



**National Grid**

**National Grid Reactive Market Report**

**Sixth Tender Round for Obligatory and  
Enhanced Reactive Power Services**

**Contracts Effective from 1 October 2000**

Prepared by  
Market Development  
Contracts and Trading

**8 November 2000**

## **Executive Summary**

This report describes the sixth tender round process for reactive market contracts commencing 1 October 2000. It includes the prices and reactive capability data of successful tenders. The report also includes metered Mvarh utilisation from all eligible Service Providers for the period 1 April 2000 to 30 September 2000. Estimates of the reactive contribution of the National Grid Transmission System for the same period are also included.

National Grid evaluated all the tenders received against economic purchase and technical performance criteria in accordance with the agreed terms of the market mechanism. On 14 August 2000 tenderers were notified of the results of their respective tenders. The main points are as follows:

- X On 12 June 2000 ('Market Day') tenders were received from 15 out of a possible 58 centrally despatched generating units representing 10 stations from 6 Generating Companies. All were in respect of the Grid Code Obligatory Service only. No tenders were received from non centrally despatched providers.
- X The modest number of tenders received reflects the fact that the majority of eligible gensets elected to participate in tender rounds for contracts commencing 1<sup>st</sup> April.
- X All tenders received were for a duration of 12 months.
- X Tenderers included both portfolio and independent generating companies.
- X Of the 15 tenders evaluated, National Grid offered Market Agreements to 9, all of which proceeded to contract.

Therefore, as at 1 October 2000 there are a total of 98 despatch units from a possible 147 on a reactive Market Agreement, 89 from tender round five and 9 from this, the sixth tender round.

The next market day for Market Agreements commencing on 1 April 2001 is 1 December 2000. Invitation To Tender (ITT) packs have been available on request since 6 October 2000 for Service Providers wishing to submit a tender. Despatch Units with contracts commencing 1 April 2000 cannot be re-tendered until the seventh round for contracts commencing 1 April 2001 at the earliest, in accordance with the 12 month minimum contract duration.

For further information, please contact Paul Bagg, Contracts and Trading on 02476 42 3128.

**Contents**

1	Introduction .....	4
2	Voltage Requirements .....	4
3	Results of tender round six.....	5
3.1	Nature of Tenders Received .....	5
3.2	Tender Assessment.....	5
3.3	Observations of tender round six.....	5
3.4	Assessment Results .....	6
3.5	Concluding Observations .....	7
4	Reactive Genset Mvarh Utilisation .....	8
5	Comparisons of Tender Rounds 2,4 and 6 .....	9
6	Estimates of National Grid System Reactive Utilisation April to September 2000 ...	10
7	Exceptional Reactive Power Service Requirements .....	12
8	Appendices	
	Appendix 1 - Centrally Despatched Gensets position at 1 October 2000.....	13
	Appendix 2 - Reactive Market Agreement status at 1 October 2000 .....	15
	Appendix 3 - Successful tender details for contracts commencing 1 October 2000. .	16
	Appendix 4 - Reactive Power generation utilisation volumes by genset April 2000 to September 2000.....	19
	Appendix 5 - Tender Assessment procedure.....	26
	Appendix 6 - Contact Numbers.....	29
	Figure 1 - Geographic distribution of Service Providers highlighting those With market agreements and those on DPM (Default Payment Mechanism).....	30

## **1 Introduction**

- 1.1 On 13 June 2000, National Grid held the sixth Reactive Power Market tender round. This enabled any potential provider that fulfilled the qualification criteria specified in Schedule 5 of the Master Connection & User System Agreement (MCUSA) to tender for a Market Agreement.
- 1.2 Potential providers include Users already providing the minimum Grid Code Obligatory Reactive Power Service (ORPS). Such Users may offer alternative payment terms to the default payment arrangements for the provision of voltage support to the National Grid Transmission System. Furthermore, this mechanism also permits Users the opportunity to provide reactive power capability in excess of the Grid Code obligations, together with any other eligible Service Provider able to provide a meaningful service - a so called AEnhanced Reactive Power Service".
- 1.3 This market report provides information and results of the tender evaluation process, and describes the contractual position for the provision of Reactive Power services to the National Grid Transmission System as at 1 October 2000.
- 1.4 This report also sets the outcome of this sixth Reactive Power Market tender round in the context of previous tender rounds and the services delivered to the National Grid Transmission System.
- 1.5 Estimates of the National Grid Transmission System utilisation for the period April 2000 to September 2000 have been included.
- 1.6 Under the provisions of MCUSA Schedule 5, since 1 April 2000 the capability element of the Default Payment Mechanism (DPM) ceased and default reactive payments are made on metered reactive utilisation only.

## **2 Voltage Requirements**

- 2.1 National Grid manages the voltage of the supergrid system, to meet Transmission Licence requirements for secure and stable power transmission and to ensure quality of supply to customers. Voltages are largely determined by the flows of reactive power on the system. National Grid ensures that reactive power resources are provided on a local basis to meet the constantly varying needs of the system and that there is sufficient reactive power reserve available to meet contingencies.
- 2.2 Generating Units provide reactive power capability, and have the ability to vary their reactive power output as a requirement of the Grid Code. The power system itself has inherent reactive gains and losses, which vary in accordance with changes in power flows and voltage. National Grid installs reactive compensation plant in parts of the system where there is insufficient generator reactive capability to meet requirements and where voltages cannot be regulated effectively or economically by other means.

- 2.3 Dynamic reserves of reactive power are essential for system operation. National Grid values reactive capability as it gives rise to increased confidence in the availability of a post-fault service. Although the capability element of the DPM has ceased, National Grid still seeks capability based market agreements to ensure post fault reserves are maintained.

### **3 Results of tender round six**

#### **3.1 Nature of tenders received**

- 3.11 Tenders were received from 15 generating units at 10 power stations, representing 6 Generating Companies.
- 3.12 One tender was received from a company not having tendered in the Reactive Market before.
- 3.13 All tenders that proceeded to contract were from Centrally Despatched providers offering the Grid Code ORPS service only with contract duration of 12 months.
- 3.14 Of the tenders received, the majority appeared to be seeking reactive capability biased contracts.
- 3.15 Most tenders included capability prices for hours available. Three out of the nine successful tenders wished to be paid capability money on the basis of hours synchronised. This is helpful to National Grid in aligning its forecast of likely synchronisation in respect of marginal plant with that of the Service Provider.

#### **3.2 Tender Assessment**

- 3.21 Tender assessment was carried out in accordance with evaluation criteria specified in Appendix 6 of MCUSA Schedule 5. Details of this are more fully described in Appendix 5 of this report.

#### **3.3 Observations of tender round six**

- 3.31 The majority of tenders were priced with a 'kinked' price curve for Available Capability across the range of contract breakpoints, providing National Grid with a clear cost signal as to the tenderers preferred incentive to maintain the capability. This meant that the tenderer has placed a superior incentive upon themselves to maintain capability than that given by the DPM. In a number of the cases, this consideration had the potential to influence the decision whether to accept or reject a market agreement. In cases where capability considerations are material, a genset's previous record of reactive shortfalls is a factor considered in tender assessment.

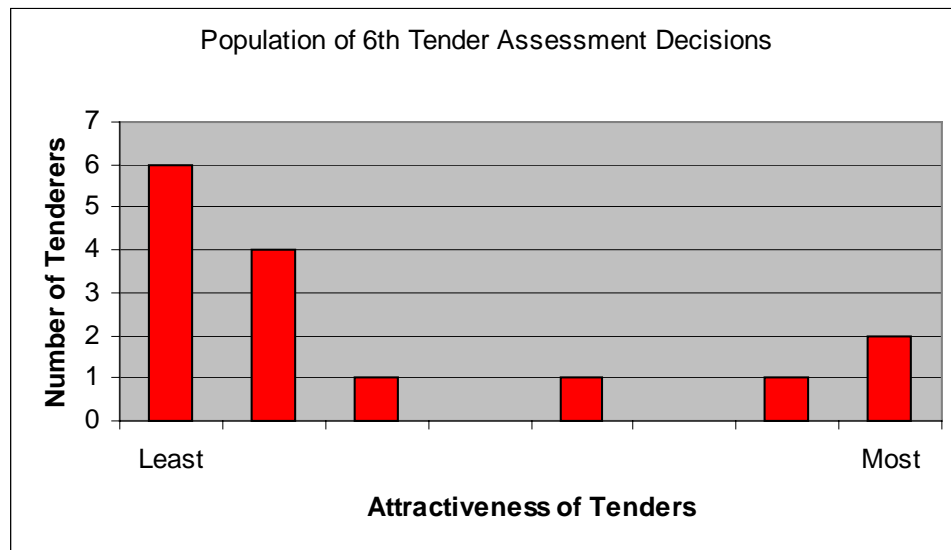
3.32 Many Service Providers offered utilisation prices below the default payment figure applicable to 2000/01 of £1.30/Mvarh. To compensate for this, these types of tender requested a payment for capability, but would still undercut the DPM in most, if not all cases. National Grid values this form of tender as it enables the optimisation of Mvarh despatch, i.e. the re-despatch from more expensive to cheaper sources.

