Firm Frequency Response Market Information for February-16

Monthly Report

Published December 2015

Please be aware that following information may change month on month as we are constantly reviewing our operational requirements against what we have contracted.

Key points

This Market Information Report is relevant for **tenders submitted in January for delivery in February.**

Tenders from eligible service providers for firm frequency response should be submitted by **Monday 4th of January 2016** (1st business day) for all tenders.

National Grid will notify service providers of the outcome of the tender assessment by **Tuesday 19th of January 2016** (12th business day).

For successful tenders, National Grid will notify nominated windows, following assessment by **Tuesday 19th of January 2016** (12th business day).

Introduction

Firm Frequency Response (FFR) is a service through which balancing mechanism (BM) and non-BM participants commit to providing a given measure of response for a fee. National Grid procures the services through a monthly tender process ahead of BM timescales.

Submitted prices are compared to the costs of alternatives to deliver the equivalent level of frequency response. Mandatory response costs include the forecast response holding costs, the forecast bid and offer positioning costs and the forecast cost of creating headroom to provide response. You can find more information about how these costs are considered during tender assessments via the link below.

This report provides information to current and potential providers about the volume of, and time periods over which response is required.

Highlights

In December 2015, we received 96 FFR tenders from 25 units for delivery to start from January onwards. 6 tenders were from BM units and 90 were from non-BM units. More details on the tenders accepted/rejected are available from the post-assessment tender report.

Both the FFR Assessment Principles and Post-Assessment Tender Report are available at:
http://www.nationalgrid.com/uk/Electricity/Balancing/services/frequencyresponse/ffr/

For a monthly summary of the cost of services procured please follow the below link to the Monthly Balancing Services Summary (MBSS), which breaks costs down by service.

http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Report-explorer/Services-Reports/

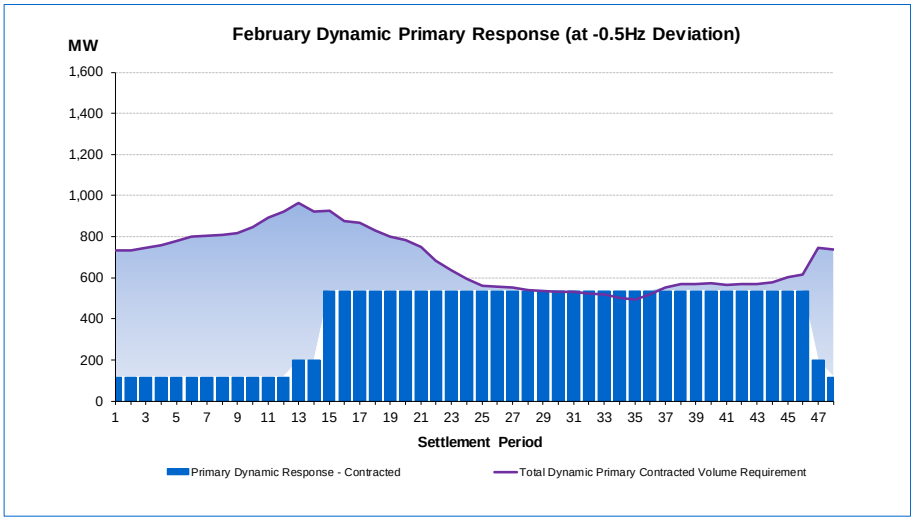
(Please ensure the 'Monthly Balancing Services Summary' Tab is selected)

