

STOR Market Information Report: TR 09

(Short-Term Operating Reserve)

Introduction

This market report is produced after each tender round and is designed to give existing and potential STOR participants an overall view of the tenders received in tender round 09. The report provides details of tendered utilisation and availability prices and National Grid's resultant forward contracted position; together with further details on the type, size and dynamics of the tendered plant. For further information regarding this product or how and when to tender please consult the tender and reports section on found on the National Grid Balancing Services information website:

<http://www.nationalgrid.com/uk/Electricity/Balancing/services/reserveservices/STOR/>

Furthermore, information on the use of the STOR service can be seen at monthly resolution in the Monthly Balancing Services Statement found on the National Grid Balancing Services information website:

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

In assessing the benefit of a STOR tender, the value and costs of that tender are considered. The forecast cost of an accepted tender will reflect expected availability costs and utilisation costs which incorporate the MNZT of the unit. The tender assessment further considers the reliability, the location and the response times of the tendered unit. The full assessment principles are found via the following link.

http://www.nationalgrid.com/NR/rdonlyres/7B8CA1AB-4964-4965-B5A2-126C8C202A11/30793/STOR_Assessment_Principles_2008_12_Final.pdf

The report is divided into 3 sections:

- Section 1 provides a summary of this tender round so providing market participants with tendered and accepted volumes and price information across seasons. The data is broken down between response time, flexible and committed service providers plus a breakdown of the size of accepted units.
- Section 2 gives a high level account of any long term tenders.
- Section 3 provides an overview of the total contracted position for each season of National Grid Short Term Operating Reserve Requirement (STORR) through this and any previous tender rounds. This section allows the market participants to identify where there are opportunities to tender in future tender rounds.

This report details all tenders received in TR 09 and is for service provision commencing on the 26th October 2009. This is the ninth tender round since STOR began in April 2007.

A Summary of the Season dates has been attached as Appendix 2

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Section 1.1 Submitted and Accepted Volumes

On 28th August 2009 National Grid Received 47 tenders from 11 companies for the remainder of 2009/10 and 75 tenders from 7 companies for the following year. Additionally an 'all or nothing' tender was received from a single company for a two year contract beginning on 1st April 2010. This tender has been described in Section 2.

Of the 47 tenders for the remainder of 2009-10, 46 were accepted; the remaining tender was rejected due to a response time greater than 20 minutes and a high utilisation price relative to that response time. The assessment compares tendered prices against forecast utilisation prices for units likely to be available in the Balancing Mechanism with equivalent response times. Location, minimum run time and other utilisation parameters are also compared. Rejected tenders are considered to be uneconomic against the alternative BM reserve options

For 2010/11, 47 tenders were accepted, along with the additional all or nothing long term tender. Again Units were rejected due to response times greater than 20 minutes with high utilisation prices relative to those response times as above.

Table 1 below shows a high-level overview of the tenders received by National Grid for seasons 3.1 to 4.6. The numbers have been broken down by tender round and only show tender rounds which pertain to year 3 and 4.