3.33 The majority of tenderers' utilisation price for the final breakpoint was above that of the DPM. This signals to National Grid that the generator would prefer not be despatched in this region of operation. Efforts would be made by the System Operator not to despatch these generators at the outer limits except perhaps under fault conditions.

### 3.4 Assessment Results

3.41 Of the 15 tenders evaluated, National Grid offered Market Agreements to 9. All 9 proceeded to contract.

3.42 The range of assessment outcome is shown in the histogram below. A number of acceptance decisions made were from tenders towards the least attractive end of the range. Tenderers demonstrated increasing awareness and knowledge of the reactive market process.



*Histogram of 6th tender round assessment decisions*

- 3.43 A complete list of Centrally Despatched gensets for 2000/2001 is given in Appendix 1, which also records those that have signed market agreements. Whether or not they will be in a position to tender into Tender Round 7 depends upon their existing contractual status. Appendix 2 provides a definitive list of Market Agreements applicable from 1 October 2000, with Figure 1 illustrating the geographic distribution of market and default agreements.
- 3.44 Details of the successful tenders submitted for contracts commencing 1 October 2000 are listed in Appendix 3. Given the differences between location, genset utilisation and market bid structures, National Grid has not sought to construct any meaningful summaries of this successful tender data across gensets.

### **3.5 Concluding Observations**

- 3.51 Tender round six is comparable with tender rounds two and four, as all occur mid financial year. Tenderers appear to be continuing to adopt a financial year contracting strategy, with mid-year participation significantly lower. In percentage terms, tender rounds 2, 4 and 6 have seen respectively 9%, 20% and 26% participation by eligible gensets. Of those tenders participating the percentages proceeding to contract from rounds 2, 4 and 6 are 40%, 20% and 60% respectively.
- 3.52 Since 1 April 2000 payments under the DPM have been made purely on utilisation. National Grid values capability biased tenders which are structured with lower utilisation (./Mvarh) prices. Such tenders will offer greater certainty for both National Grid and tenderers and provide a basis for economic despatch.
- 3.53 All the tenders received were in respect of ORPS only and were of 12 months duration. National Grid welcomes longer-term tenders and tenders offering an Enhanced Reactive Power Service (ERPS). However the value of such contracts may change from year to year as system reactive needs evolve.

#### 4 Reactive Genset Mvarh Utilisation

- 4.1 This section details a six-month breakdown of reactive metered genset utilisation for the period April 2000 to September 2000.
- 4.2 Table 4.1 shows the Mvarh utilisation volumes (lead plus lag) for all eligible despatch units on a monthly basis. A breakdown by individual genset for the period April 2000 to September 2000 is provided in Appendix 4.

Month	Utilisation Volume (Tvarh)		
	Market Agreements	DPM	Total = Market Agreements + DPM
Apr 00	1.59	0.55	2.14
May 00	1.52	0.52	2.04
Jun 00	1.67	0.48	2.15
Jul 00	1.62	0.48	2.10
Aug 00	1.47	0.51	1.98
Sep 00	1.82	0.60	2.42
<b>Total</b>	<b>9.69</b>	<b>3.14</b>	<b>12.83</b>

*Table 4.1 - Summary of Generator Reactive utilisation April 00 –September 00*

- 4.3 Table 4.2 shows six monthly utilisation totals since 1996, sorted by the Seven Year Statement defined regions - North, Midland and South.
- 4.4 The volumes set out in table 4.2 refer to all despatch units eligible for a reactive utilisation payment. Mvarh lag and Mvarh lead are calculated according to the aggregation methodology described within Appendix 4 of MCUSA Schedule 5 and also within the companion document "Methodology Document for the Aggregation of Reactive Power Metering" by which reactive utilisation payments are made.

	NORTH		MIDLANDS		SOUTH		TOTAL		
	lead	lag	lead	lag	lead	lag	lead	lag	lead + lag
<b>Apr 96 - Sep 96</b>	2.86	9.79	0.37	1.94	1.49	2.29	4.72	14.02	18.74
<b>Oct 96 - Mar 97</b>	2.72	12.71	0.36	3.07	1.74	2.72	4.82	18.50	23.32
<b>Apr 97 - Sep 97</b>	2.89	8.65	0.41	1.60	1.87	1.77	5.17	12.02	17.19
<b>Oct 97 - Mar 98</b>	2.78	10.67	0.31	3.07	1.54	2.01	4.63	15.75	20.38
<b>Apr 98 - Sep 98</b>	1.96	7.68	0.44	2.02	1.85	1.51	4.25	11.20	15.45
<b>Oct 98 - Mar 99</b>	1.71	9.54	0.36	2.07	1.65	1.66	3.76	13.48	17.24
<b>Apr 99 - Sep 99</b>	1.77	7.25	0.37	1.52	1.27	1.40	3.40	10.20	13.60
<b>Oct 99 - Mar 00</b>	1.98	10.45	0.27	2.13	1.35	2.19	3.60	14.77	18.37
<b>Apr 00 - Sep 00</b>	1.44	6.31	0.48	1.69	1.59	1.32	3.51	9.32	12.83

Table 4.2 – Generator Reactive Utilisation (Tvarh) by region

## 5 Comparisons of Tender Rounds 2, 4 and 6

5.1 Table 5.1 provides a summary of the six tender rounds to date.

5.2 From the tendered gensets in rounds two and four, the majority chose to re-tender in the sixth tender round. Of the 5 tenders contracted in round four, 4 were from gensets that were previously tendered in the second tender round. In round six, of the 15 tenders that were received, 11 had tendered in round four. It is also worth noting that of the 15 gensets that were unsuccessful in round four, 6 tendered in round five, all were successful and 6 tendered in round six, of which 4 were successful.

5.3 The tender success rate of round six was higher than that of tender rounds two and four, with 60% of tenders proceeding to contract as compared with 40% in round two and 20% in round four. Table 5.1 provides a summary of the six tender rounds to date.

Tender Round	Eligible Gensets	Genset tenders Received	ORPS	ORPS + ERPS	12 month	>12 months	Successful Gensets offered market agreements	Successful Gensets signing market agreements	% lagging capability with market agreements
1	154	85	76	9	85	0	41	41	~30%
2	113	10	10	0	9	1	5	5	~36%
3	150	102	102	0	102	0	75	57	~40%
4	99	20	20	0	14	6	5	5	~40%
5	151	99	98	1	97	2	98	89	~65%
6	58	15	15	0	15	0	9	9	~70%

*Table 5.1 - Reactive Market Tender Submission Statistics*

5.4 From 1 October 2000 there are a total of 98 gensets on a reactive Market Agreement, 89 from the previous fifth tender round and 9 from this, the sixth tender round. As mentioned in Table 5.1 the 98 gensets provide approximately 70% of total available lagging capability via Market Agreements.

## **6 Estimates of National Grid System Reactive Utilisation April to September 2000**

6.1 National Grid is required by MCUSA Schedule 5 to '>use all reasonable endeavours' to provide estimates of the Mvarh absorption and generation by the National Grid transmission system for the six-month period ending 30 September 2000.

6.2 This has been approached in two stages:

X The net reactive utilisation (Tvarh) of the National Grid system has been derived from the difference between the reactive output of generating units and the reactive demand at Grid Supply Points (GSPs). This is given in Table 6.1 where the accuracy of the data is consistent with the underlying meter readings.

