



**National Grid**

**National Grid  
Supplemental Standing Reserve  
Market Report  
for  
Contracts Effective from  
17<sup>th</sup> November 2003 to 1<sup>st</sup> April 2004**

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Operations & Trading  
January 2004

## Executive Summary

This report describes the tender procurement and evaluation process of Supplemental Standing Reserve (SSR) tenders for the service commencing 17<sup>th</sup> November 2003.

National Grid procures reserve services both on an ex-ante basis (through a market tender process) and on the day in a real time market.

Each year National Grid holds an annual Standing Reserve tender round in which a proportion of its reserve requirement is met. For the current year (1<sup>st</sup> April 2003 – 1<sup>st</sup> April 2004) approximately 2GW was procured via this process\*. The procurement and assessment decision of volumes purchased, in either the market tender process or real time market, is based on a forecast of the price and volume of reserve available in the real time market. Demand forecasts, short-term plant loss and forecast errors are also considered in this process.

Due to a forecast shortfall in the volumes of reserve available in the real time market for winter 2003-04 a short-term reserve tender was issued to procure an increase to the current level of ex-ante reserve. SSR has been contracted for working days only.

National Grid based the SSR tender process on the existing Standing Reserve tender process to expedite the process in terms of time and market awareness.

On 6<sup>th</sup> November 2003 Tenderers were notified of the results of their respective tenders. The main points are as follows:

- The service period for SSR is between 17<sup>th</sup> November 2003 and 1<sup>st</sup> April 2004.
- On 27<sup>th</sup> October 2003 ('Market Day') a total of 22 discrete tender submissions were received representing 13 sites from 8 companies (including Agents).
- Of the 22 tenders evaluated, 20 proceeded to contract. These contracts represent separate units across 12 sites.
- A total of 897MW of SSR service volume was tendered. The overall volume of successful SSR is 852MW comprising:
  - BM Participants 667MW
  - Non BM Participants 185MW
- Tenders were received from a variety of service providers consisting of Balancing Mechanism and Non-Balancing Mechanism demand and generation.
- The tenders were assessed in terms of their economic value whilst taking account of the technical requirements of the system and the other categories of reserve available.

\* The National Grid report on the tender round for 2003/04 Standing Reserve Service is available on the NGT Industry Website : [www.nationalgridinfo.co.uk](http://www.nationalgridinfo.co.uk)

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## **1. Introduction**

- 1.1 This market report describes the tenders received and the subsequent selection process that led to SSR Agreements being entered into for the period 17<sup>th</sup> November 2003 to 1<sup>st</sup> April 2004.
- 1.2 SSR service for this period is based on the contract form as described in the tender documentation issued on 14<sup>th</sup> October 2003 and available on the National Grid Industry Information website at :  
[www.nationalgrid.com/uk/indinfo/balancing/mn\\_standing.html](http://www.nationalgrid.com/uk/indinfo/balancing/mn_standing.html)
- 1.3 National Grid initiated a tender process for SSR in order to enable the procurement of an increased level of firm ex-ante reserve above that previously procured via the annual Standing Reserve tender for 2003/04.
- 1.4 This process was undertaken to investigate whether National Grid might procure an increased level of ex-ante reserve in a more economic manner than would be available in a real time market. Also by pre-contracting in this way National Grid has an increased level of certainty that the required volumes of reserve will be available in real time.
- 1.5 Communication of SSR tender opportunities and timescales was made available via the National Grid Industry Information website.

## **2. Definition of Supplemental Standing Reserve**

2.1 SSR is based on Standing Reserve but with some changes to encourage greater market liquidity and improve alignment of service specification to requirements. These changes are described below.