Table1: Season summary table for Tender Rounds 4 to 9

Season		3.1			3.2			3.3			3.4			3.5			3.6		
Service Type		BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F
TR4 Tendered MW		40	-	-	40	-	-	40	-	-	40	-	-	40	-	-	40	-	-
TR4 Accepted MW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TR5 Tendered MW		572	271	-	572	254	4	572	258	-	572	140	-	572	8	140	572	8	132
TR5 Accepted MW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TR6 Tendered MW		962	321	18	962	308	18	872	255	-	962	132	-	962	-	140	962	-	132
TR6 Accepted MW		962	321	18	962	308	18	872	255	-	962	132	-	962	-	140	962	-	132
TR7 Tendered MW		688	174	434	808	168	448	580	126	292	712	246	281	633	53	389	632	55	389
TR7 Accepted MW		688	174	434	808	168	448	580	126	292	712	246	281	633	53	389	632	55	389
TR8 Tendered MW		-	-	-	-	-	-	68	101	177	-	112	201	-	5	182	-	53	132
TR8 Accepted MW		-	-	-	-	-	-	68	101	177	-	112	201	-	5	170	-	53	120
TR9 Tendered MW		-	-	-	-	-	-	-	79	126	-	90	149	-	-	-	68	77	261
TR9 Accepted MW		-	-	-	-	-	-	-	79	126	-	90	149	-	-	-	68	77	257
sub Total Tendered MW		2262	766	452	2382	730	470	2064	639	292	2286	518	281	2207	61	669	2206	63	653
sub Total Accepted MW		1650	495	452	1770	476	466	1452	381	292	1674	378	281	1663	135	953	1662	185	898
Total Accepted MW		2597			2712			2125			2333			2751			2745		
Average Submitted Availability Price (€/MWh)	TR4	£10.00	-	-	£10.00	-	-	£10.00	-	-	£10.00	-	-	£10.00	-	-	£10.00	-	-
	TR5	£8.83	£8.23	-	£8.83	£8.42	£8.90	£8.83	£8.23	-	£9.48	£8.47	-	£9.48	£9.30	£8.84	£9.48	£9.30	£8.84
	TR6	£8.96	£7.91	£6.08	£8.96	£7.91	£6.15	£8.97	£8.20	-	£9.16	£8.25	-	£9.18	-	£8.75	£9.18	-	£8.50
	TR7	£8.08	£7.58	£6.60	£8.25	£7.59	£6.69	£8.73	£7.57	£7.30	£8.73	£8.56	£7.27	£8.75	£6.27	£8.54	£8.75	£6.25	£8.61
	TR9	-	-	-	-	-	-	£5.25	£8.70	£7.26	-	£8.72	£7.88	-	-	-	£5.50	£9.18	£8.52
Average Accepted Availability Price (€/MWh)	TR4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR6	£8.96	£7.91	£6.08	£8.96	£7.91	£6.15	£8.97	£8.20	-	£9.16	£8.25	-	£9.18	-	£8.75	£9.18	-	£8.50
	TR7	£8.08	£7.58	£6.60	£8.25	£7.59	£6.69	£8.63	£7.57	£7.30	£8.73	£8.56	£7.27	£8.75	£6.27	£8.54	£8.75	£6.25	£8.61
	TR9	-	-	-	-	-	-	-	£8.95	£7.13	-	£8.95	£7.58	-	-	-	£5.50	£9.18	£8.51
Average Submitted Utilisation Price (€/MWh)	TR4	£325.00	-	-	£325.00	-	-	£325.00	-	-	£325.00	-	-	£325.00	-	-	£325.00	-	-
	TR5	£445.76	£255.17	-	£445.76	£252.68	£430.00	£445.76	£255.43	-	£445.76	£271.30	-	£445.76	£479.00	£258.57	£445.76	£479.00	£258.71
	TR6	£337.32	£259.81	£325.00	£337.32	£259.79	£325.00	£350.12	£259.57	-	£337.95	£268.48	-	£338.99	-	£268.43	£338.99	-	£268.48
	TR7	£283.05	£238.19	£235.34	£275.92	£237.86	£249.57	£293.09	£237.18	£239.21	£283.06	£285.73	£230.45	£293.49	£190.85	£274.58	£293.58	£189.91	£270.78
	TR9	-	-	-	-	-	-	£360.00	£259.80	£336.50	-	£257.86	£305.25	-	£240.00	£252.25	£360.00	£240.00	£256.11
Average Accepted Utilisation Price (€/MWh)	TR4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR6	£337.32	£259.81	£325.00	£337.32	£259.79	£325.00	£350.12	£259.57	-	£337.95	£268.48	-	£338.99	-	£268.43	£338.99	-	£268.48
	TR7	£283.05	£238.19	£235.34	£275.92	£237.86	£249.57	£293.09	£237.18	£239.21	£283.06	£285.73	£230.45	£293.49	£190.85	£274.58	£293.58	£189.91	£270.78
	TR9	-	-	-	-	-	-	-	£258.73	£306.52	-	£256.44	£302.55	-	£240.00	£244.11	£360.00	£240.78	£274.88