X The net Tvarh described above has been broken down by National Grid system component, this is given in Table 6.2. It should be noted that this information is based on estimates and operational records only.

6.3 The simple reactive balance found in Table 6.1 can be described by the equation:

$$|\text{Generation Net Tvarh}| = |\text{Net Reactive Demand at GSPs Tvarh}| - |\text{Net NGC System Tvarh}|$$

For example, for June 2000, (1.55 - 0.60 = 5.66 - 4.71). From Table 6.1 it can be seen that the Tvarh contribution from generation is small compared with the other components of the equation.

6.4 The generation figures are a national monthly summation of the Settlements figures given in Appendix 4. At this stage, the data in Table 6.1 may be subject to amendment, via accruals or any outstanding disputes.

6.5 The >net reactive demands at GSP= figures have been derived from operational records. The figure shown is net, i.e. lagging demand minus leading demand, and in this case is lagging in each month. This figure represents the net effect of the consumer demand plus the LV losses minus the LV gain.

Component (Tvarh)	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	6 monthly Total
Generation Lead (inc. CD embedded)	0.59	0.71	0.60	0.60	0.53	0.48	3.51
Generation Lag (inc. CD embedded)	1.54	1.33	1.55	1.51	1.44	1.95	9.32
Net Reactive Demand at GSPs	5.16	5.49	5.66	5.48	5.73	5.97	33.49
Net National Grid System	4.21	4.87	4.71	4.57	4.82	4.50	27.68

*Table 6.1 - Net National Grid System Effect*

6.6 The more detailed breakdown found in Table 6.2 can be described by the following equation:

$$\begin{aligned} \text{Generation Net Tvarh} = & \text{Net Reactive Demand at GSPs} - \text{HV network shunt gain} \\ & (\text{BV}^2) + \text{HV network series loss} (\text{I}^2\text{X}) + \text{SGT series loss} (\text{I}^2\text{X}_t) \\ & - \text{Shunt capacitor gain} - \text{net SVC output} + \text{Shunt reactor loss} \end{aligned}$$

6.7 The figures in Table 6.2 are estimates and provide an indication of the likely national reactive energy balance within the system.

6.8 Points to note when considering Table 6.2 include:

- X HV gain varies due to circuit switching, outages and system operating voltage
- X HV losses are driven by active power flows across the system
- X Supergrid transformer series reactive losses are predominantly driven by local distribution company demand
- X Switching of MSCs (Mechanically Switched Capacitors), SVCs (Static Var Compensator) and shunt reactors is determined by operational security requirements.

Component (Tvarh)	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	6 month total
<b>MSC</b>	1.98	1.77	1.86	1.91	1.81	2.19	11.52
<b>Shunt Reactor</b>	-2.07	-2.37	-2.23	-2.37	-2.48	-1.97	-13.49
<b>SVC generation</b>	0.11	0.07	0.08	0.09	0.10	0.10	0.55
<b>SVC absorption</b>	-0.08	-0.09	-0.08	-0.08	-0.08	-0.11	-0.52
<b>HV network shunt gain</b>	9.03	9.41	9.07	9.33	9.28	8.84	54.96
<b>HV network series losses</b>	-2.93	-2.28	-2.42	-2.76	-2.31	-2.97	-15.67
<b>SGT series losses</b>	-1.83	-1.64	-1.57	-1.55	-1.50	-1.58	-9.67
<b>Net NGC System Utilisation</b>	4.21	4.87	4.71	4.57	4.82	4.50	27.68
<b>Generation Lead (inc. CD embedded)</b>	0.59	0.71	0.60	0.60	0.53	0.48	3.51
<b>Generation Lag (inc. CD embedded)</b>	1.54	1.33	1.55	1.51	1.44	1.95	9.32
<b>Net Demand at GSPs</b>	5.16	5.49	5.66	5.48	5.73	5.97	33.49

*Table 6.2 - Indicative breakdown of Net National Grid System Effect*

## 7 Exceptional Reactive Power Service Requirements

7.1 MCUSA Schedule 5, paragraph 7 (Statutory and Regulatory Obligations) enables National Grid to contract outside of the Reactive Power Market tender process in specific circumstances for the provision of exceptional reactive power services. National Grid is required to publish details of circumstances surrounding this in the preceding six month period.

7.2 During the period 1 April 2000 – 30 September 2000 no such services were required by

**Appendix 1**

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

**Reactive Power - Centrally Despatched Gensets at April 2001**

**North**

	Genset	Contract		Genset	Contract		Genset	Contract
1	BRGG_01Z	Market 5	24	DRAXX_09G	DPM	47	HEYM208Z	DPM
2	CDCL_01Z	DPM	25	DRAXX_10G	DPM	48	HMAR_01Z	DPM
3	CONQ_01Z	Market 5	26	DRAXX_12G	DPM	49	HMAR_02Z	Market 5
4	CONQ_02Z	Market 5	27	EGGPS_01Z	DPM	50	HMAR_03Z	Market 5
5	CONQ_03Z	Market 5	28	EGGPS_02Z	DPM	51	HMAR_04Z	DPM
6	CONQ_04Z	Market 5	29	EGGPS_03Z	DPM	52	HMAR_05Z	Market 5
7	COTT_01Z	Market 5	30	EGGPS_04Z	DPM	53	HRTL_01Z	Market 5
8	COTT_02Z	Market 5	31	FELL_01Z	DPM	54	HRTL_02Z	Market 5
9	COTT_03Z	Market 5	32	FERR01Z	Market 5	55	KEAD_01Z	Market 5
10	COTT_04Z	Market 5	33	FERR02Z	Market 5	56	KILLN01Z	DPM
11	DEEN_01Z	Market 5	34	FERR03Z	Market 5	57	KILLP01Z	Market 5
12	DINO_01Z	Market 5	35	FERR04Z	Market 5	58	KILLP02Z	Market 5
13	DINO_02Z	Market 5	36	FFES_01Z	Market 5	59	ROCK_01Z	DPM
14	DINO_03Z	Market 5	37	FFES_02Z	Market 5	60	ROOS_01Z	DPM
15	DINO_04Z	Market 5	38	FFES_03Z	Market 5	61	SHBA_01Z	Market 6
16	DINO_05Z	Market 5	39	FFES_04Z	Market 5	62	SHBA_02Z	Market 5
17	DINO_06Z	Market 5	40	FIDL_01Z	Market 5	63	TESI_01Z	DPM
18	DRAXX_01Z	Market 5	41	FIDL_02Z	Market 5	64	TESI_02Z	DPM
19	DRAXX_02Z	Market 5	42	FIDL_03Z	Market 5	65	WYLF_01Z	DPM
20	DRAXX_03Z	Market 5	43	FIDL_04Z	Market 5	66	WYLF_02Z	DPM
21	DRAXX_04Z	Market 5	44	HEYM101Z	Market 5	67	WYLF_03Z	DPM
22	DRAXX_05Z	Market 5	45	HEYM102Z	Market 5	68	WYLF_04Z	DPM
23	DRAXX_06Z	Market 5	46	HEYM207Z	DPM			

**Midlands**

	Genset	Contract		Genset	Contract		Genset	Contract
69	CORB_01Z	Market 5	78	PETEM01Z	Market 5	87	SIZB_01Z	Market 5
70	DERW_01Z	Market 5	79	RATS_01Z	Market 5	88	SIZB_02Z	Market 5
71	DRKW_09Z	Market 5	80	RATS_02Z	Market 5	89	SIZEA01Z	DPM
72	DRKW_10Z	Market 5	81	RATS_03Z	Market 5	90	SIZEA02Z	DPM
73	DRKW_12Z	Market 5	82	RATS_04Z	Market 5	91	SUTB_01Z	Market 6
74	IROB_01Z	DPM	83	RUGLB06Z	DPM	92	WEBU_01Z	DPM
75	IROB_02Z	Market 5	84	RUGLB07Z	Market 5	93	WEBU_02Z	Market 5
76	KLYNA01Z	Market 5	85	RUGLB06G	DPM	94	WEBU_03Z	Market 5
77	LBAR_01Z	Market 6	86	RUGLB07G	DPM	95	WEBU_04Z	DPM