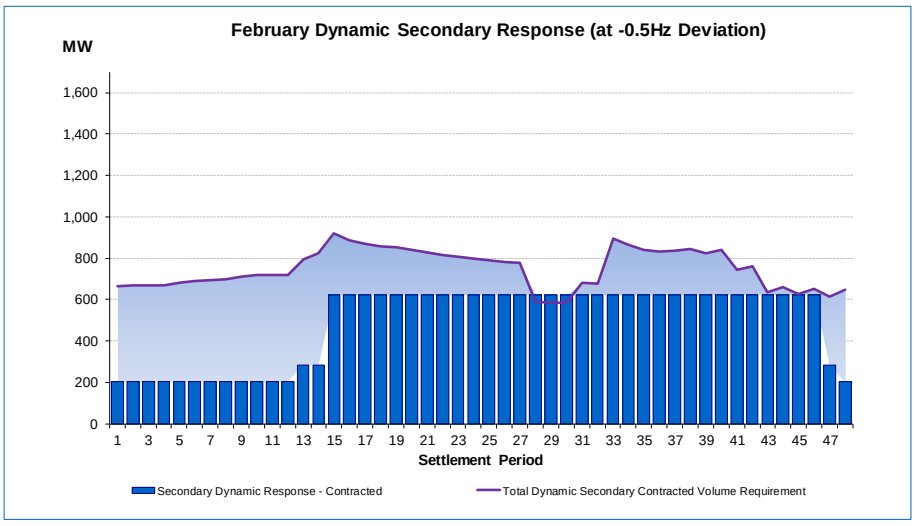
Please note:
Following recent increases in static response participation in the FFR market and the resultant unprecedented increased level of static response holding in our operational portfolio, we have reviewed our response holding requirements and strategy going forward. In the report below we have now split the requirement into volume of that can be offset by contracting Static response units and a volume that can only be offset by dynamic units.

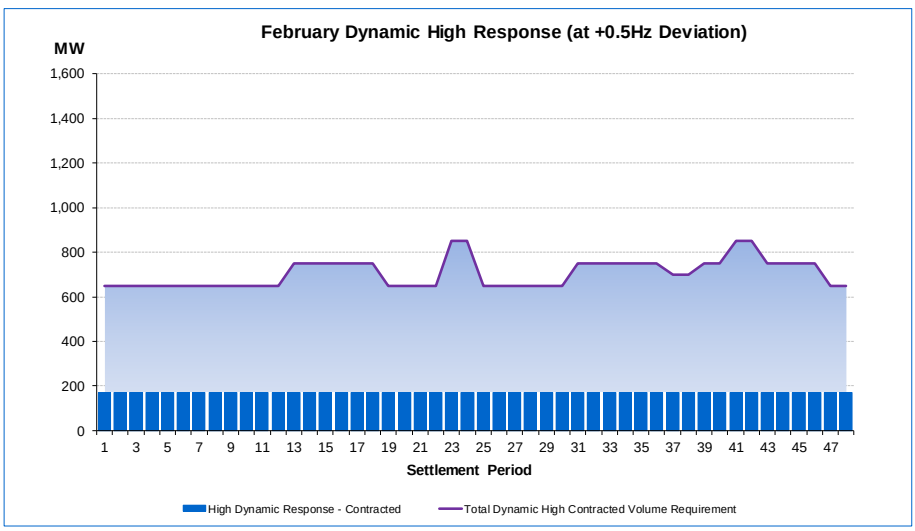
The requirements shown in this report are indicative and are an average expectation of the Primary, Secondary & High requirements given February forecasted system demands, system inertia expectations and the most likely demand & generation risk losses that need to be covered. Generation, demand risk and system inertia scenarios are likely to be less or more onerous on the day.

February-16 **Dynamic** Requirement

The figures on this page show the amount of existing **dynamic** contracted response capability available by Settlement Period, against the maximum contract volume requirement. Therefore, we are looking to procure volumes to offset the requirement remaining between the existing contracted level and requirement as demonstrated by the coloured/shaded area in the charts.