Season		4.1			4.2			4.3			4.4			4.5			4.6		
Service Type		BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F	BM - C	NBM - C	NBM - F
TR8 Tendered MW		532	-	-	532	-	-	532	-	-	532	-	-	532	-	-	532	-	-
TR8 Accepted MW		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TR9 Tendered MW		922	332	-	922	315	-	922	272	-	887	285	-	887	21	-	887	21	-
TR9 Accepted MW		922	55	-	922	51	-	922	8	-	887	8	-	887	8	-	887	8	-
sub Total Tendered MW		1454	332	0	1454	315	0	1454	272	0	1419	285	0	1419	21	0	1419	21	0
sub Total Accepted MW		922	55	0	922	51	0	922	8	0	887	8	0	887	8	0	887	8	0
Total Accepted MW		977			973			930			895			895			895		
Average Submitted Availability Price (€/MWh)	TR8	10.75	-	-	10.75	-	-	10.75	-	-	10.93	-	-	10.93	-	-	10.93	-	-
	TR9	£10.15	£9.25	-	£10.15	£9.27	-	£10.15	£10.24	-	£10.23	£10.24	-	£10.94	£10.75	-	£10.94	£10.75	-
Average Accepted Availability Price (€/MWh)	TR8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR9	£10.15	£9.25	-	£10.15	£9.27	-	£10.15	£10.24	-	£10.23	£10.24	-	£10.94	£10.75	-	£10.94	£10.75	£10.75
Average Submitted Utilisation Price (€/MWh)	TR8	£305.72	-	-	£305.72	-	-	£305.72	-	-	£305.72	-	-	£305.72	-	-	£305.72	-	-
	TR9	£272.72	£244.36	-	£272.72	£244.18	-	£272.72	£242.49	-	£271.52	£242.55	-	£271.52	£285.29	-	£271.52	£285.29	-
Average Accepted Utilisation Price (€/MWh)	TR8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TR9	£272.72	£254.47	-	£272.72	£254.04	-	£272.72	£249.50	-	£271.52	£249.50	-	£271.52	£269.50	-	£271.52	£269.50	-

* Average Prices are Weighted by MW Volume and Hours Tendered

Figure 1 below shows the overview of accepted and rejected MW volumes for seasons 3.1 to 4.6 from all tender rounds. The graphs on the left show results of previous tender rounds and those on the right show the results for tender round 09.