**South**

	Genset	Contract		Genset	Contract		Genset	Contract
96	ABTHB07Z	DPM	114	DIDCB05Z	Market 5	131	HINB_08Z	Market 6
97	ABTHB08Z	DPM	115	DIDCB06Z	Market 5	132	KINO_01Z	Market 5
98	ABTHB09Z	DPM	116	DIDC_01G	DPM	133	KINO_02Z	Market 5
99	BARC_02Z	Market 5	117	DIDC_02G	DPM	134	KINO_03Z	Market 5
100	BARC_11Z	Market 5	118	DIDC_03G	DPM	135	LITTD01Z	DPM
101	BARR_01Z	DPM	119	DIDC_04G	DPM	136	LITTD01G	DPM
102	BRWE_01Z	Market 5	120	DNGB_21Z	Market 5	137	LITTD02G	DPM
103	BRWE_02Z	Market 5	121	DNGB_22Z	Market 5	138	MEDP_01Z	Market 5
104	BRWE_03Z	Market 5	122	DUNGA01Z	DPM	139	OLDS_01Z	Market 5
105	BRWE_04Z	Market 5	123	DUNGA02Z	DPM	140	OLDS_02Z	Market 5
106	BRWE_05Z	Market 5	124	DUNGA03Z	DPM	141	RYEH_01Z	Market 5
107	BRWE_06Z	Market 5	125	DUNGA04Z	DPM	142	SEAB_01Z	Market 5
108	COWE_01Z	DPM	126	FAWL_03Z	Market 5	143	SEAB_02Z	Market 6
109	COWE_02Z	DPM	127	FAWN_01Z	Market 6	144	TAYL_02Z	Market 5
110	DIDC_01Z	Market 6	128	GRAI_01Z	Market 5	145	TAYL_03Z	Market 5
111	DIDC_02Z	DPM	129	GRAI_04Z	Market 5	146	TILBB08Z	Market 5
112	DIDC_03Z	DPM	130	HINB_07Z	Market 6	147	TILBB09Z	Market 5
113	DIDC_04Z	Market 6						

Note : Market 5 refers to those contracts commencing 1 April 2000  
Market 6 refers to those contracts commencing 1 October 2000

# National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

## Appendix 2

### Reactive Market Agreement status as at 1 October 2000

Contracts Continuing on 1 October 2000

	Company	Genset ID	Contract Expiry Date
1	Barking Power	BARK_02Z	31/03/01
2	Barking Power	BARK_11Z	31/03/01
3	Regional Power Generators	BRGG_01Z	31/03/01
4	BNFL - Magnox	BRWE_01Z	31/03/01
5	BNFL - Magnox	BRWE_02Z	31/03/01
6	BNFL - Magnox	BRWE_03Z	31/03/01
7	BNFL - Magnox	BRWE_04Z	31/03/01
8	BNFL - Magnox	BRWE_05Z	31/03/01
9	BNFL - Magnox	BRWE_06Z	31/03/01
10	PowerGen	CONQ_01Z	31/03/01
11	PowerGen	CONQ_02Z	31/03/01
12	PowerGen	CONQ_03Z	31/03/01
13	PowerGen	CONQ_04Z	31/03/01
14	Corby Power	CORB_01Z	31/03/03
15	PowerGen	COTT_01Z	31/03/01
16	PowerGen	COTT_02Z	31/03/01
17	PowerGen	COTT_03Z	31/03/01
18	PowerGen	COTT_04Z	31/03/01
19	Deeside Power Development	DEEN_01Z	31/03/01
20	Derwent Power	DERW_01Z	31/03/01
21	Innogy	DIDCB_05Z	31/03/01
22	Innogy	DIDCB_06Z	31/03/01
23	First Hydro	DINO_01Z	31/03/01
24	First Hydro	DINO_02Z	31/03/01
25	First Hydro	DINO_03Z	31/03/01
26	First Hydro	DINO_04Z	31/03/01
27	First Hydro	DINO_05Z	31/03/01
28	First Hydro	DINO_06Z	31/03/01
29	TXU	DRKW_09Z	31/03/01
30	TXU	DRKW_10Z	31/03/01
31	TXU	DRKW_12Z	31/03/01
32	AES Drax Power	DRAXX01Z	31/03/01
33	AES Drax Power	DRAXX02Z	31/03/01
34	AES Drax Power	DRAXX03Z	31/03/01
35	AES Drax Power	DRAXX04Z	31/03/01
36	AES Drax Power	DRAXX05Z	31/03/01
37	AES Drax Power	DRAXX06Z	31/03/01
38	British Energy	DNGB_21Z	31/03/01
39	British Energy	DNGB_22Z	31/03/01
40	National Power	FAWL_03Z	31/03/02
41	Edison First	FERRC01Z	31/03/01
42	Edison First	FERRC02Z	31/03/01
43	Edison First	FERRC03Z	31/03/01
44	Edison First	FERRC04Z	31/03/01

	Company	Genset ID	Contract Expiry Date
45	First Hydro	FFES_01Z	31/03/01
46	First Hydro	FFES_02Z	31/03/01
47	First Hydro	FFES_03Z	31/03/01
48	First Hydro	FFES_04Z	31/03/01
49	Edison First	FIDF_01Z	31/03/01
50	Edison First	FIDF_02Z	31/03/01
51	Edison First	FIDF_03Z	31/03/01
52	Edison First	FIDF_04Z	31/03/01
53	PowerGen	GRAI_01Z	31/03/01
54	PowerGen	GRAI_04Z	31/03/01
55	British Energy	HEYM101Z	31/03/01
56	British Energy	HEYM102Z	31/03/01
57	TXU	HMAP_02Z	31/03/01
58	TXU	HMAR_03Z	31/03/01
59	TXU	HMAR_05Z	31/03/01
60	British Energy	HRTL_01Z	31/03/01
61	British Energy	HRTL_02Z	31/03/01
62	TXU	IROB_02Z	31/03/01
63	Keadby Generation	KEAD_01Z	31/03/01
64	PowerGen	KILLP_01Z	31/03/01
65	PowerGen	KILLP_02Z	31/03/01
66	PowerGen	KINO_01Z	31/03/01
67	PowerGen	KINO_02Z	31/03/01
68	PowerGen	KINO_03Z	31/03/01
69	Anglian Power	KLYNA_01Z	31/03/01
70	Medway Power	MEDP_01Z	31/03/01
71	BNFL - Magnox	OLDS_01Z	31/03/01
72	BNFL - Magnox	OLDS_02Z	31/03/01
73	Peterborough Power	PETEM_01Z	31/03/01
74	PowerGen	RATS_01Z	31/03/01
75	PowerGen	RATS_02Z	31/03/01
76	PowerGen	RATS_03Z	31/03/01
77	PowerGen	RATS_04Z	31/03/01
78	TXU	RUGEB_07Z	31/03/01
79	PowerGen	RYEH_01Z	31/03/01
80	Seabank Power	SEAB_01Z	31/03/01
81	Humber Power	SHBA_02Z	31/03/01
82	British Energy	SIZB_01Z	31/03/01
83	British Energy	SIZB_02Z	31/03/01
84	PowerGen	TAYL_02Z	31/03/01
85	PowerGen	TAYL_03Z	31/03/01
86	Innogy	TILBB_08Z	31/03/01
87	Innogy	TILBB_09Z	31/03/01
88	TXU	WEBU_02Z	31/03/01
89	TXU	WEBU_03Z	31/03/01

New Contracts Commencing on 1 October 2000

	Company	Genset ID	Contract Expiry Date
1	British Energy	HINB_07Z	30/09/01
2	British Energy	HINB_08Z	30/09/01
3	Humber Power	SHBA_01Z	30/09/01
4	Innogy	DIDC_01Z	30/09/01
5	Innogy	DIDC_04Z	30/09/01

	Company	Genset ID	Contract Expiry Date
6	Innogy	LBAR-01Z	30/09/01
7	National Power Cogen	FAWN_01Z	30/09/01
8	Seabank Power	SEAB_02Z	30/09/01
9	Sutton Bridge Power	SUTB_01Z	30/09/01

## Appendix 3

## Successful tender details for contracts commencing 1 October 2000

Company Name: British Energy			Station Name: <b>Hinkley Point B</b>			
Genset ID: <b>HINB-07Z</b>			Contract Period: 12 months			
Nominated GRC: 662 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	308	200	50	100	125	196
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.045	0.035	0.025	0.090	0.150	0.190
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CU1Lag:	CU2Lag:	CU3Lag:
	1.200	0.740	0.560	0.560	0.740	1.200