- An instructed delivery of active power which is fully available in 120 minutes or less and sustainable for at least 2 hours.
- In order to reflect the varying need for reserve during the winter, National Grid has procured additional reserve via SSR for working days only (being Monday to Friday of each week but excluding Bank Holidays) . The SSR service period has been split into two Seasons, and two periods in each working day have been specified. These periods are referred to as Availability Windows.
- Non-Balancing Mechanism service providers can choose whether to tender to provide a 'Committed' or 'Flexible' service. Once a 'Committed' contract is entered into, providers are obliged to make the service available in all tendered Availability Windows and National Grid will pay for all the availability offered. In the case of a 'Flexible' service, providers are not obliged to make the service available in all windows and National Grid is not obliged to accept any declarations of availability (payment is only made if the availability is accepted). BM participants can only provide a 'Committed' service.

### **3. Tender Process**

3.1 This tender was held to secure an appropriate level of SSR service provision for the period 05:00 on 17<sup>th</sup> November 2003 to 05:00 on 1<sup>st</sup> April 2004.

3.2 The tender process involved the following:

- Initial statement of intent to procure SSR at the Operational Forum on 6<sup>th</sup> October 2003.
- Information To Tender (ITT) documentation produced and published on National Grid's Industry Website on 14<sup>th</sup> October 2003.
- Tender opportunity communicated to potential providers by direct mailing and notification on the National Grid website on 14<sup>th</sup> October 2003.
- Addendum to include additional flexibility to the SSR Contract issued on 15<sup>th</sup> October 2003. (See page 18)
- Market Day (deadline for tenders to be submitted to National Grid) held on 27<sup>th</sup> October 2003.
- Tender assessment between 28<sup>th</sup> October 2003 and 5<sup>th</sup> November 2003.
- Tenderers notified of the outcome of their tenders on 6<sup>th</sup> November 2003.
- SSR Agreements offered to all successful tenderers.
- All Agreements that proceeded to contract signed by 14<sup>th</sup> November 2003.
- Contract Go-Live : 17<sup>th</sup> November 2003.

#### 4. Tenders Submitted

4.1 A total of 22 discrete tender submissions were received, representing 8 companies and 13 different sites. This translates into a maximum volume of 897MW, of which 230MW was from Non-Balancing Mechanism providers.

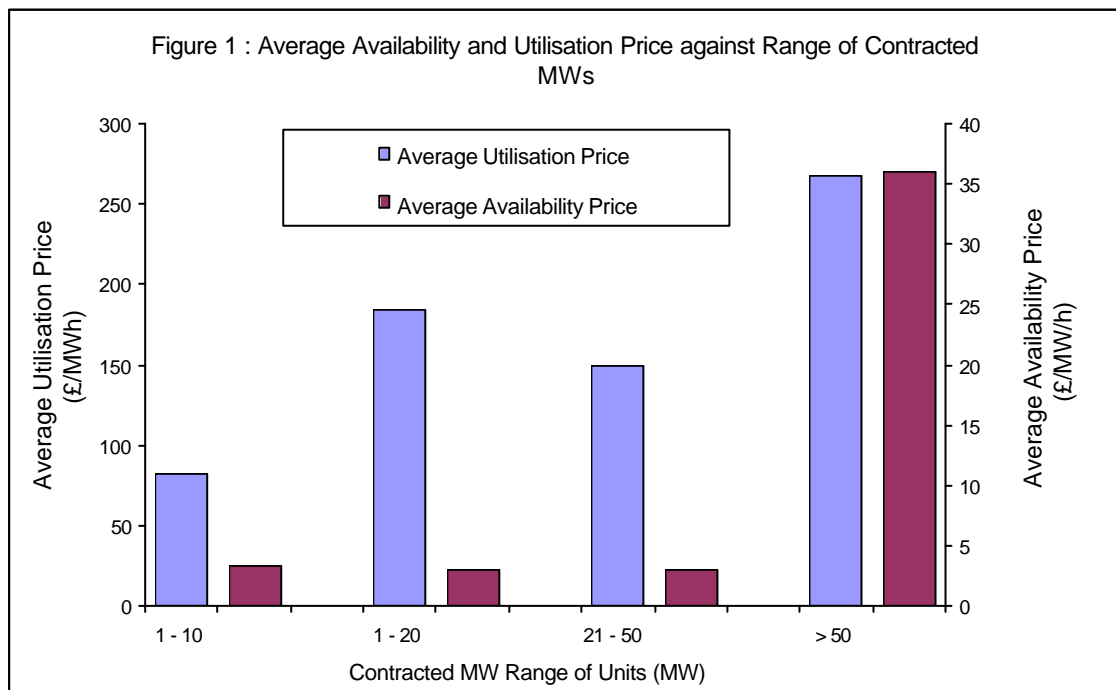
4.2 The proportion of Committed/Flexible SSR service options tendered was as follows:

Committed Only	717 MW
Flexible Only	180 MW
<b>Total Volume</b>	<b>897 MW</b>

4.3 All tenders were required to comply with the tender criteria, and to provide certain information with regard to any service limitations. These parameters are discussed further in Appendix 5.

4.4 In order to incorporate extra flexibility to the SSR Contract, National Grid issued an addendum that allowed Participants to tender for a Committed service that covers only one window out of the two specified in either of the seasons. The addendum can be found in Appendix 6.

4.5 Pricing for SSR is comprised of Availability and Utilisation payments. The average Availability and Utilisation price for units within four MW ranges is shown in Figure 1.



## **5. Tender Assessment**

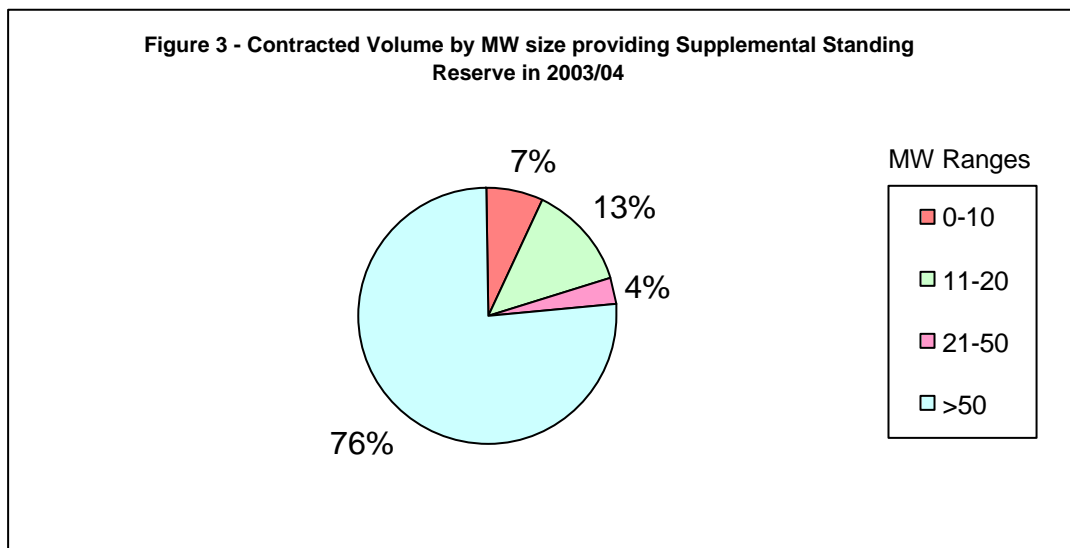
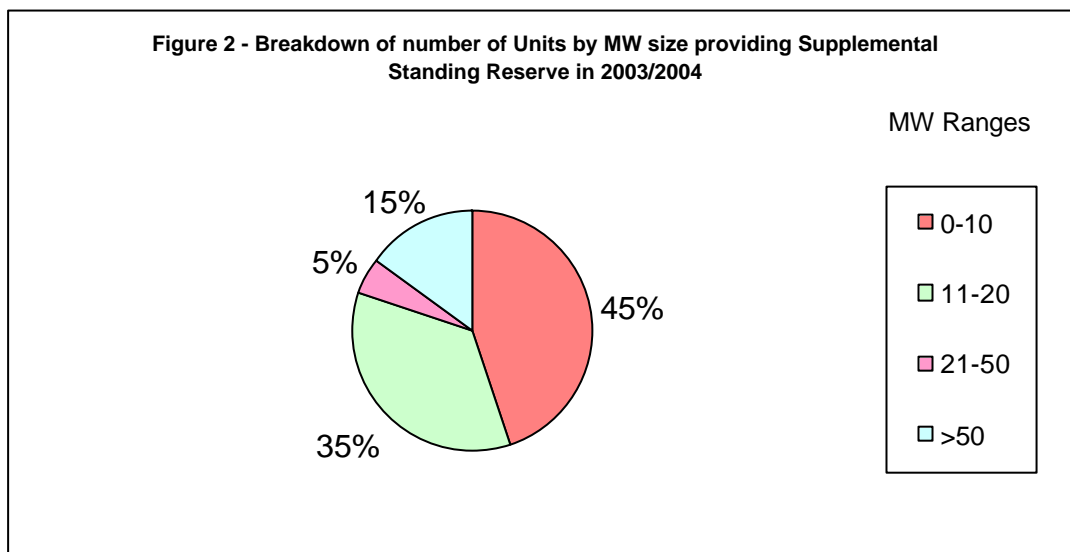
- 5.1 All tenders were evaluated separately. The objective of the assessment was to: -
- Identify the minimum cost solution in meeting reserve requirements using the tenders received and other reserve alternatives for each Season.
  - Re-optimize, if necessary, retaining any plant required to meet the system considerations outlined in Appendix 5.
- 5.2 The assessment model selected the most economic tenders taking into account the following variables: -
- forecast costs of Operating Margin by season;
  - forecast volumes of reserve available in real time
  - tendered data for SSR;
  - the forecast utilisation of Operating Reserve;
  - any fixed costs associated with service contracts and monitoring systems.