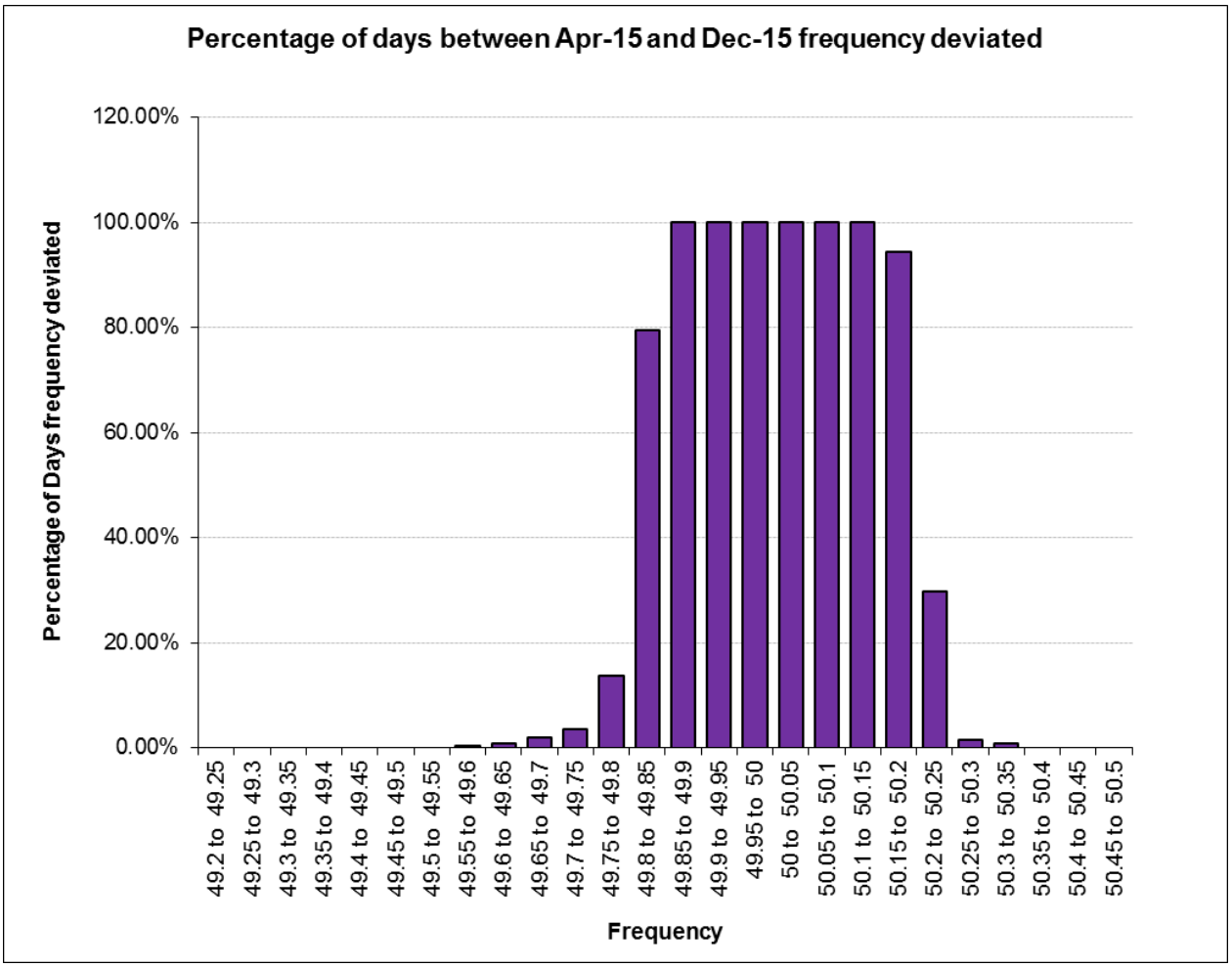


January-16 **Static** Requirement

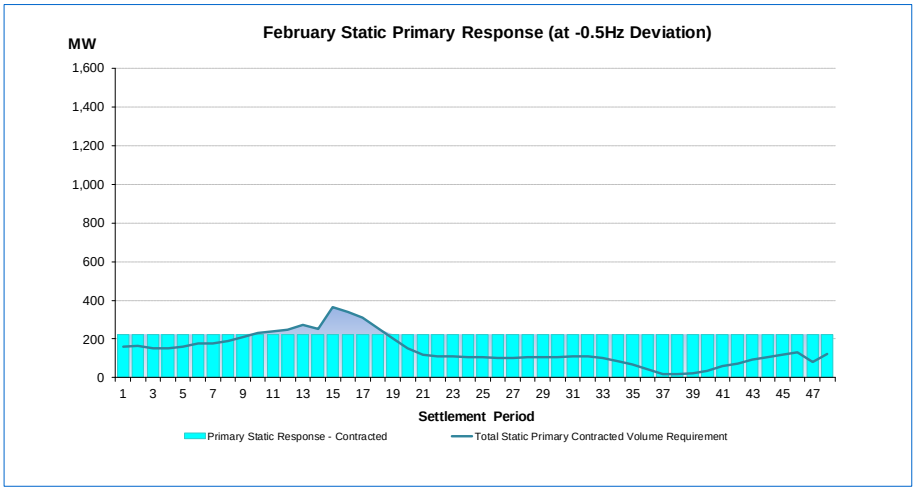
After reviewing our Static requirements we can