Company Name: British Energy			Station Name: <b>Hinkley Point B</b>			
Genset ID: <b>HINB_08Z</b>			Contract Period: 12 months			
Nominated GRC: 635 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	302	200	50	100	200	246
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.036	0.028	0.020	0.071	0.119	0.150
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CU1Lag:	CU2Lag:	CU3Lag:
	1.200	0.740	0.560	0.560	0.740	1.200

Company Name: Humber Power Ltd			Station Name: <b>South Humber Bank</b>			
Genset ID: <b>SHBA_01Z</b>			Contract Period: 12 months			
Nominated GRC: 785 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	356	200	50	100	200	338
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.000	0.000	0.000	0.047	0.052	0.052
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CU1Lag:	CU2Lag:	CU3Lag:
	1.500	0.871	0.871	0.871	0.871	1.500

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

Company Name: npower			Station Name: <b>Didcot A</b>			
Genset ID: <b>DIDC_01Z</b>			Contract Period: 12 months			
Nominated GRC: 490 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead: 142	Q2Lead: 100	Q1Lead: 50	Q1Lag: 75	Q2:Lag 150	Q3:Lag 201
Available Capability Prices (£/Mvar/h)	CA3Lead: 0.040	CA2Lead: 0.020	CA1Lead: 0.010	CA1Lag: 0.040	CA2Lag: 0.060	CA3Lag: 0.205
Synchronised Capability Prices (£/Mvar/h)	CS3Lead: 0.000	CS2Lead: 0.000	CS1Lead: 0.000	CS1Lag: 0.000	CS2Lag: 0.000	CS3Lag: 0.000
Utilisation Prices (£/Mvarh)	CU3Lead: 1.500	CU2Lead: 1.200	CU1Lead: 1.200	CU1Lag: 0.450	CU2Lag: 0.953	CU3Lag: 1.500

Company Name: npower			Station Name: <b>Didcot A</b>			
Genset ID: <b>DIDC_04Z</b>			Contract Period: 12 months			
Nominated GRC: 490 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead: 142	Q2Lead: 100	Q1Lead: 50	Q1Lag: 75	Q2:Lag 150	Q3:Lag 201
Available Capability Prices (£/Mvar/h)	CA3Lead: 0.040	CA2Lead: 0.020	CA1Lead: 0.010	CA1Lag: 0.040	CA2Lag: 0.060	CA3Lag: 0.205
Synchronised Capability Prices (£/Mvar/h)	CS3Lead: 0.000	CS2Lead: 0.000	CS1Lead: 0.000	CS1Lag: 0.000	CS2Lag: 0.000	CS3Lag: 0.000
Utilisation Prices (£/Mvarh)	CU3Lead: 1.500	CU2Lead: 1.200	CU1Lead: 1.200	CU1Lag: 0.450	CU2Lag: 0.953	CU3Lag: 1.500

Company Name: npower			Station Name: <b>Little Barford</b>			
Genset ID: <b>LBAR_01Z</b>			Contract Period: 12 months			
Nominated GRC: 680 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead: 341	Q2Lead: 265	Q1Lead: 50	Q1Lag: 100	Q2:Lag 215	Q3:Lag 298
Available Capability Prices (£/Mvar/h)	CA3Lead: 0.034	CA2Lead: 0.016	CA1Lead: 0.003	CA1Lag: 0.028	CA2Lag: 0.096	CA3Lag: 0.168
Synchronised Capability Prices (£/Mvar/h)	CS3Lead: 0.035	CS2Lead: 0.018	CS1Lead: 0.003	CS1Lag: 0.033	CS2Lag: 0.106	CS3Lag: 0.173
Utilisation Prices (£/Mvarh)	CU3Lead: 1.500	CU2Lead: 0.520	CU1Lead: 0.450	CU1Lag: 0.450	CU2Lag: 0.520	CU3Lag: 1.500

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

Company Name: National Power Cogen			Station Name: <b>Fawley Cogen</b>			
Genset ID: <b>FAWN_01Z</b>			Contract Period: 12 months			
Nominated GRC: 150 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	81	20	10	10	20	23
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.040	0.020	0.010	0.040	0.060	0.790
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CUI1Lag:	CU2Lag:	CU3Lag:
	1.500	0.980	0.650	0.650	0.980	1.500

Company Name: Seabank Power Ltd			Station Name: <b>Seabank Module 2</b>			
Genset ID: <b>SEAB_02Z</b>			Contract Period: 12 months			
Nominated GRC: 385 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	0	187	25	50	121	173
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.000	0.021	0.007	0.043	0.130	0.409
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CUI1Lag:	CU2Lag:	CU3Lag:
	0.000	0.617	0.366	0.366	0.617	2.030

Company Name: Sutton Bridge Power			Station Name: <b>Sutton Bridge</b>			
Genset ID: <b>SUTB_01Z</b>			Contract Period: 12 months			
Nominated GRC: 803 MW	Maximum Leading Capability	Mid Point Leading Capability	Low point Leading Capability	Low point Lagging Capability	Mid Point Lagging Capability	Maximum Lagging Capability
Capability (Mvar)	Q3Lead:	Q2Lead:	Q1Lead:	Q1Lag:	Q2:Lag	Q3:Lag
	375	249	50	100	241	360
Available Capability Prices (£/Mvar/h)	CA3Lead:	CA2Lead:	CA1Lead:	CA1Lag:	CA2Lag:	CA3Lag:
	0.000	0.000	0.000	0.000	0.000	0.000
Synchronised Capability Prices (£/Mvar/h)	CS3Lead:	CS2Lead:	CS1Lead:	CS1Lag:	CS2Lag:	CS3Lag:
	0.089	0.065	0.025	0.035	0.065	0.089
Utilisation Prices (£/Mvarh)	CU3Lead:	CU2Lead:	CU1Lead:	CUI1Lag:	CU2Lag:	CU3Lag:
	1.100	0.890	0.840	0.810	0.860	1.100

**Appendix 4**

**Reactive Power Generation Utilisation Volumes by Genset April 2000 to  
September 2000**

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

Genset	Agreement	Monthly Mvarh												6 Month	
		Apr-00		May-00		Jun-00		Jul-00		Aug-00		Sep-00		TOTAL	
		Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
ABTHB07Z	Market	2,573	7,465	1,976	8,689	789	11,645	1,644	19,064	2,597	12,480	3,668	8,455	13,248	67,797
ABTHB08Z	Market	0	0	0	0	0	0	0	0	673	3,851	2,938	9,318	3,611	13,168
ABTHB09Z	Market	4,890	9,614	1,584	8,991	1,061	13,749	0	0	0	0	1,305	4,582	8,839	36,936
AESB_01Z	DPM	1,544	4,247	1,541	4,868	1,681	4,624	1,980	2,329	1,825	1,988	243	3,018	8,815	21,074
BARK_02Z	Market	11,416	7,565	0	0	5,671	7,044	17,248	15,362	16,870	16,106	17,624	19,640	68,829	65,717
BARK_11Z	Market	0	0	1,500	1,129	16,817	16,762	16,234	14,128	15,187	16,238	14,866	18,856	64,604	67,114
BRGG_01Z	Market	109	9,377	3,219	5,910	1,953	2,557	1,495	3,833	747	7,103	1,095	5,521	8,618	34,300
BRWE_01Z	Market	0	0	0	0	485	24	805	3,102	333	1,843	1,770	326	3,393	5,295
BRWE_02Z	Market	0	0	0	0	67	324	252	2,635	209	1,887	1,020	718	1,549	5,564
BRWE_03Z	Market	0	0	0	0	6	159	521	249	0	0	705	623	1,232	1,032
BRWE_04Z	Market	0	0	0	0	0	0	0	2	1	641	1,680	98	1,681	740
BRWE_05Z	Market	0	0	0	0	0	0	5	2,442	334	949	1,153	172	1,493	3,563
BRWE_06Z	Market	0	0	0	0	0	0	0	0	0	0	713	474	713	474
CDCL_01Z	DPM	2,831	22,532	309	1,362	2,477	7,059	4,037	26,406	6,026	16,190	4,720	35,499	20,400	109,048
CONQ_01Z	Market	6,065	9,683	7,266	9,113	5,292	13,932	3,867	9,479	3,162	12,564	4,946	14,569	30,598	69,340
CONQ_02Z	Market	8,836	10,505	8,216	9,010	6,457	13,825	6,291	11,366	3,383	12,408	5,788	14,226	38,971	71,340
CONQ_03Z	Market	10,309	7,452	7,188	9,116	5,269	14,523	5,655	10,996	2,750	12,825	23	414	31,194	55,325
CONQ_04Z	Market	11,020	8,506	3,884	3,388	6,048	13,507	5,368	11,193	2,287	14,956	5,959	13,883	34,566	65,433
CORB_01Z	Market	3,544	9,806	3,545	7,843	6,085	2,864	7,548	7,626	5,336	8,341	2,800	6,465	28,857	42,944
COTT_01Z	Market	0	0	0	0	252	12,428	1,171	23,452	434	11,433	832	10,170	2,689	57,482
COTT_02Z	Market	4,057	26,573	2,444	16,032	2,381	11,373	1,923	24,546	1,828	15,993	854	26,977	13,488	121,494
COTT_03Z	Market	4,230	22,422	10,990	19,676	4,201	21,815	431	12,258	1,562	12,785	1,398	20,986	22,810	109,943
COTT_04Z	Market	818	13,490	538	5,957	53	4,620	97	4,654	925	8,949	1,247	16,333	3,679	54,002
COWE_01Z	DPM	0	9	0	8	0	0	0	4	0	0	0	0	0	22
COWE_02Z	DPM	0	0	0	114	0	0	0	0	0	0	0	0	0	114
DEEN_01Z	Market	19,654	12,609	11,923	8,147	13,249	17,717	3,851	8,070	0	0	8,567	18,868	57,244	65,412
DERW_01Z	Market	2,941	4,467	5,032	3,631	4,916	3,026	4,469	6,215	3,580	5,206	2,521	4,986	23,459	27,531
DIDC_01G	DPM	0	0	0	0	0	0	0	0	0	6	0	0	0	6