Fig 1

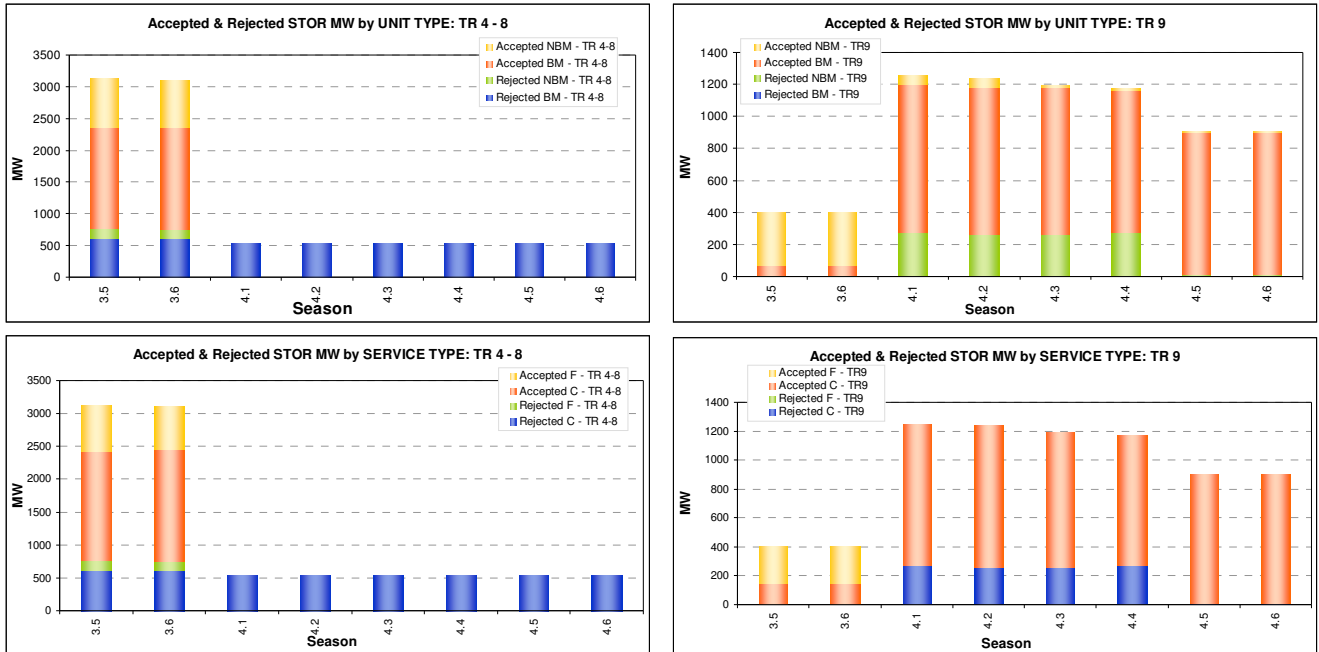
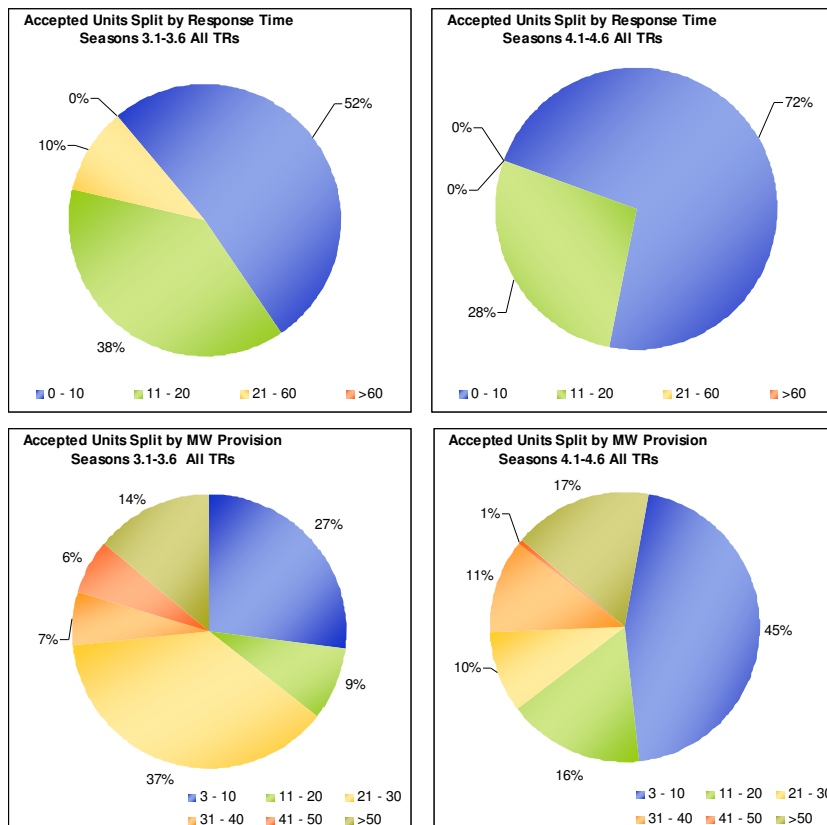


Figure 2 below provides an overview of STOR units with accepted contracts for seasons 3.1 to 4.6 for all tender rounds. For year 3 the figures show that the majority (90%) of the accepted units can provide STOR MW within 20 minutes, however only 20% of units can provide over 40 MW per instruction. Of the accepted tenders for next year all can provide STOR within 20 minutes and about 18% have a MW capability greater than 40MW.