list below more specific parameters of what we are looking to procure.

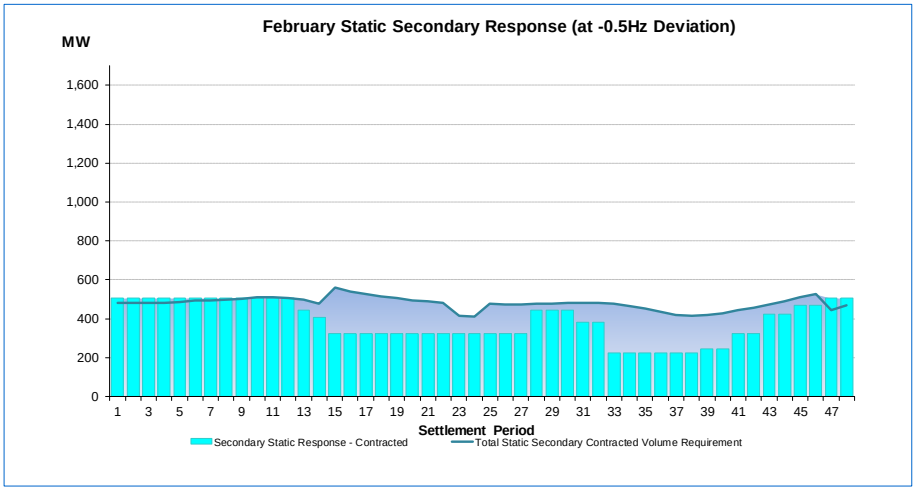
For providers wishing to tender LF static response:

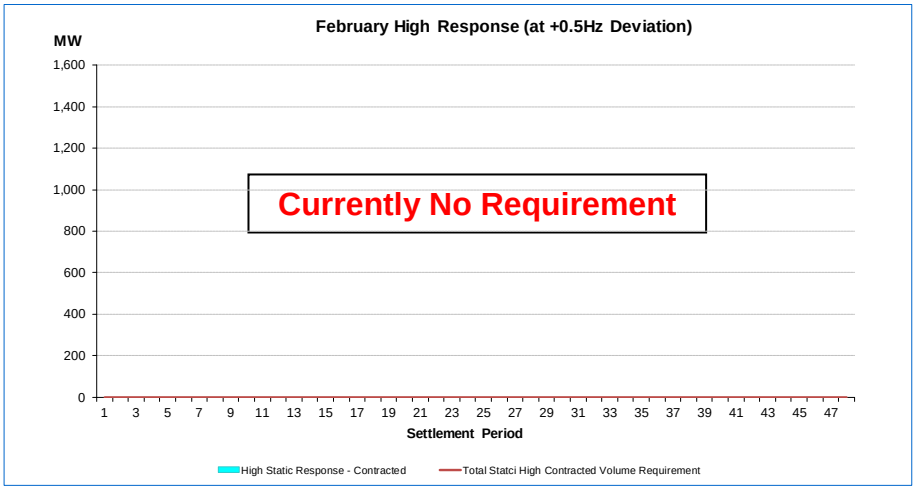
- **Types of Static response in order of preference**:
  1. Proportional response after actuation at the trigger frequency. Drops to 0MW when system frequency returns to 50Hz, proportional response remains available for 30min. With an instant or short recovery period to the trigger frequency after 30min.
  2. As above except the proportional response ceases after frequency returns to 50Hz, instant or short recovery period to the trigger frequency.
  3. Full output after actuation at the trigger frequency. Full output set to reduce to zero at 49.95Hz or 50Hz, current system requirement is 50% at 49.95Hz, 50% at 50Hz. An instant recovery or short recovery period upon automatic ceasing.
- **Static trigger levels:**
  - LF triggers need to be set to a range of frequencies, 49.5 to 49.7 (23:00 to 07:00) overnight, and a range 49.5 to 49.8 (07:00 to 23:00) during the day. We are looking to spread the static response equally across these ranges.



The figures on this page show the amount of existing **static** contracted response capability available by Settlement Period, against the maximum contract volume requirement.
Due to nature of the operation of static response there is limit to the proportion of Static that can meet the overall response requirement. We are therefore looking to contract the remaining volume as displayed by the coloured/ shaded area between the requirement line and existing contract volume.







Key points

The response requirement for secondary is the largest of the 3 static requirements.

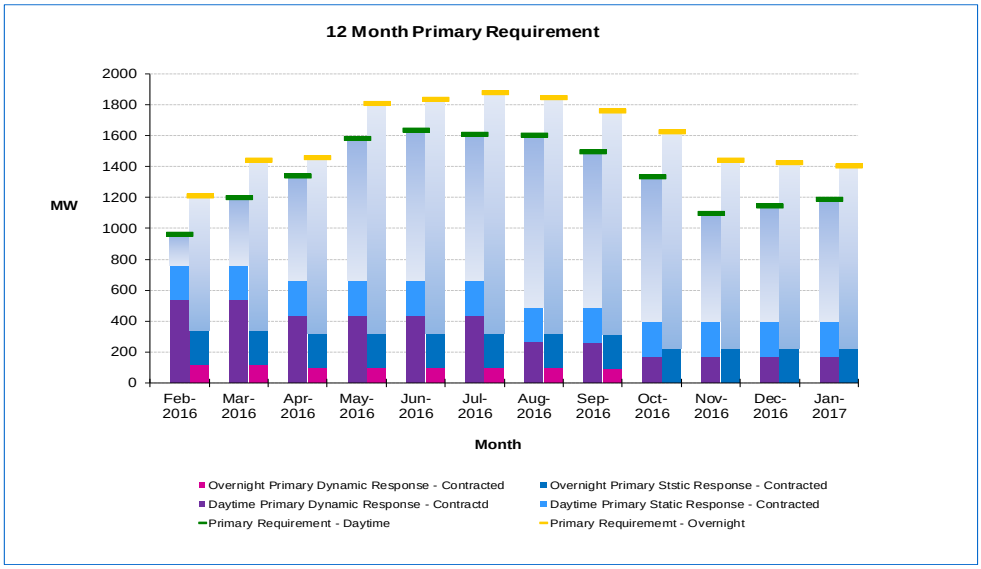
There is currently no requirement for high static response.

