

Firm Frequency Response Market Information for Mar-16

Monthly Report

Published Jan-16

Key points

This Market Information Report is relevant for tenders submitted in **Feb-16** for delivery in **Mar-16**.

Tenders from eligible service providers for Firm Frequency Response should be submitted by **Mon 01-Feb-2016** (1st business day) for all tenders.

National Grid will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Tue 16-Feb-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 service 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. More detail can be found in the assessment principles, the link can be found below.

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

Highlights

In Jan-16, we received 496 FFR tenders from 31 units. More details on the tenders accepted/rejected are available from the post-assessment tender report.

As a result of an increase in requests to tender into FFR in advance of asset build, and in line with our goals of reducing barriers to participation for DSR in all our markets, we reviewed the assessment process for FFR in December. This review resulted in a number of changes, notably the inclusion for the first time of explicit requirements for static response, the introduction of three variable static response services, and a relaxation on the requirement for assets to be existing before they can tender. It should be noted that as acceptance of new build tenders that never commission represents a risk to NGET, consideration will be given to whether they represent good value against other tenders.

Links

Assessment Principles and Post-Assessment Tender Reports

<http://www.nationalgrid.com/uk/Electricity/Balancing/services/frequencyresponse/ffr/>

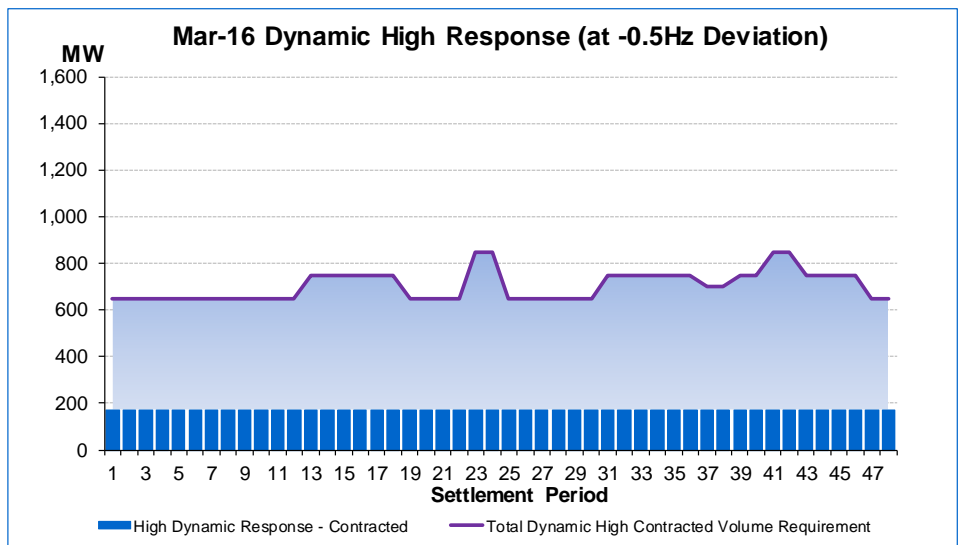
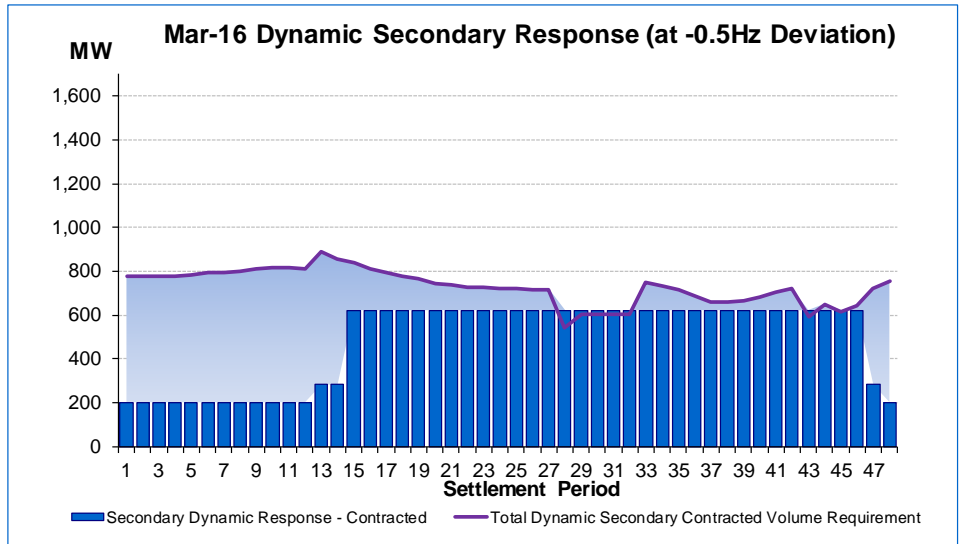
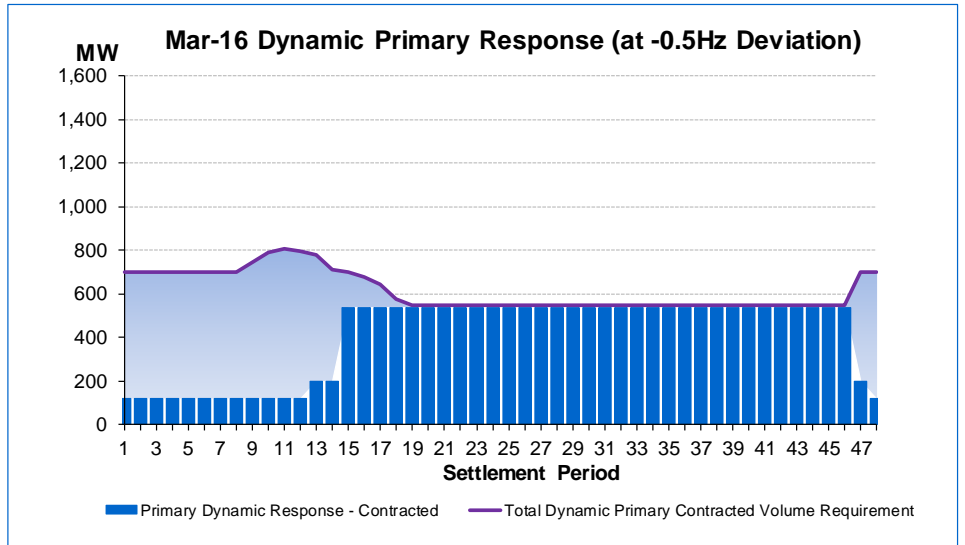
The Monthly Balancing Services Summary (MBSS) gives a monthly summary of the cost of services procured by service

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

Mar-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.