- 5.3 Existing Standing Reserve contracted volume, generation shortfall statistics and demand forecast errors were analysed to predict the system requirement for Operating Reserve against which tenders were evaluated. The generation shortfall statistics and demand forecast errors are also used as the basis to forecast the likely levels of Operating Reserve utilisation. Operating Reserve price forecasts under NETA contribute to the assessment and determine the optimal balance between synchronised plant in the Balancing Mechanism with 'headroom', Standing Reserve and SSR options.
- 5.4 For each season the assessment model evaluated the price of each submitted reserve tender alongside the forecast price of Operating Reserve. The model selected the most economic combination of Standing Reserve options, SSR tenders and synchronised plant in the Balancing Mechanism with 'headroom' (based upon the forecast reserve utilisation curve) until it has procured the forecast total requirement for reserve.

## 6. Assessment Results

6.1 Of the 897MWs tendered, 852MWs were successful across 13 sites. This comprised:

BM Providers	667 MW
Non BM Providers	185 MW
<b>Total volume</b>	<b>852 MW</b>

6.2 Figures 2 and 3 below identify the proportion of units (in four MW ranges) providing SSR and the percentage of contracted volume from each MW range. There are 20 units in total across the 12 contracted sites.



Further information and enquiries on SSR should be directed to:

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For any other information please visit the National Grid website on the following address:

[www.nationalgrid.com/uk/balancing/indinfo](http://www.nationalgrid.com/uk/balancing/indinfo)

# Appendices

**Appendix 1 – Breakdown of the Number of Tenders**

Tender	NUMBER TENDERED					NUMBER CONTRACTED				
	Tenders Received	BM	Non-BM	Committed	Flexible	Tenders Contracted	BM	Non-BM	Committed	Flexible
2003/04	22	4	18	8	14	20	4	16	7	13