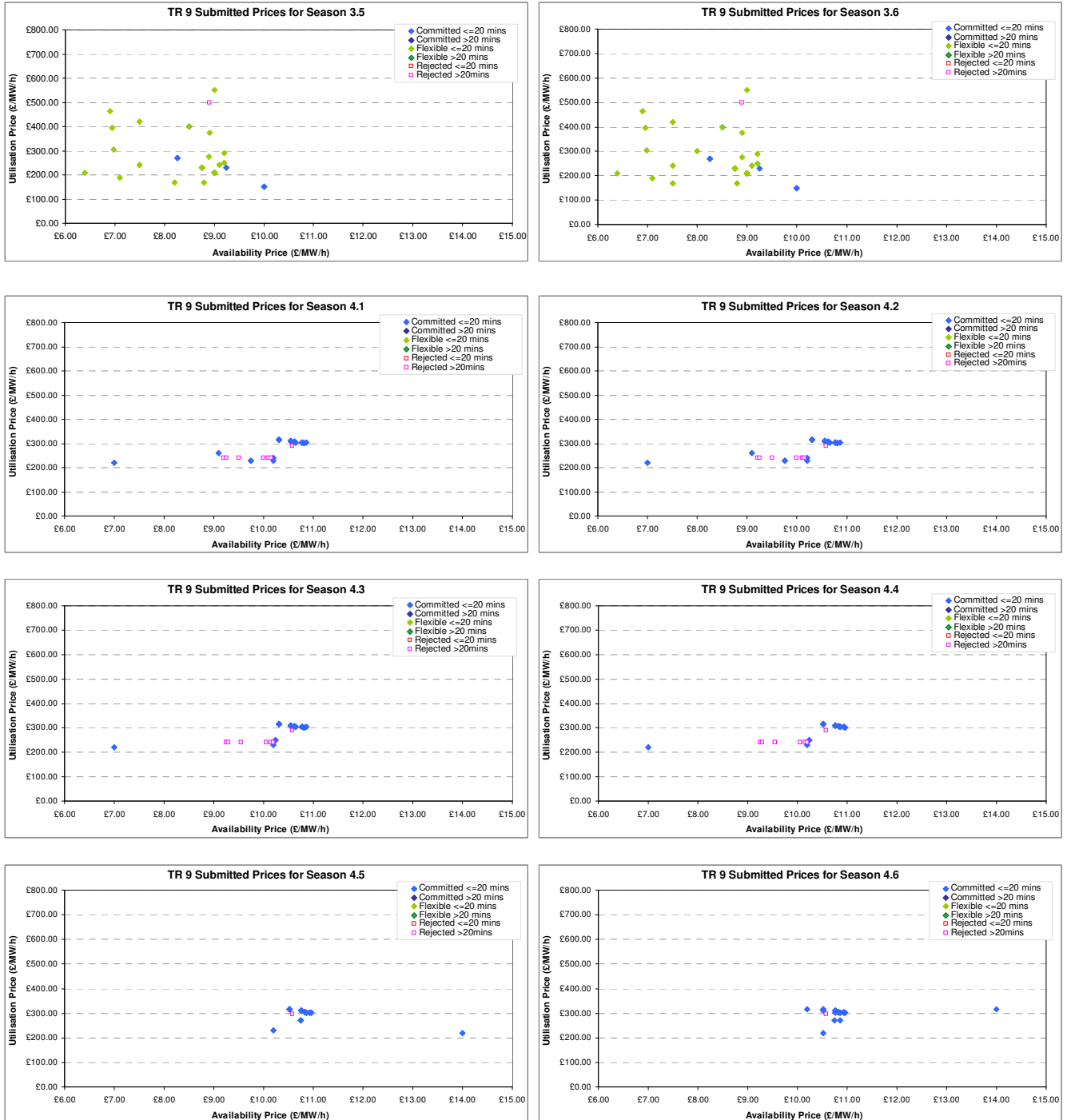
Fig 2



Section 1.2 Prices

Scatter plots of availability and utilisation prices for tenders for each season for tender round 09 are shown below. Note that these plots now show units accepted or rejected by response categories to allow providers more information as to why a tender may have been accepted or rejected.

