

# Firm Frequency Response Market Information for Apr-16

Monthly Report

Published Feb-16

## Key points

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

Tenders from eligible service providers for Firm Frequency Response should be submitted by **Tue 01-Mar-2016** (1<sup>st</sup> business day) for all tenders.

National Grid will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Wed 16-Mar-2016** (12<sup>th</sup> 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 Feb-16, we received 278 FFR tenders from 34 units. More details on the tenders accepted/rejected are available from the post-assessment tender report.

As a result of the number of parties requesting 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.

In order to reduce variations in tender submissions, our preference is to limit the term of forward contracts to a maximum of two years. In addition tenders should not start later than 2017.

## Links

Assessment Principles and Post-Assessment Tender Reports

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

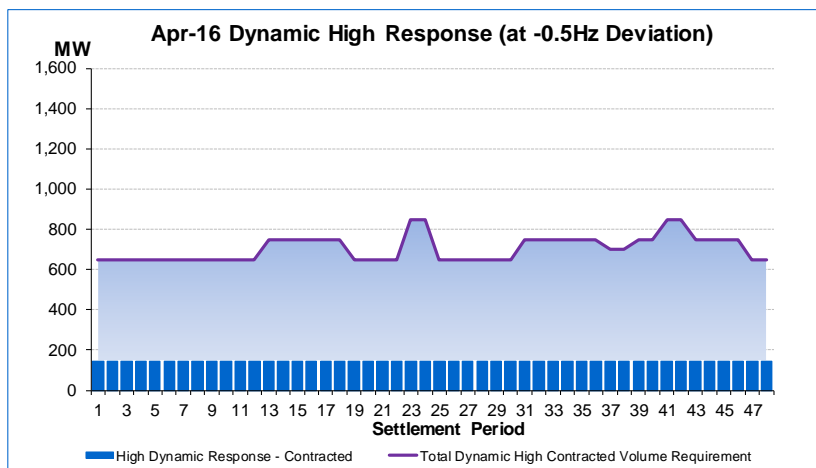
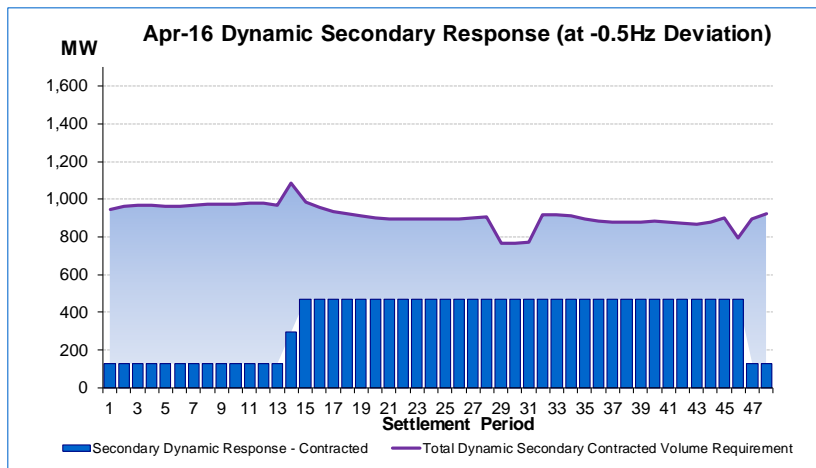
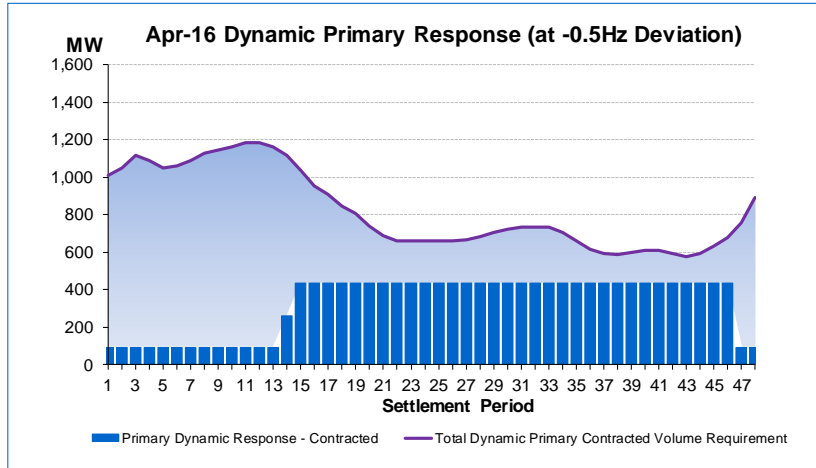
The Monthly Balancing Services Summary (MBSS) gives a monthly summary of the cost of services procured by service