**Appendix 2 – Breakdown of the Volume of Tenders**

Tender	VOLUME TENDERED (MW)					VOLUME CONTRACTED (MW)				
	Volume Received	BM	Non-BM	Committed	Flexible	Volume Contracted	BM	Non-BM	Committed	Flexible
2003/04	897	667	230	737	160	852	667	185	717	135

### Appendix 3 – Supplemental Standing Reserve Contracted Capacity 2003/2004

Size of Unit (MW)	Total MW Contracted	Number of Units		Average MW/Unit
		BMU	NBMU	
0 – 10	59	-	9	6.56
11 - 20	113	1	6	16.14
21 - 30	30	-	1	30
31 – 40	-	-	-	-
41 – 50	-	-	-	-
>50	650	3	-	216.67
<b>TOTAL</b>	<b>852</b>	<b>4</b>	<b>16</b>	<b>42.64</b>

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### Appendix 4 – 2003/04 Service Seasons and Windows

Service Seasons		Service Windows (Inclusive)	
		Working Days Only	
A	05:00 hours on 17th November 2003 to 05:00 hours on 2 <sup>nd</sup> February 2004	I	07:00 – 14:00
		II	15:30 – 21:00
B	05:00 hours on 2 <sup>nd</sup> February 2004 to 05:00 hours on 1 <sup>st</sup> April 2004	I	07:00 – 14:00
		II	16:30 – 20:00

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## Appendix 5 – System Considerations for Selection of Reserve

1. The requirement for Reserve varies throughout the day depending on the generation mix and demand profile. Changes in generation and demand covered by reserve can occur at any time and therefore Operating Margin must be maintained at all times. In meeting this requirement economically, four main aspects must be considered: -
    - (a) Any inherent reserve;
    - (b) Level of reserve required;
    - (c) Cost of reserve options; and,
    - (d) Operating parameters of the reserve plant.
  2. The despatch of reserve and/or Balancing Mechanism actions takes account of parameters such as:-
    - (a) System requirements;
    - (b) Dynamic parameters;
    - (c) Economics;
    - (d) Minimum operating levels; and
    - (e) Contingency planning.
  3. The demand profile and the parameters described above may result in times when the level of reserve required is provided by part loaded generation.
  4. There are times when this Operating Reserve is not sufficient and other reserve options need to be considered. The rationale of contracting for only limited number hours of each day is borne out by actual utilisation of reserve. Sensitivity analysis shows that the benefits of extending the service windows would be outweighed by the cost of additional availability payments, although National Grid still reviews, annually, the timing and duration of service windows.
  5. Tender submissions included a variety of parameters, as required, covering the technical nature of the reserve service. Information provided with the tender included technical parameters of the Reserve service offered and other factors such as the time required in order to initiate the service (Response Time), and the duration for which the service could be sustained (Maximum Utilisation Period).
  6. The SSR service requires a maximum Delivery Time of 120 minutes. It is of greater benefit and value to National Grid to have as short a Response Time as possible.
  7. Due to the limitations of a finite transmission system, there can exist geographical restrictions on the selection of reserve providers. However, as with the issue of Response Time, the natural variance in the geographical disposition of tendered services means that this does not normally impinge heavily on the selection.
  8. The minimum size of a discrete tender is set at 3MW. This is an appropriate
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compromise between a sufficiently low threshold in order to permit as many providers as possible to tender, and the practicality of and cost to National Grid to despatch a large number of individual providers in a short space of time. Given the large number of small Non-Balancing Mechanism contracts that National Grid has to operate, a PC based monitoring and despatch system called Standing Reserve Despatch (SRD) has been developed to enable National Grid to manage more efficiently service declarations, call-off of providers and monitoring performance against contracted parameters.

9. The anticipated costs incurred by National Grid in the SRD installation (at new sites - where necessary) and other fixed costs (contract administration) are accounted for on a site (or tender) specific basis as appropriate in the assessment.