Year 3 and 4 Submitted Tender Prices – Scatter Plots of availability & utilisation prices for TR 09



Section 2 Long Term Tenders

National Grid received and accepted a single long term all or nothing committed tender beginning 1st April 2010 and ending on 31st March 2012.

The tender comprised of four individual tenders for the same unit, with an average availability price of £9.92/MW/h for 2010-11 and £11.04 for 2011-12. The utilisation prices tendered for the unit were below £240/MWh with a response time less than 20 minutes and high reliability history.

Section 3 Total Contracted Position

This section gives a summary of STOR contracted by National Grid.

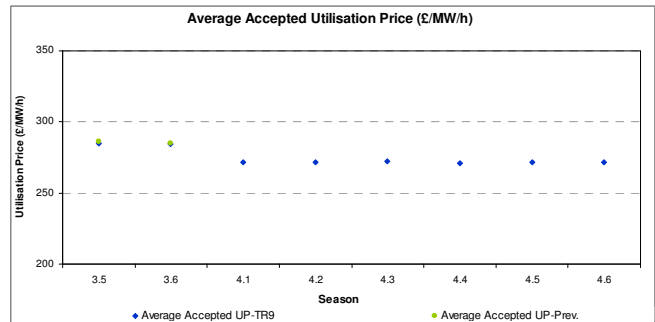
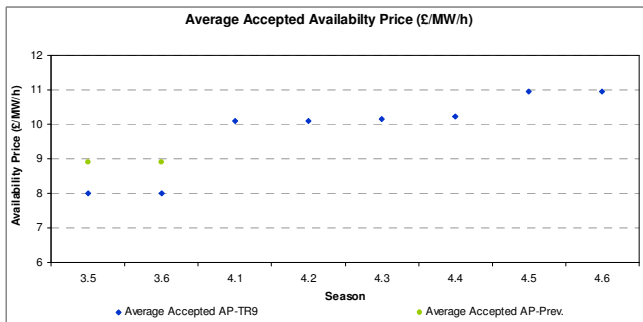
Table 2: Summary of total contracted position as a result of Tender Round 9

Dates	1st April 2009 - 31st March 2010					
Season	3-1	3-2	3-3	3-4	3-5	3-6
Previously Accepted MW	2597	2712	2343	2585	2352	2343
Accepted MW TR 09					399	402
Previously Accepted Availability Price* £/MW/h	£7.34	£7.42	£8.27	£8.43	£8.79	£8.81
TR 09 Accepted Availability Price* £/MW/h					£7.73	£7.72
Previously Accepted Utilisation Price* £/MW/h	£288.07	£290.62	£276.89	£290.17	£288.69	£274.43
TR 09 Accepted Utilisation Price* £/MW/h					£291.77	£291.53
Total MW Accepted	2597	2712	2343	2585	2751	2745
Overall Average Accepted Availability Price (£/MW/h)	£7.34	£7.42	£8.27	£8.43	£8.26	£8.27
Overall Average Accepted Utilisation Price (£/MWh)	£288.07	£290.62	£276.89	£290.17	£290.23	£282.98