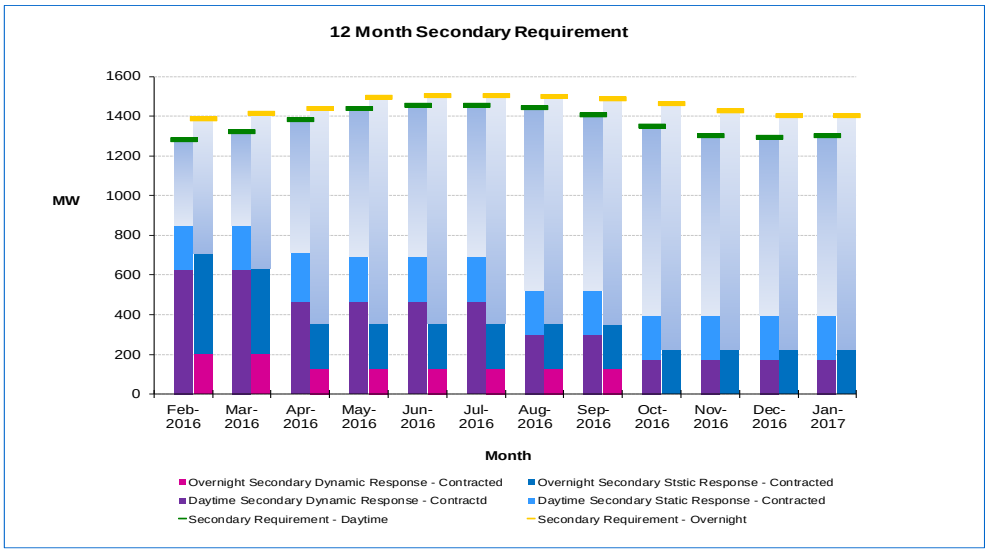
We currently do not need to procure more primary static response overnight.

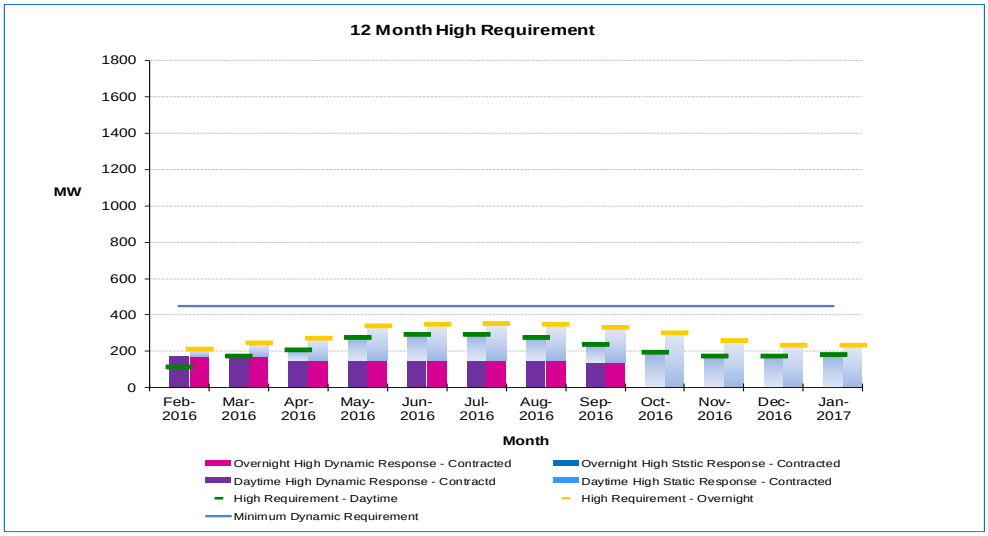
The requirement volume displayed for static response is a contracted volume. Static response services can provide differing levels of response efficiency when considering their time to respond, the flexibility of their set trigger levels and interactions with demand and inertia on the system. Therefore the effect this has on reducing the overall response requirement varies.