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

### Apr-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.

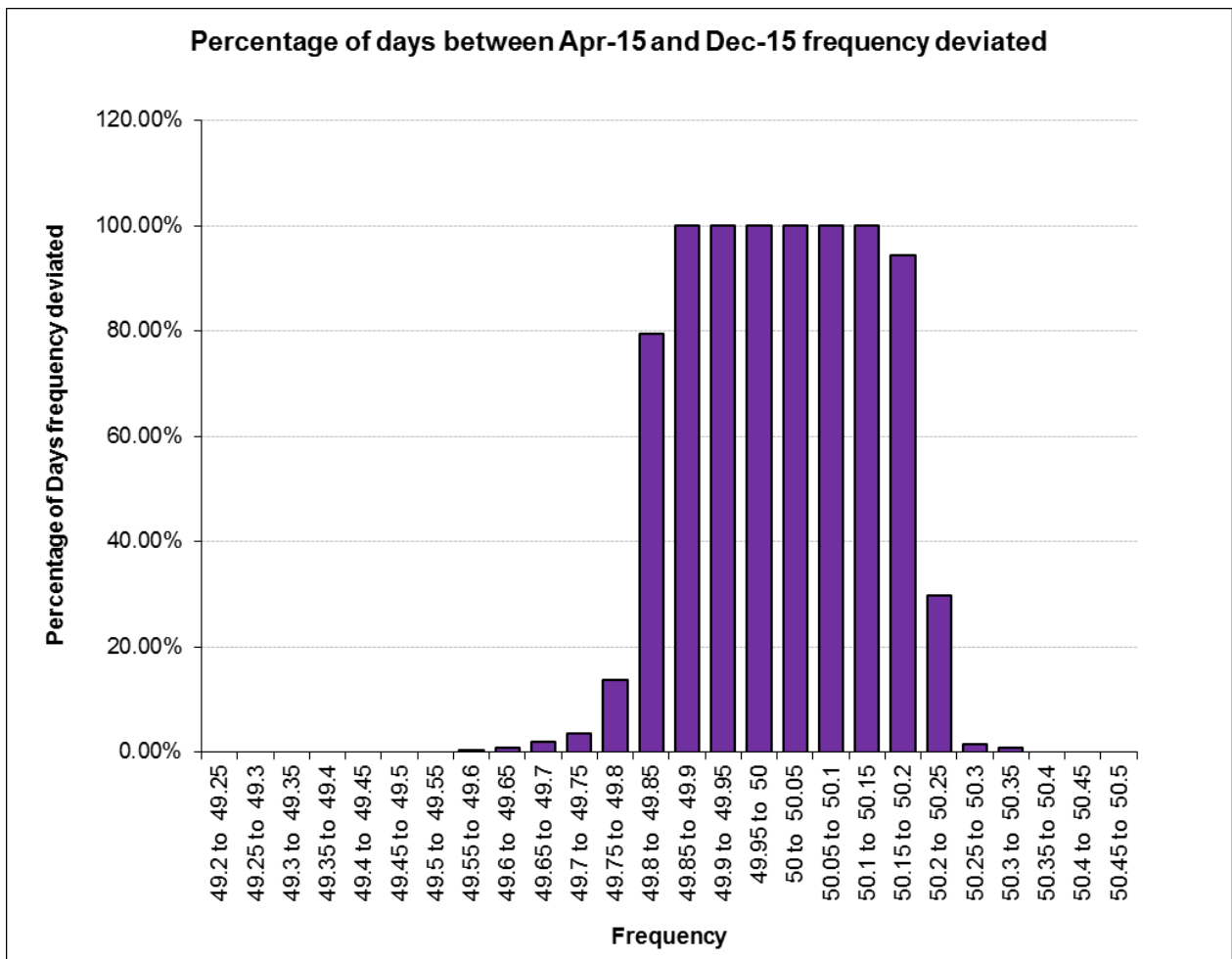


## Apr-16 Static Requirement

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.