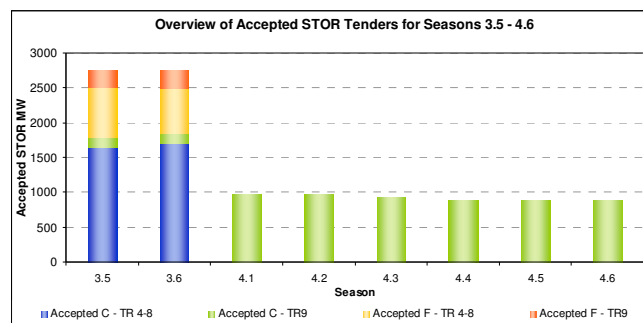
Dates	1st April 2010 - 31st March 2011					
Season	4-1	4-2	4-3	4-4	4-5	4-6
Previously Accepted MW	-	-	-	-	-	-
Accepted MW TR 09	977	973	930	895	895	895
Previously Accepted Availability Price* £/MW/h	-	-	-	-	-	-
TR 09 Accepted Availability Price* £/MW/h	£9.70	£9.71	£10.20	£10.23	£10.84	£10.81
Previously Accepted Utilisation Price* £/MW/h	-	-	-	-	-	-
TR 09 Accepted Utilisation Price* £/MW/h	£263.59	£263.38	£261.11	£260.51	£270.51	£270.51
Total MW Accepted	977	973	930	895	895	895
Overall Average Accepted Availability Price (£/MW/h)	£9.70	£9.71	£10.20	£10.23	£10.84	£10.81
Overall Average Accepted Utilisation Price (£/MWh)	£263.59	£263.38	£261.11	£260.51	£270.51	£270.51

*Average Prices are Weighted by Volume and Availability Hours

The following graphs show the average accepted availability and utilisation prices for this and previous tender rounds. The last graph is a pictorial representation of how the accepted volumes are broken down by committed and flexible services.



*Average Prices are Weighted by Volume and Availability Time



Appendix 1: Terminology and Definitions

Term	Definition
STOR	Short-Term Operational Reserve
STORR	Short-Term Operational Reserve Requirement
Unit	As described within a STOR framework agreement as constituting a STOR site
Year 3	Equivalent to Financial Year 2009/10 commencing on 1st April 2009
Year 4	Equivalent to Financial Year 2010/11 commencing on 1st April 2010
Year 5	Equivalent to Financial Year 2011/12 commencing on 1st April 2011
Average Availability (£/MW/h) / Utilisation Price (£/MWh)	The average price weighted by Volume and Availability Hours for the specified period.
TR	Tender Round

High level description of STOR:

STOR is designed to give National Grid sufficient short term operating reserve to replace sudden generation losses, or unpredictable changes in demand at real time and requires a large proportion of units to be available within 20 minutes. STOR also recognises that other potential reserve providers who cannot meet the 20 minute response time criteria can still be of value in meeting our reserve requirement. Hence a key aspect of the definition of the STOR product is that it extends the maximum response time to 240 minutes to allow new providers to participate. A lower value however is placed on these units as they are likely to compete with alternative options available in the Balancing Mechanism with equivalent response times. Location, reliability size and utilisation parameters are also important elements of the STOR assessment.

The committed service applies to all providers who wish to make themselves available for all required windows nominated by National Grid. Both BM and NBM providers can tender for this service. The flexible service applies only to NBM providers and allows the provider to make the unit available or unavailable for particular windows. This availability is assessed on a week-ahead basis and providers are notified if their service is required or not. It is at the discretion of National Grid to whether a unit is accepted or rejected at the week ahead stage and this decision will be determined based on the same factors which influence a tender assessment. Both Services attract an availability payment paid on a £/MW/h basis when available within defined windows and an utilisation payment on delivery of STOR MW when instructed by National Grid paid on a £/MWh basis.

Appendix 2: Season Reference

The following tables summarise the seasons for the current year (Year 3) and the following two years. For Tender dates etc see the National Grid websites as mentioned on page 1 of this report.

Seasons 2009/10									
Season	Dates	Wdow	WD		NWD		Hours/Day Type		Total
			Start Time	End Time	Start Time	End Time	WD	NWD	
1	05:00 1st April 2009 - 05:00 27th April 2009	I	07:00	13:30	10:00	14:00	199.5	32.5	232
		II	19:00	22:00	19:30	22:00			
2	05:00 27th April 2009 - 05:00 17th August 2009	I	07:30	14:00	09:30	13:30	1081	126	1207
		II	16:00	18:00	19:30	22:30			
		III	19:30	22:30					
3	05:00 17th August 2009 - 05:00 21st September 2009	I	07:30	14:00	10:30	13:30	348	36	384
		II	16:00	21:30	19:00	22:00			
4	05:00 21st September 2009 - 05:00 26th October 2009	I	07:00	13:30	10:30	13:30	330	32.5	362.5
		II	16:30	21:00	17:30	21:00			
5	05:00 26th October 2009 - 05:00 1st February 2010	I	07:00	13:30	10:30	13:30	920	135	1055
		II	16:00	21:00	16:00	20:30			
6	05:00 1st February 2010 - 05:00 1st April 2010	I	07:00	13:30	10:30	13:30	561	60	621
		II	16:30	21:00	16:30	21:00			
							3439.5	422	3861.5
							Total Hours		3861.5