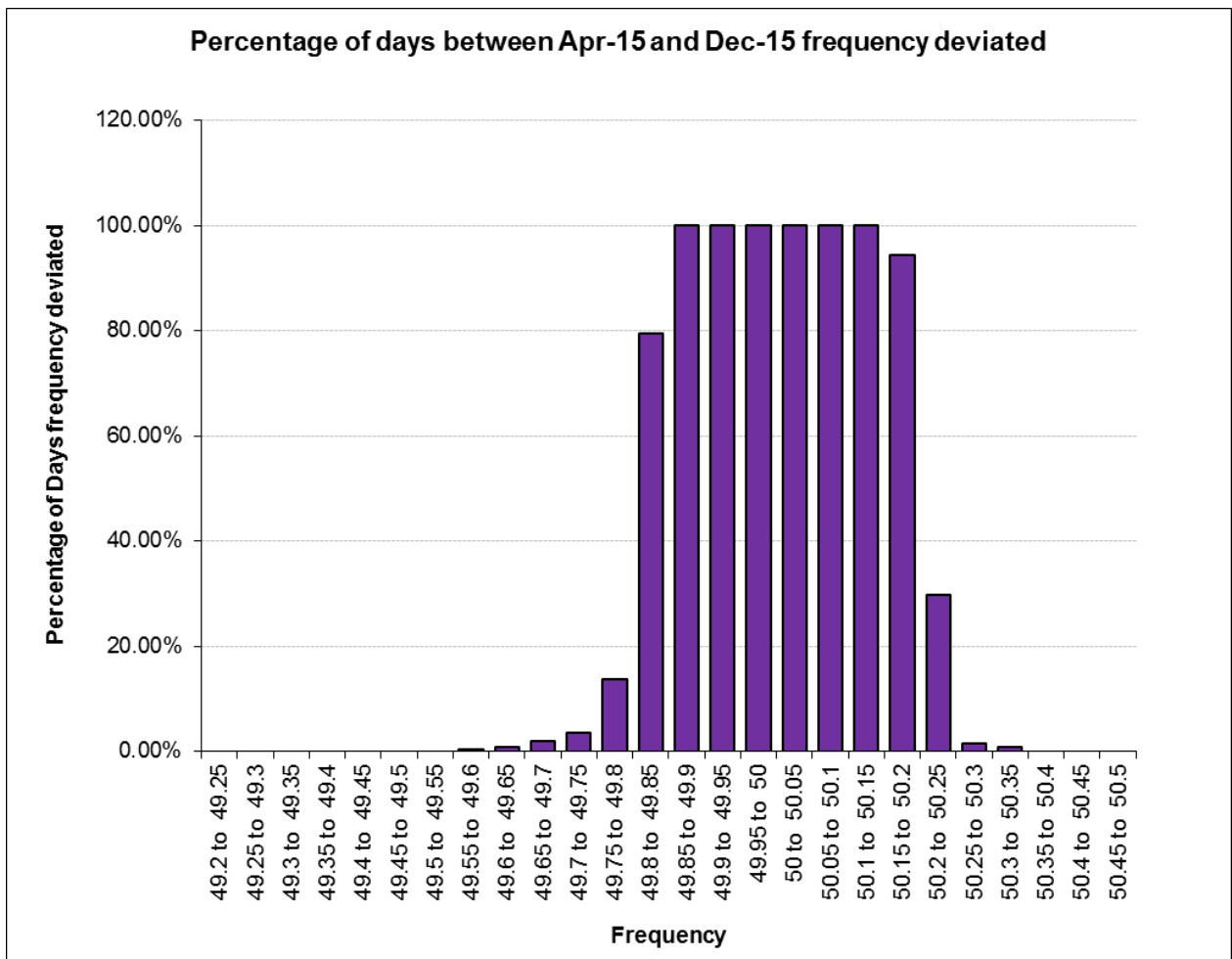


Mar-16 Static Requirement

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.

In order to control frequency pre-fault acceptably, a certain minimum amount of dynamic response is needed. The remainder of the response requirement can be met with either static or dynamic response.