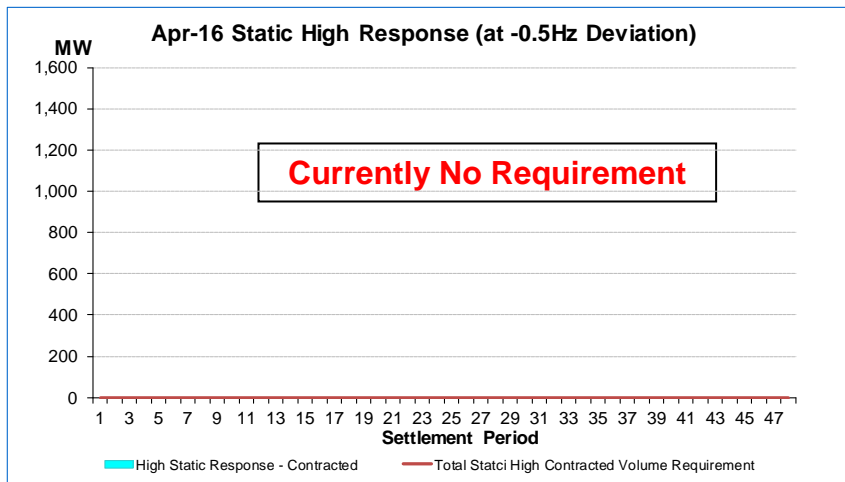
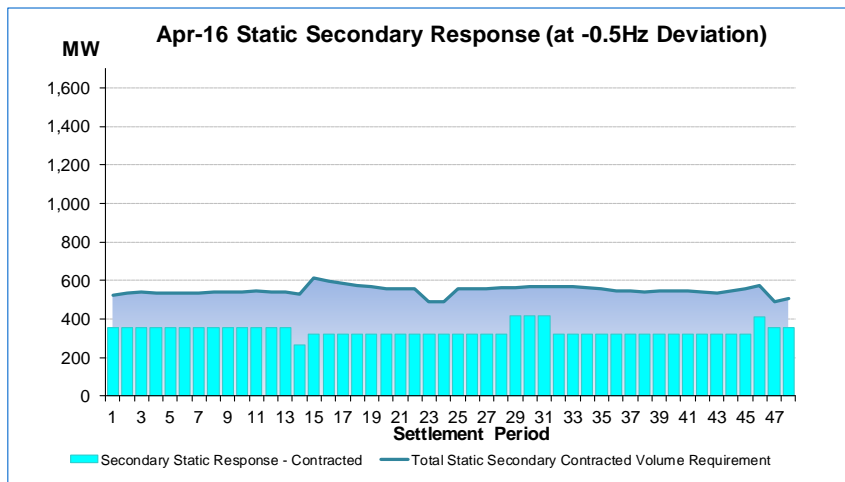
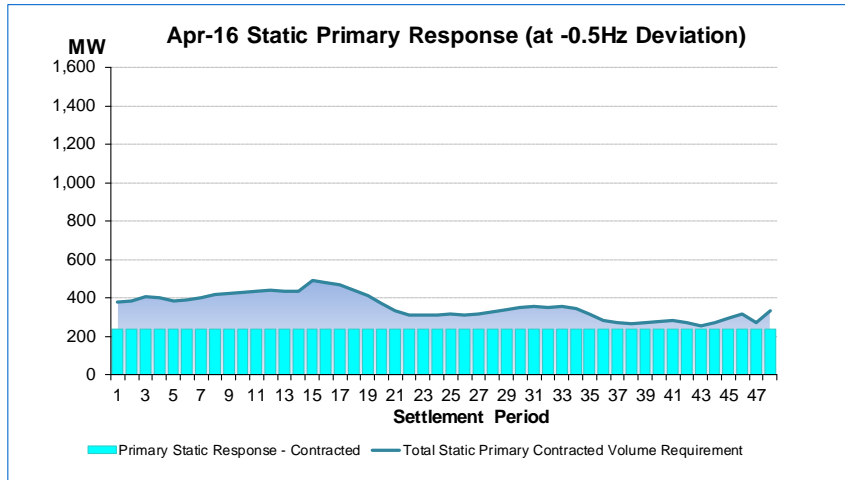
In order to control frequency pre-fault acceptably, a certain minimum amount of dynamic response is needed. The remainder of the response requirement can be met with either static or dynamic response.