12-Month Total Requirement

Please note this section is under review, to bring it in line with the month ahead data







The following charts contain similar information to the monthly requirements above but we have extended it over the next 12 months. The charts provide an estimate of the response requirements by day/night and include information on existing contracts. The grey/blue shaded area is the approximate response that will need to be procured. The minimum dynamic requirement for primary, secondary and high response over the 12 month period is 450MW.

Key points

The response requirement is greater during the summer than winter.

The response requirement is greater overnight than during the daytime

The secondary response requirement is greater than primary or high requirements throughout the year

The primary and secondary response requirements are greater than the minimum dynamic throughout the year. A static response service could therefore be beneficial in meeting the total requirement.

For High frequency response, the minimum dynamic response (450MW) is greater than the requirement throughout the year. A static response service would not be beneficial in meeting the requirement.

Contract Requirement Volume Tables

The following tables state the predicted amount, in MW, of response we need to procure for February and the future.

February requirement:

Settlement Period	Dynamic Amount required (MW)		
	Primary	Secondary	High
1	614	463	479
2	617	466	479
3	628	464	479
4	639	467	479
5	662	478	479
6	681	487	479
7	687	489	479
8	693	497	479
9	700	507	479
10	727	515	479
11	773	518	479
12	802	515	479
13	768	513	579
14	726	542	579
15	387	296	579
16	339	262	579
17	331	246	579
18	292	236	579
19	263	231	479
20	246	217	479
21	210	205	479
22	145	192	479
23	98	183	679
24	56	174	679
25	25	166	479
26	19	158	479
27	15	155	479
28	0	0	479
29	0	0	479
30	0	0	479
31	0	56	579
32	0	52	579
33	0	270	579
34	0	241	579
35	0	218	579
36	0	210	579
37	16	213	529
38	31	222	529
39	33	202	579
40	34	216	579
41	27	121	679
42	30	140	679
43	29	13	579
44	38	37	579
45	66	4	579
46	79	29	579
47	546	333	479
48	620	444	479

Settlement Period	Static Amount required (MW)		
	Primary	Secondary	High
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	5	3	0
11	16	4	0
12	24	0	0
13	46	53	0
14	28	70	0
15	139	238	0
16	115	216	0
17	87	205	0
18	31	194	0
19	0	185	0
20	0	172	0
21	0	166	0
22	0	160	0
23	0	91	0
24	0	90	0
25	0	156	0
26	0	153	0
27	0	153	0
28	0	33	0
29	0	33	0
30	0	34	0
31	0	99	0
32	0	100	0
33	0	251	0
34	0	241	0
35	0	229	0
36	0	210	0
37	0	192	0
38	0	190	0
39	0	175	0
40	0	184	0
41	0	123	0
42	0	135	0
43	0	49	0
44	0	66	0
45	0	43	0
46	0	61	0
47	0	0	0
48	0	0	0

12 month requirement

	Amount required (MW)		
Daytime	Primary	Secondary	High
Feb-2016	199	430	0
Mar-2016	435	471	2
Apr-2016	679	666	58
May-2016	918	744	125
Jun-2016	975	759	143
Jul-2016	948	761	144
Aug-2016	1112	916	128
Sep-2016	1004	883	94
Oct-2016	936	953	191
Nov-2016	701	906	170
Dec-2016	745	895	172
Jan-2017	792	905	178

	Amount required (MW)		
Overnight	Primary	Secondary	High
Feb-2016	863	674	40
Mar-2016	1094	779	72
Apr-2016	1135	1083	124
May-2016	1486	1140	190
Jun-2016	1512	1147	198
Jul-2016	1556	1148	203
Aug-2016	1524	1146	197
Sep-2016	1441	1134	188
Oct-2016	1399	1235	299
Nov-2016	1216	1198	256
Dec-2016	1198	1176	231
Jan-2017	1178	1175	230

If you have any queries, suggestions or feedback on the content or format of the new report please contact your account manager or steven.lam@nationalgrid.com