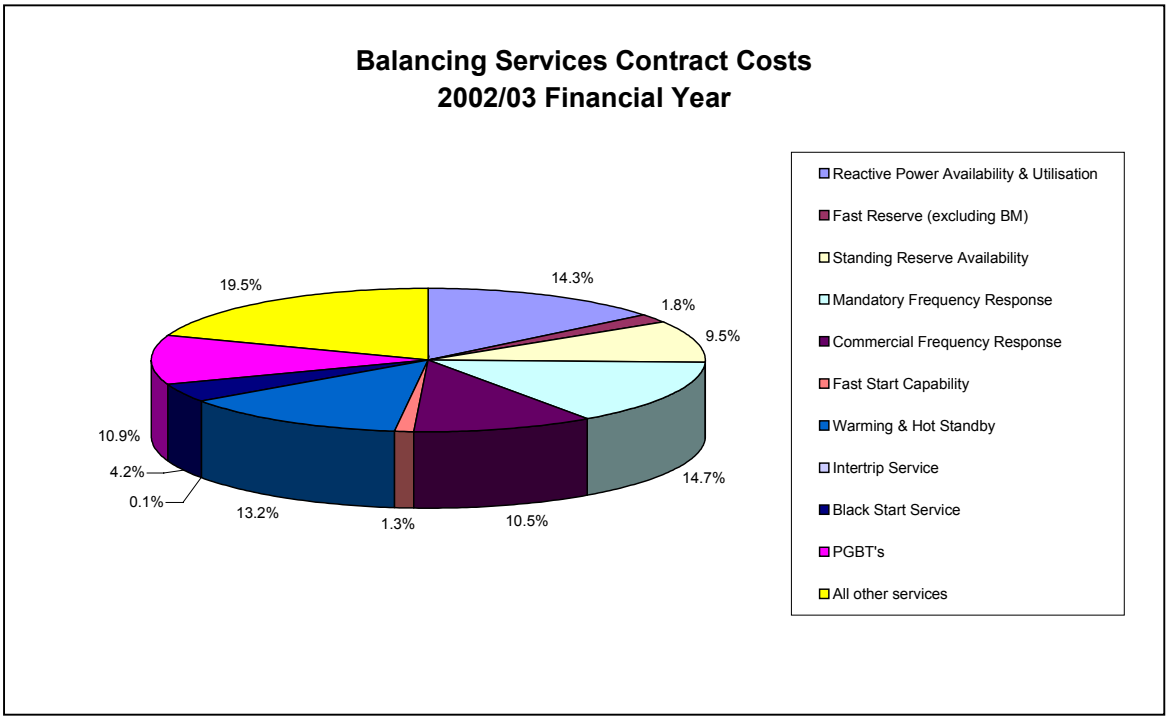


The total spend on PGBT's during the reporting period was **£25.2M**. Detail on real time PGBT transactions can be found on the BMRS (system warning page) and post event, on the National Grid information website http://www.nationalgrid.com/scripts/offer.asp

4. Summary

This report has provided information on the Balancing Services procured (or acquired) during the relevant period 1st May 2002 – 30th April 2003. Any comments or suggestions as to the scope and content of future reports should be forwarded directly to the Authority.

As a summary of financial activity, the following breakdown of balancing service costs is provided by category, for the *financial year* 2002/03.



This is based on a total net balancing services contract cost of **£193M**.

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 offer and bid 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 Special Condition AA4 of the Transmission Licence and are available on the National Grid Industry Information website at:

http://www.nationalgrid.com/uk/indinfo/balancing/index.html

Alternatively, please contact:

John Greasley
Electricity Balancing Development Manager
Email: john.greasley@uk.ngrid.com
Tel: 02476 423190