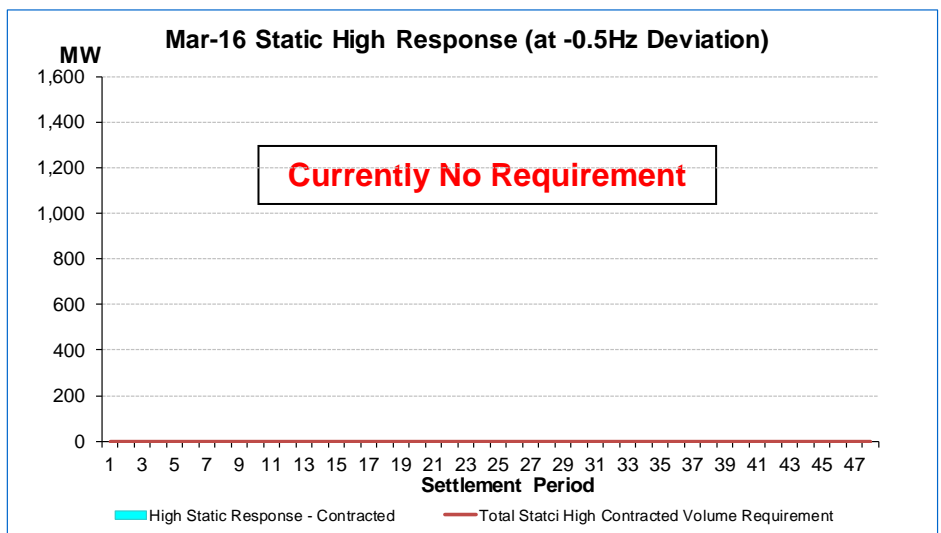
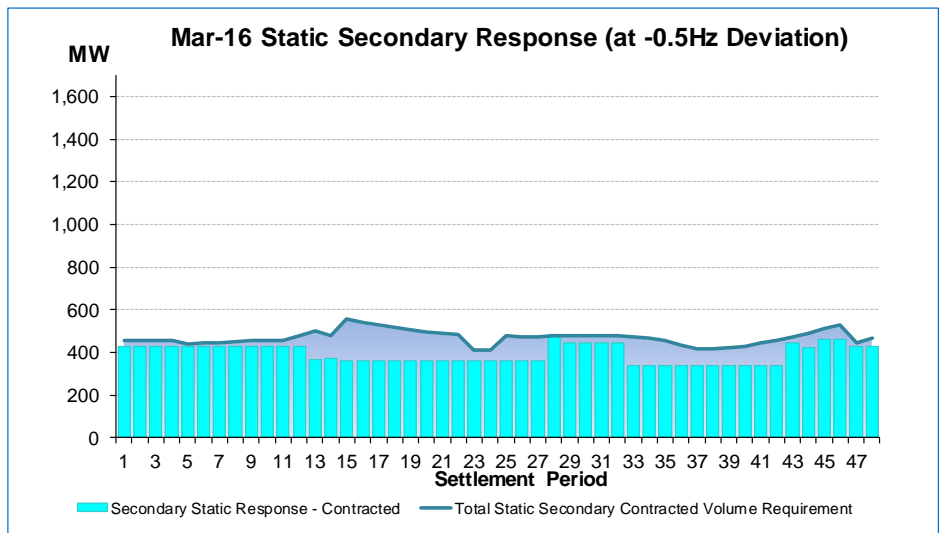
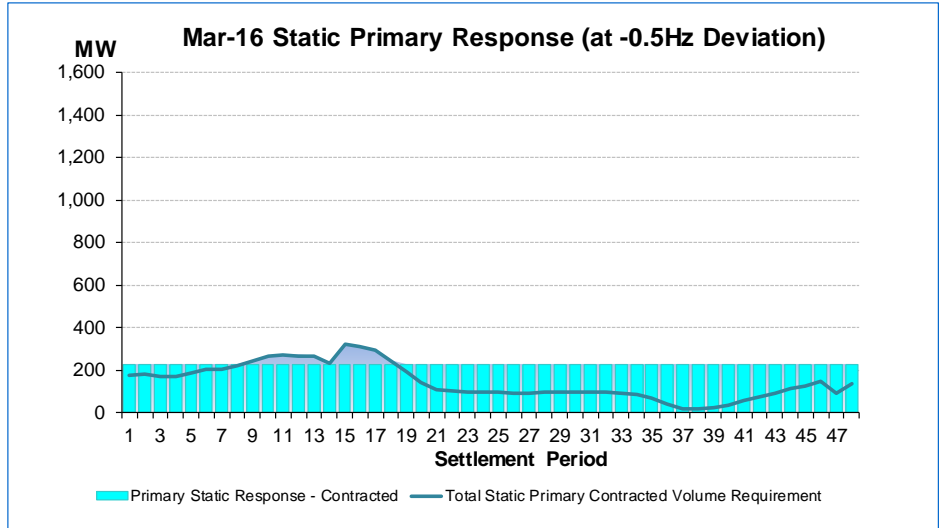
We are therefore looking to contract the remaining volume as displayed by the coloured/shaded area between the requirement line and existing contract volume.