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

DIDC_01Z	DPM	5,615	8,334	5,263	5,360	3,832	10,848	5,458	11,662	793	1,137	3,622	7,152	24,583	44,492
DIDC_02G	DPM	0	0	0	1	0	0	0	0	0	0	0	4	0	5
DIDC_02Z	DPM	16,024	139	20,853	389	21,234	250	3,862	294	13,353	968	13,215	606	88,541	2,646
DIDC_03G	DPM	0	0	0	11	0	0	0	0	0	0	0	0	0	11
DIDC_03Z	DPM	219	2,441	3,364	2,415	1,378	2,745	6,024	4,119	13,076	3,971	2,973	4,373	27,034	20,065
DIDC_04G	DPM	0	0	0	4	0	0	0	0	0	0	0	5	0	9
DIDC_04Z	DPM	3,436	7,713	0	0	0	0	2,114	6,020	6,675	3,789	5,877	8,660	18,103	26,183
DIDCB05Z	Market	16,035	14,297	23,077	7,897	13,972	9,644	16,912	18,342	24,046	7,818	19,745	18,009	113,786	76,007
DIDCB06Z	Market	15,694	13,874	24,097	8,009	19,315	15,658	20,452	16,393	17,237	4,296	0	0	96,795	58,230
DINO_01Z	Market	5,312	1,109	8,588	119	17,318	154	12,577	385	10,026	2,486	12,463	603	66,283	4,856
DINO_02Z	Market	6,000	1,199	7,343	77	4,792	104	4,149	138	848	86	22	0	23,155	1,605
DINO_03Z	Market	226	0	4,412	592	12,005	877	5,558	996	11,818	1,334	20,497	1,004	54,516	4,804
DINO_04Z	Market	1,421	786	13,322	708	10,787	411	9,685	688	7,245	1,359	14,368	1,099	56,828	5,051
DINO_05Z	Market	7,828	5,026	19,339	97	12,678	86	22,772	249	11,413	415	14,081	396	88,110	6,268
DINO_06Z	Market	2,538	1,221	5,667	439	6,210	673	6,096	690	4,333	969	5,755	678	30,599	4,670
DNGB_21Z	Market	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DNGB_22Z	Market	0	0	6,557	15,724	5,366	3,882	0	0	0	0	6,311	4,366	18,234	23,972
DRAXX01Z	Market	12,162	40,622	8,103	37,342	4,657	43,740	685	42,344	792	36,973	2,232	65,864	28,631	266,885
DRAXX02Z	Market	4,604	35,913	7,224	40,419	3,074	49,788	1,218	47,017	557	30,137	0	0	16,678	203,273
DRAXX03Z	Market	0	0	2,237	1,602	3,877	48,501	3,103	48,926	2,775	45,051	4,848	31,444	16,840	175,523
DRAXX04Z	Market	2,610	35,014	3,965	41,436	1,287	54,067	986	54,523	2,192	40,582	4,494	57,360	15,533	282,982
DRAXX05Z	Market	5,511	41,931	8,848	43,814	3	3,761	2,897	15,289	3,986	45,778	1,545	57,883	22,791	208,457
DRAXX06Z	Market	7,088	41,589	12,061	41,321	8,213	57,266	3,938	47,671	1,715	45,314	3,348	53,799	36,364	286,960
DRAXX09G	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DRAXX10G	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DRAXX12G	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DRKW_09Z	Market	4,227	6,707	6,791	3,847	6,822	4,654	1,830	1,954	0	0	38	185	19,708	17,347
DRKW_10Z	Market	3,406	6,338	5,465	4,749	5,520	7,152	6,137	5,890	2,480	4,788	701	536	23,708	29,453
DRKW_12Z	Market	2,330	15,273	3,608	10,275	3,859	10,307	0	0	0	0	2,535	10,648	12,332	46,503
DUNGA01Z	DPM	1,541	2,625	0	0	0	0	151	469	1,881	1,600	2,425	2,583	5,998	7,276
DUNGA02Z	DPM	560	4,664	0	0	0	134	1,352	3,312	651	4,730	943	4,859	3,506	17,698

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

DUNGA03Z	DPM	2,644	3,994	1,600	4,039	1,210	3,838	36	960	2,334	1,579	1,994	1,780	9,819	16,190
DUNGA04Z	DPM	4,645	2,481	3,618	2,251	1,728	1,680	2,856	1,422	4,098	622	3,912	892	20,857	9,347
EGGPS01Z	DPM	2,083	17,453	1,776	12,353	781	17,621	1,041	18,890	999	17,140	946	29,804	7,628	113,260
EGGPS02Z	DPM	449	3,254	1,407	15,679	0	0	0	0	0	0	131	1,735	1,988	20,668
EGGPS03Z	DPM	4,286	11,648	1,877	8,347	1,240	11,372	2,077	9,605	1,115	5,979	0	0	10,596	46,951
EGGPS04Z	DPM	1,744	17,762	585	21,650	726	18,844	437	17,257	579	13,155	437	23,737	4,507	112,406
FAWL_03Z	Market	0	0	520	1,150	15	331	21	428	41	115	9	1,210	606	3,234
FAWN_01Z	DPM	1,059	578	321	933	118	1,791	284	697	809	1,654	2,557	105	5,147	5,758
FELL_01Z	DPM	1,100	1,310	2,689	578	2,371	688	5,964	141	6,626	7	1,979	1,413	20,729	4,137
FERR_01Z	Market	2,472	8,167	0	0	0	0	2,940	11,480	2,568	21,899	3,599	28,880	11,579	70,426
FERR_02Z	Market	2,139	12,751	846	9,051	1,473	22,806	1,040	15,058	2,146	18,418	3,322	19,470	10,966	97,555
FERR_03Z	Market	6,682	18,259	6,763	28,282	1,064	19,370	26	4,277	0	0	0	0	14,535	70,188
FERR_04Z	Market	3,545	18,785	8,846	23,913	6,554	32,215	5,664	19,886	1,209	11,368	3,254	18,423	29,071	124,590
FFES_01Z	Market	438	690	194	516	425	491	784	887	483	526	156	798	2,478	3,908
FFES_02Z	Market	505	1,378	468	1,685	347	1,404	125	736	101	1,260	242	1,400	1,788	7,863
FFES_03Z	Market	748	226	66	1	973	140	404	190	607	272	278	111	3,076	940
FFES_04Z	Market	1,155	182	152	9	1,365	431	2,109	528	2,216	238	2,759	274	9,757	1,663
FIDL_01Z	Market	9,387	7,517	0	0	0	0	14,904	2,011	5,020	6,573	8,783	3,054	38,094	19,155
FIDL_02Z	Market	1,425	667	7,230	8,839	8,164	12,416	6,796	1,894	8,177	6,478	6,901	3,791	38,693	34,085
FIDL_03Z	Market	0	0	0	0	0	0	0	0	0	0	3,321	683	3,321	683
FIDL_04Z	Market	22,539	311	19,680	376	34,623	124	12,798	164	0	0	0	0	89,640	976
GRAI_01Z	Market	368	392	401	2,933	45	159	43	59	95	114	31	1,118	982	4,775
GRAI_04Z	Market	868	471	1,536	1,682	0	0	0	0	477	904	916	1,027	3,797	4,083
HEYM101Z	Market	3,705	59,345	8,491	58,891	3,620	35,559	5,737	43,960	3,623	52,998	2,332	63,571	27,508	314,325
HEYM102Z	Market	3,537	58,661	1,654	12,648	7,418	51,385	6,574	46,348	3,601	47,982	1,938	66,392	24,721	283,415
HEYM207Z	DPM	1,638	44,313	2,141	46,505	2,896	49,545	3,112	37,570	1,928	44,489	1,345	55,902	13,059	278,324
HEYM208Z	DPM	1,779	46,619	3,555	41,907	3,142	42,323	2,837	38,321	2,146	41,249	1,455	50,057	14,913	260,476
HINB_07Z	DPM	40,511	406	60,604	787	54,545	477	54,063	837	46,645	62	0	0	256,366	2,570
HINB_08Z	DPM	32,202	7,092	47,233	5,033	40,103	5,434	38,973	7,731	47,292	4,980	46,857	13,117	252,661	43,386
HINPA01Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HINPA02Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