Season	WD	NWD
1	21	5
2	94	18
3	29	6
4	30	5
5	80	18
6	51	8

Seasons 2010/11									
Season	Dates	Wdnow	WD		NWD		Hours/Day Type		Total
			Start Time	End Time	Start Time	End Time	WD	NWD	
1	05:00 Thursday 1st Apr 2010 05:00 Monday 26th Apr 2010	I	07:00	13:30	10:00	14:00	190	32.5	222.5
		II	19:00	22:00	19:30	22:00			
2	05:00 Monday 26th Apr 2010 - 05:00 Monday 16th Aug 2010	I	07:30	14:00	09:30	13:30	1081	126	1207
		II	16:00	18:00	19:30	22:30			
			19:30	22:30					
3	05:00 Monday 16th Aug 2010 05:00 Monday 20th Sep 2010	I	07:30	14:00	10:30	13:30	348	36	384
		II	16:00	21:30	19:00	22:00			
4	05:00 Monday 20th Sep 2010 05:00 Monday 1st Nov 2010	I	07:00	13:30	10:30	13:30	396	39	435
		II	16:30	21:00	17:30	21:00			
5	05:00 Monday 1st Nov 2010 - 05:00 Monday 31st Jan 2011	I	07:00	13:30	10:30	13:30	839.5	135	974.5
		II	16:00	21:00	16:00	20:30			
6	05:00 Monday 31st Jan 2011 - 05:00 Friday 1st Apr 2011	I	07:00	13:30	10:30	13:30	572	60	632
		II	16:30	21:00	16:30	21:00			
							3426.5	428.5	3855
							Total Hours		3855

Season	WD	NWD
1	20	5
2	94	18
3	29	6
4	36	6
5	73	18
6	52	8

Seasons 2011/12									
Season	Dates	Wdnow	WD		NWD		Hours/Day Type		Total
			Start Time	End Time	Start Time	End Time	WD	NWD	
1	05:00 on Friday 1st Apr 2011 - 05:00 on Monday 25th Apr 2011	I	07:00	13:30	10:00	14:00	190	26	216
		II	19:00	22:00	19:30	22:00			
2	05:00 on Monday 25th Apr 2011 - 05:00 on Monday 15th Aug 2011	I	07:30	14:00	09:30	13:30	1069.5	133	1202.5
		II	16:00	18:00	19:30	22:30			
			19:30	22:30					
3	05:00 on Monday 15th Aug 2011 - 05:00 on Monday 19th Sep 2011	I	07:30	14:00	10:30	13:30	348	36	384
		II	16:00	21:30	19:00	22:00			
4	05:00 on Monday 19th Sep 2011 - 05:00 on Monday 31 Oct 2011	I	07:00	13:30	10:30	13:30	396	39	435
		II	16:30	21:00	17:30	21:00			
5	05:00 on Monday 31 Oct 2011 - 05:00 on Monday 30th Jan 2012	I	07:00	13:30	10:30	13:30	862.5	120	982.5
		II	16:00	21:00	16:00	20:30			
6	05:00 on Monday 30th Jan 2012 - 05:00 on Sunday 1st Apr 2012	I	07:00	13:30	10:30	13:30	594	60	654
		II	16:30	21:00	16:30	21:00			
							3460	414	3874
							Total Hours		3874

Season	WD	NWD
1	20	4
2	93	19
3	29	6
4	36	6
5	75	16
6	54	8