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

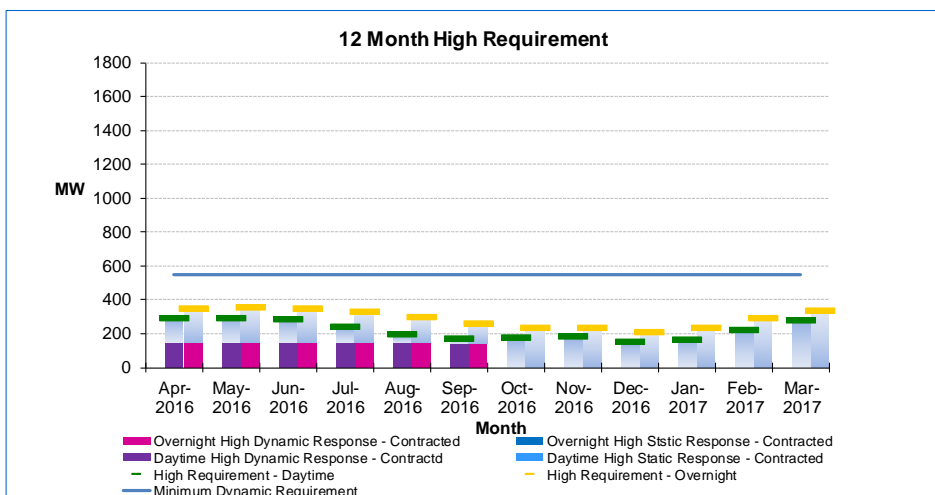
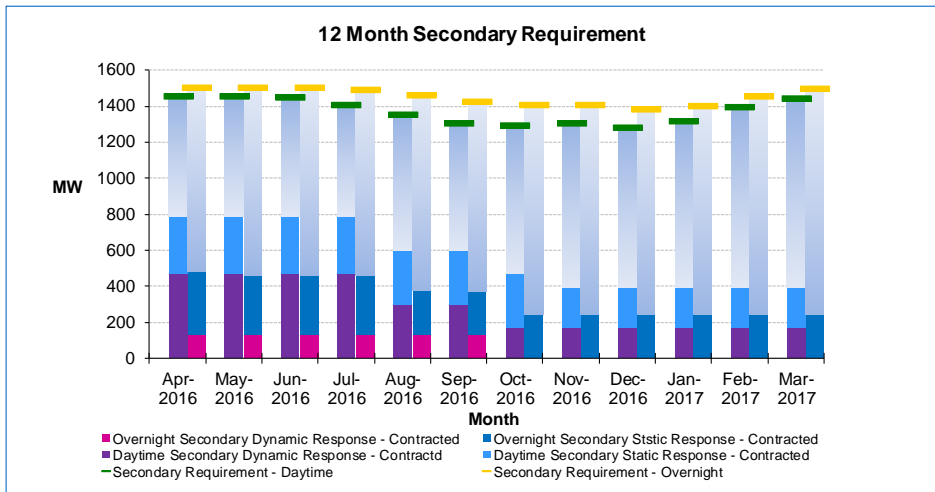
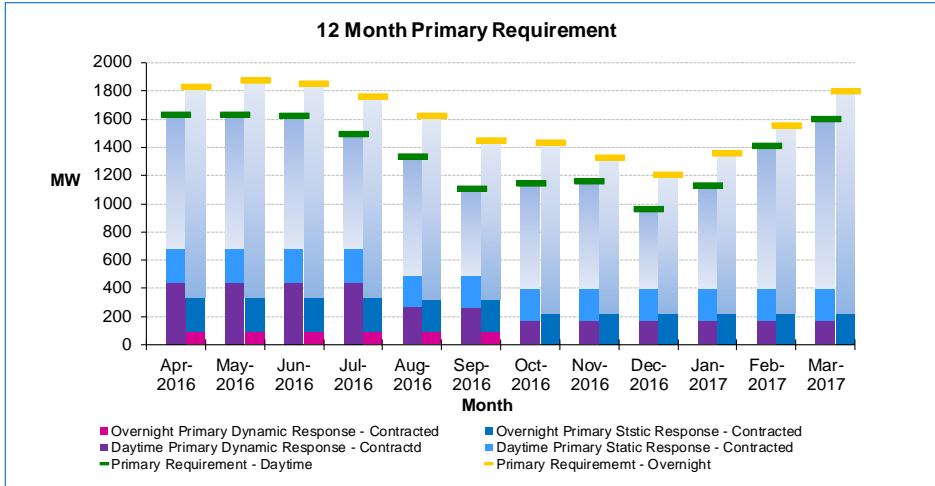
**Key points**