HINPA03Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HINPA04Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HINPA05Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HINPA06Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HMAR_01Z	DPM	3,583	446	5,207	1,059	7,130	331	1,912	68	0	0	0	0	17,833	1,903
HMAR_02Z	Market	830	7,118	882	8,337	0	0	0	0	4,882	86	3,976	1,176	10,570	16,717
HMAR_03Z	Market	524	7,697	543	7,102	761	4,504	680	5,629	756	4,776	453	9,081	3,716	38,790
HMAR_04Z	DPM	4,312	620	3,095	647	5,098	399	9,465	525	9,860	134	7,748	275	39,579	2,600
HMAR_05Z	Market	542	9,904	536	8,933	384	8,377	4,385	2,392	2,161	1,981	815	4,043	8,823	35,631
HRTL_01Z	Market	706	83,919	443	118,607	1	82,293	213	64,753	1	85,192	0	95,552	1,364	530,316
HRTL_02Z	Market	10,989	0	111	7,276	127	75,843	65	93,718	220	76,550	0	94,258	11,511	347,645
IROB_01Z	DPM	0	0	0	0	217	1,022	531	1,402	1,072	2,151	3,359	2,250	5,179	6,825
IROB_02Z	Market	681	9,313	1,645	5,325	263	294	1,320	3,591	2,530	2,638	2,929	8,057	9,367	29,218
KEAD_01Z	Market	1,079	50,525	2,829	44,866	704	42,731	4,400	25,129	6,921	16,382	1,944	50,061	17,876	229,693
KILLP01Z	Market	3,993	22,948	2,814	7,729	3,266	27,840	2,270	28,846	723	1,923	292	37,283	13,356	126,569
KILLP02Z	Market	5,409	20,564	1,942	7,167	2,991	29,848	1,900	31,807	908	1,733	503	35,007	13,653	126,126
KILNS01Z	DPM	5,712	19,587	8,257	18,057	2,877	33,631	2,193	37,951	4,814	33,355	935	54,808	24,788	197,388
KINO_01Z	Market	7,597	3,343	4,252	7,568	4,077	5,588	5,086	4,929	0	0	0	0	21,012	21,427
KINO_02Z	Market	7,347	2,972	6,002	3,580	3,894	4,470	3,794	4,663	5,342	2,823	7,635	5,325	34,015	23,833
KINO_03Z	Market	12,250	5,517	7,648	7,573	2,141	10,569	2,480	7,259	7,702	8,152	7,743	10,663	39,964	49,733
KINO_04Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KLYNA01Z	Market	3,177	8,903	730	2,001	598	2,919	6,193	9,502	5,591	13,313	4,498	7,852	20,787	44,490
LBAR_01Z	Market	3,355	42,818	8,477	28,839	9,327	40,082	2,168	19,827	130	4,481	8,110	40,488	31,568	176,536
LITTD01G	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LITTD01Z	Market	100	2,152	0	0	0	0	409	1,105	595	5,403	803	1,865	1,906	10,524
LITTD02G	DPM	0	0	7	0	0	0	0	0	1	2	2	3	9	6
LITTD03G	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDP_01Z	Market	23,227	11,089	22,970	14,065	23,913	10,294	19,882	10,562	11,508	20,675	4,243	4,246	105,743	70,931
OLDS_01Z	Market	2	33,870	2,659	15,346	1,776	10,956	849	16,873	3,528	14,802	383	23,792	9,197	115,639
OLDS_02Z	Market	514	25,046	4,998	19,099	2,030	15,271	5,148	17,441	2,737	16,124	502	24,620	15,929	117,601
PETEM01Z	Market	8,173	8,873	7,618	9,776	7,119	10,875	7,634	7,767	5,679	8,173	8,140	12,594	44,364	58,057

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

RATS_01Z	Market	0	0	2,786	3,653	1,263	29,476	2,373	18,210	5,633	14,585	3,435	28,479	15,490	94,403
RATS_02Z	Market	835	17,415	2,743	15,816	2,104	19,487	1,934	17,917	8	1,662	592	5,838	8,215	78,136
RATS_03Z	Market	3,607	25,592	4,364	19,993	0	0	1,073	12,572	1,337	16,668	1,144	31,110	11,525	105,935
RATS_04Z	Market	2,200	18,156	1,068	10,435	405	9,070	499	8,214	1,165	13,267	1,375	27,248	6,712	86,390
ROCK_01Z	DPM	10,877	23,729	14,797	18,089	0	1	697	413	0	0	0	0	26,371	42,232
ROOS_01Z	DPM	0	11,064	148	7,736	189	7,962	3,101	1,429	1,080	3,638	240	4,313	4,757	36,141
RUGLB06G	DPM	4	0	0	2	0	0	0	2	0	0	0	3	5	7
RUGLB06Z	DPM	0	0	0	0	0	0	0	0	0	0	101	2,211	101	2,211
RUGLB07G	DPM	0	7	0	0	0	0	0	3	0	9	0	0	0	19
RUGLB07Z	Market	523	6,787	1,328	3,978	530	4,900	1,015	7,969	4,618	8,639	2,844	9,967	10,858	42,240
RYEH_01Z	Market	20,580	19,474	25,107	23,145	13,228	16,850	23,710	24,369	18,177	32,810	19,397	34,495	120,200	151,145
SEAB_01Z	Market	10,209	11,777	21,354	8,077	13,905	13,793	15,506	5,470	12,444	10,043	8,351	13,846	81,768	63,006
SHBA_01Z	Market	6,509	6,130	21,506	14,534	5,065	8,769	8,917	8,865	7,756	13,063	3,538	20,215	53,291	71,575
SHBA_02Z	Market	4,819	8,486	3,618	14,503	4,063	7,719	5,473	8,178	3,717	10,340	1,661	7,647	23,351	56,872
SIZB_01Z	Market	7,154	16,484	9,779	10,988	8,338	18,145	8,646	10,734	8,984	10,095	5,628	1,145	48,530	67,591
SIZB_02Z	Market	7,152	16,359	7,855	9,744	6,016	20,841	11,131	16,778	8,330	30,785	1,083	8,078	41,567	102,585
SIZEA01Z	DPM	0	0	0	0	587	12	3,611	4,034	1,906	6,022	3,543	11,047	9,646	21,115
SIZEA02Z	DPM	3,063	5,614	2,816	3,323	4,092	3,092	4,024	2,951	2,256	5,171	4,006	11,299	20,256	31,449
SUTB_01Z	DPM	11,652	21,340	18,219	17,397	17,081	25,827	12,235	16,618	12,121	39,802	12,608	39,507	83,917	160,490
TAYL_02Z	Market	1	1	2	18	0	0	0	2	0	17	1	9	4	46
TAYL_03Z	Market	0	5	0	2	2	1	0	1	1	1	3	10	6	20
TESI_01Z	DPM	3,012	35,978	6,477	23,359	6,942	23,391	5,371	25,106	4,324	16,066	2,242	27,022	28,368	150,922
TESI_02Z	DPM	3,777	34,903	7,876	28,248	5,728	12,306	4,189	18,844	3,605	18,688	2,089	24,238	27,264	137,226
TILBB08Z	Market	6,804	6,721	6,436	5,806	3,441	8,374	0	0	0	0	754	1,162	17,436	22,064
TILBB09Z	Market	5,462	6,867	4,388	6,280	4,980	4,478	3,873	7,531	4,015	6,409	3,517	7,338	26,234	38,902
WEBU_01Z	DPM	0	0	0	0	0	0	0	0	1,569	16,027	552	36,759	2,120	52,786
WEBU_02Z	Market	259	18,168	409	37,084	332	23,169	166	29,633	323	31,514	412	40,293	1,900	179,862
WEBU_03Z	Market	107	29,558	31	173	873	22,339	455	41,328	608	36,467	670	46,476	2,744	176,340
WEBU_04Z	DPM	0	0	0	0	0	0	0	0	0	0	876	8,063	876	8,063
WYLF_01Z	DPM	1,471	3,165	0	0	0	0	0	0	0	0	0	0	1,471	3,165
WYLF_02Z	DPM	3,147	1,714	0	0	0	0	0	0	0	0	0	0	3,147	1,714