Key points

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

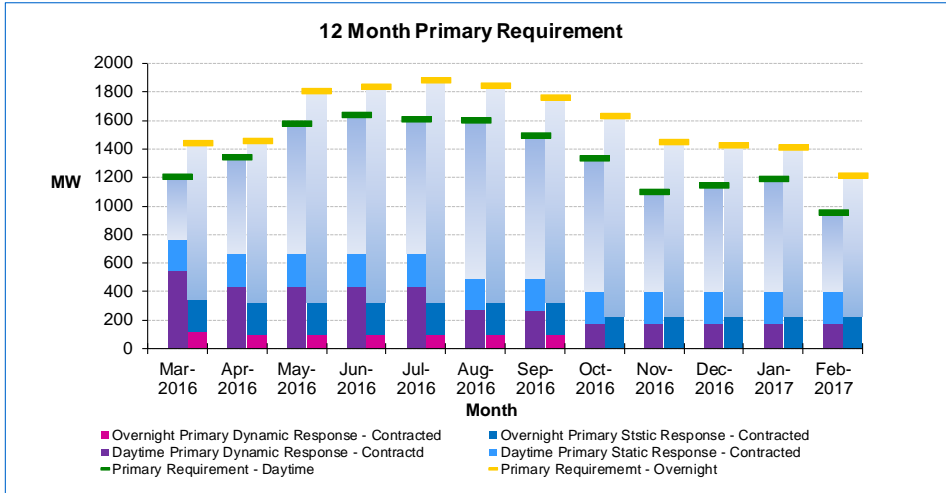
There is currently no requirement for high static response.

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

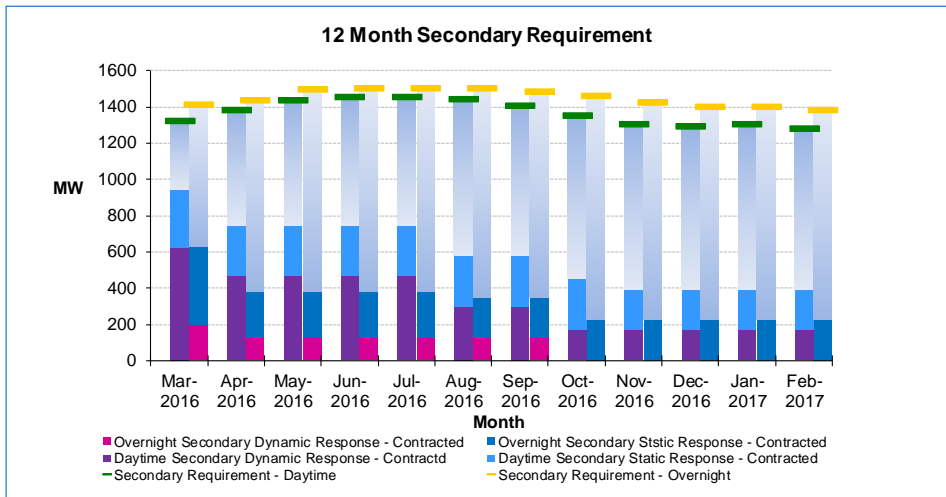


12-Month Total Requirement

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 extend 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