## Appendix 6 – Addendum to SSR Invitation to Tender

### Supplemental Standing Reserve (for Supplemental Standing Reserve Agreements Effective 17th November 2003)

#### Addendum to the Invitation to Tender Documentation

DOCUMENT AND RELEVANT SECTION/PARAGRAPH	AMENDMENT
<i>Explanation and Tender Guidance Document</i>	
Last paragraph of Section 1 (What is SSR)	<p>Insert the word “tendered” between “all” and “Availability Windows” in the fourth line</p> <p>Amend the two references to “agreement” in the last line to “availability”</p>
Section 3 (Contract Types), Committed Service, paragraph (a)	Amend as follows “SSR must be declared and made available to National Grid during <u>all</u> complete Availability Windows tendered in respect of a Season;”
Section 10 (Guidance Notes for Completion of the Tender Sheets) – Tender Sheet 3 - Availability - (Committed Tenders Only)	<p>Insert a new paragraph at the end of the Section entitled Tender Sheet 3 as follows:-</p> <p><b><u>Part III - Availability Windows</u></b></p> <p><b>Part III is to be completed if a tenderer does not wish to tender for all Availability Windows in a Season for which the service has been tendered.</b></p> <p>10. Please delete as appropriate to indicate whether or not you will offer SSR in each Availability Window in a tendered Season.</p> <p><b>If this section is not completed then National Grid will assume that the service tendered is in respect of all Availability Windows in the relevant Season.”</b></p>
<i>Tender Sheets &amp; Certificate</i>	
Tender Sheet 3	Replace current Tender Sheet 3 with revised Tender Sheet in attached Appendix
<i>Supplemental Standing Reserve Agreement (Balancing Mechanism Participant)</i>	
Appendix 4 - Availability Windows	The table will be amended to remove details of any Availability Windows for which SSR has not been tendered by the Reserve Provider.
<i>Supplemental Standing Reserve Agreement (Non-Balancing Mechanism Participant)</i>	
Appendix 4 - Availability Windows	The table will be amended to remove details of any Availability Windows for which SSR has not been tendered by the Reserve Provider in a Season in which the Reserve Provider is providing a “committed” service.

**Appendix 6 (ctd)**

**TENDER SHEET 3**

**Availability – (Committed Tenders Only)**

<sup>1</sup>Tenderer's Name: \_\_\_\_\_

<sup>2</sup>Unit/Site Identification: \_\_\_\_\_

<sup>3</sup>Substitute Unit/Site Identification (if any): \_\_\_\_\_

AVAILABILITY

**4.1.1.1 Part I – For Whole Term Only**

Term Limit	<sup>4</sup> Utilisations	National Grid not permitted to select only one of Seasons	<input type="checkbox"/>
Weekly Limit	<sup>5</sup> Utilisations		

**4.1.1.1 Part II – For Partial Term Only**

SEASON	CONTRACTED DAYS	
	SEASONAL LIMITS	
A. 05:00 hours on 17 NOVEMBER 2003 to 05:00 hours on 2 FEBRUARY 2004	<sup>7</sup>	Utilisations
B. 05:00 hours on 2 FEBRUARY 2004 to 05:00 hours on 1 APRIL 2004		Utilisations

<b>WEEKLY LIMITS</b>	<sup>8</sup> Utilisations	National Grid not permitted to select only one of Seasons	<input type="checkbox"/>
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**4.1.1.1 Part III – Availability Windows<sup>10</sup>**

SEASON	CONTRACTED DAYS	
	WINDOW TIMES	AVAILABILITY IN WINDOW
A. 05:00 hours on 17 NOVEMBER 2003 to 05:00 hours on 2 FEBRUARY 2004	07:00-14:00	Yes/No*
	15.30 - 21.00	Yes/No*
B. 05:00 hours on 2 FEBRUARY 2004 to 05:00 hours on 1 APRIL 2004	07:00-14:00	Yes/No*
	16:30-20:00	Yes/No*

\*Delete as Appropriate