National Grid 6<sup>th</sup> Tender Round Market Report – 8 November 2000

WYLF_03Z	DPM	2,855	5	0	0	0	0	0	0	0	0	0	0	2,855	5
WYLF_04Z	DPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Sub Total</b>	<b>DPM</b>	179,377	367,787	225,637	292,511	189,403	287,247	183,986	297,389	201,461	306,359	133,932	467,098	1,113,794	2,018,390
<b>Sub Total</b>	<b>Market</b>	413,683	1,172,785	486,729	1,032,494	414,810	1,259,615	411,482	1,213,633	333,051	1,134,660	341,664	1,480,053	2,401,419	7,293,239
<b>Total</b>	<b>Mvarh</b>	593,060	1,540,572	712,366	1,325,005	604,213	1,546,862	595,467	1,511,021	534,511	1,441,019	475,597	1,947,151	3,515,213	9,311,630

## Appendix 5

### Tender Assessment Procedure

#### A5.1 Introduction

A5.11 National Grid assessed the sixth Reactive Power Market tender round using a similar process as that which applied to all previous tender rounds. Analytical processing was conducted in six-monthly segments in order to consider any interaction with the overlap of contracts secured during the previous Reactive Power Market tender rounds.

A5.12 National Grid divided the process of assessing tenders into several stages, which were addressed as follows:

- X *Tender Receipt and Registration:* The tenders were opened, in the presence of a separate witness and all tender data was transcribed into TARDIS (Transmission Ancillary Reactive Database Information System).
- X *Tender Data validation:* All database entries were then separately checked back to the original tender sheets. TARDIS compliance checks showed that all tenders submitted were indeed compliant.
- X *Obligatory Reactive Power Service Assessment:* The tenders were assessed against likely outgoings, taking into account the many interacting factors associated with each tender acceptance decision, as described in MCUSA Schedule 5, Appendix 6. This involved, inter-alia, evaluation against projections of expenditure and availability of service against historic and forecast Mvar and Mvarh data to produce central views of the money payable under the DPM or a market agreement (described below). The overall assessment was supported by an examination of many credible sensitivities around the central view.
- X *Enhanced Reactive Power Service Assessment:* Had National Grid received any ERPS tenders these would have been considered on a case-by-case basis against possible alternatives, such as transmission constraints or National Grid investment.

#### A5.2 Core Analytical processing

A5.21 Tender assessment takes place in the context of uncertainties and interactions affecting reactive uplift payments and transmission requirements. To initiate the assessment of the overall value of each tender, it is considered necessary to construct a central view of future payments so that the relative impact of the factors influencing the economic evaluation of tenders can be fully addressed.

A5.22 For each genset tendered for 2000/01, the processing was as follows:

- X Forecast Mvarh generated, in each band by reactive Mvar breakpoints, were set via extrapolations from historic observations and forecast load factors. The historic observations covered representative days over 1997, 1998 and 1999 and came from the Ancillary Services records against which reactive power utilisation is currently being paid.
- X The default utilisation money was set at forecast Mvarh multiplied by the utilisation price of £1.30/ Mvarh nationally. (Derived from MCUSA Schedule 5)
- X Market agreement capability money was set at tendered price multiplied by tendered capability, allowing for break-points, multiplied by forecast hours both available and synchronised.
- X Market agreement utilisation money was set at tendered prices, multiplied by the above forecast Mvarh, respecting the tendered break-point bands of Mvarh utilisation.

A5.23 The core comparison of default versus market agreement is based on the forecast payments detailed above. Reactive power assessment is however, by no means as simple as taking the cheapest option. A full understanding of the factors influencing reactive power requirements on the National Grid Transmission System must be taken into account to provide a complete economic assessment of tender value.

### **A5.3 Assessment Sensitivities**

A5.31 The principal role of tender assessment is to quantify and evaluate consistently the many factors that National Grid and the Reactive Power Market Working Group (RPMWG) have agreed should be considered. These factors are those referred to in 5.3(e)(ii) of MCUSA Schedule 5 and are cross-referenced in section 2.12 of the Invitation to Tender pack. The National Grid evaluation team has developed and implemented a process enabling these factors and associated uncertainties to be methodically considered.

A5.32 The RPMWG accepted at the outset of the reactive market that aspects of the tender evaluation process would be subjective in nature. It was therefore important to establish a framework within which this subjectivity could be exercised in a consistent fashion across all tenders.

A5.33 Specific questions were asked of each tender, examples of which follow:

- X *Would a Market Agreement (central case assessment) give a reduction in payments?*
- X *Would a Market Agreement be robust against:*
  - < *expected individual variations in utilisation due to:*
    - \* *a new station opening nearby*
    - \* *an existing nearby station closing*
    - \* *trends in local reactive power demand*
- X *Would a Market Agreement enhance the incentive on the Generator to maintain his Grid Code capability?*
- X *How would a Market Agreement affect operational despatch?*
- X *To what extent might a Market Agreement potentially offset National Grid investment?*
- X *Would a Market Agreement for ORPS enable a desired contract for ERPS?*

A5.34 All other criteria in MCUSA Schedule 5 paragraph 5.3 are covered by this methodology.

A5.35 In all cases, National Grid continued to consider interaction with forecast transmission constraints. In all cases there were insignificant interactions with constraints identified.

A5.36 In all cases, National Grid considered possible interaction with National Grid planned investments. The commissioning in 2000/01 of new National Grid transmission equipment, which includes some reactive compensation equipment, influenced National Grid's view of forecast Mvarh. All of the commissioning equipment is required for compliance with Transmission Licence Standards, and re-phasing of planned National Grid investments within a 12-month contract period is not a practical option.

## **Appendix 6**

### **Contact Numbers**

- A6.1 Comments, suggestions and enquiries can be directed to **Paul Bagg, Contracts and Trading, National Grid** on **02476 4231289**
- A6.2 Further report information may be obtained by contacting:

**Contracts and Trading  
Market Development  
National Grid House  
Kirby Corner Road  
Coventry CV4 8JY**

- A6.3 For any other information please visit the NGC website on the following address:

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

**Figure 1**

**Geographic distribution of gensets highlighting those with market agreements and those on default**

GENERATION ELIGIBLE FOR REACTIVE POWER PAYMENTS AS AT 1st OCTOBER 2000  
SHOWING THE SPLIT BETWEEN DEFAULT AND MARKET CONTRACTS

FIGURE 1