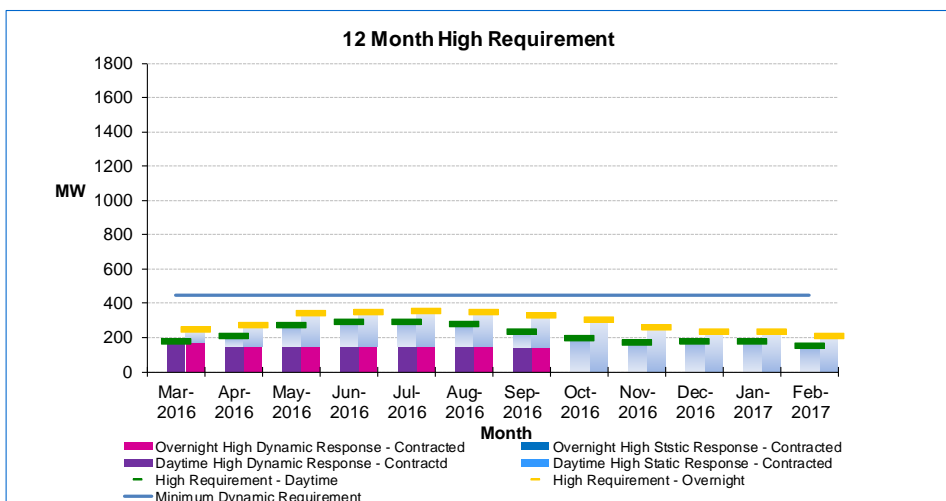
The response requirement is greater during the summer than winter.

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.

Mar-16 requirement:

Settlement Period	Dynamic Amount required (MW)		
	Primary	Secondary	High
1	582	574	0
2	582	577	0
3	582	573	0
4	582	574	0
5	582	583	0
6	582	589	0
7	582	591	0
8	582	599	0
9	630	608	0
10	674	615	0
11	688	615	0
12	679	611	0
13	584	608	0
14	516	572	0
15	163	219	0
16	138	187	0
17	106	171	0
18	38	155	0
19	12	142	0
20	12	123	0
21	12	114	0
22	12	105	0
23	12	104	0
24	12	101	0
25	12	99	0
26	12	95	0
27	12	94	0
28	12	0	0
29	12	0	0
30	12	0	0
31	12	0	0
32	12	0	0
33	12	125	0
34	12	111	0
35	12	93	0
36	12	65	0
37	12	39	0
38	12	36	0
39	12	43	0
40	12	57	0
41	12	80	0
42	12	97	0
43	12	0	0
44	12	28	0
45	12	0	0
46	12	21	0
47	502	441	0
48	582	555	0

Settlement Period	Static Amount required (MW)		
	Primary	Secondary	High
1	0	28	0
2	0	30	0
3	0	28	0
4	0	28	0
5	0	9	0
6	0	14	0
7	0	14	0
8	0	19	0
9	21	25	0
10	39	29	0
11	46	30	0
12	43	52	0
13	40	130	0
14	8	105	0
15	97	199	0
16	88	177	0
17	68	166	0
18	19	155	0
19	0	146	0
20	0	133	0
21	0	127	0
22	0	121	0
23	0	52	0
24	0	51	0
25	0	117	0
26	0	114	0
27	0	114	0
28	0	0	0
29	0	36	0
30	0	37	0
31	0	38	0
32	0	39	0
33	0	135	0
34	0	125	0
35	0	113	0
36	0	94	0
37	0	76	0
38	0	74	0
39	0	79	0
40	0	88	0
41	0	104	0
42	0	116	0
43	0	30	0
44	0	69	0
45	0	46	0
46	0	64	0
47	0	16	0
48	0	39	0

12 month requirement

Daytime	Amount required (MW)		
	Primary	Secondary	High
Mar-2016	435	377	2
Apr-2016	679	630	58
May-2016	918	688	125
Jun-2016	975	703	143
Jul-2016	948	705	144
Aug-2016	1112	860	128
Sep-2016	1004	827	94
Oct-2016	936	897	191
Nov-2016	701	906	170
Dec-2016	745	895	172
Jan-2017	792	905	178
Feb-2017	556	882	147

Overnight	Amount required (MW)		
	Primary	Secondary	High
Mar-2016	1094	779	72
Apr-2016	1135	1056	124
May-2016	1486	1113	190
Jun-2016	1512	1120	198
Jul-2016	1556	1121	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
Feb-2017	984	1156	208

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