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

There is currently no requirement for high static response.



## 12-Month Total Requirement



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 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.

**Apr-16 requirement:**

Settlement Period	Dynamic Amount required (MW)		
	Primary	Secondary	High
1	917	820	503
2	957	834	503
3	1021	843	503
4	995	839	503
5	956	833	503
6	969	835	503
7	996	838	503
8	1036	843	503
9	1053	846	503
10	1071	848	503
11	1092	851	503
12	1091	849	503
13	1069	843	603
14	852	789	603
15	603	517	603
16	521	489	603
17	473	469	603
18	413	454	603
19	371	446	503
20	307	435	503
21	258	429	503
22	225	427	503
23	226	429	703
24	226	428	703
25	230	430	503
26	228	430	503
27	233	433	503
28	251	438	503
29	271	297	503
30	290	300	503
31	301	304	603
32	298	450	603
33	299	449	603
34	275	443	603
35	229	430	603
36	181	417	603
37	160	413	553
38	155	410	553
39	166	412	603
40	175	414	603
41	179	413	703
42	160	403	703
43	140	400	603
44	161	412	603
45	202	433	603
46	244	325	603
47	663	770	503
48	798	797	503

Settlement Period	Static Amount required (MW)		
	Primary	Secondary	High
1	139	168	0
2	147	178	0
3	169	184	0
4	160	182	0
5	146	178	0
6	151	179	0
7	161	181	0
8	176	185	0
9	182	186	0
10	188	188	0
11	197	190	0
12	201	188	0
13	198	184	0
14	194	263	0
15	254	296	0
16	243	277	0
17	231	263	0
18	201	253	0
19	174	248	0
20	131	240	0
21	97	236	0
22	73	235	0
23	74	168	0
24	73	167	0
25	75	237	0
26	74	237	0
27	76	239	0
28	87	242	0
29	98	146	0
30	110	148	0
31	116	151	0
32	114	250	0
33	116	250	0
34	104	246	0
35	76	237	0
36	45	228	0
37	31	225	0
38	27	223	0
39	34	224	0
40	41	226	0
41	44	225	0
42	31	218	0
43	17	216	0
44	31	225	0
45	55	239	0
46	76	165	0
47	31	134	0
48	95	153	0

## 12 month requirement

Daytime	Amount required (MW)		
	Primary	Secondary	High
Apr-2016	956	661	403
May-2016	951	664	403
Jun-2016	948	657	403
Jul-2016	819	617	403
Aug-2016	842	752	403
Sep-2016	613	708	410
Oct-2016	743	824	550
Nov-2016	759	907	550
Dec-2016	561	884	550
Jan-2017	732	918	550
Feb-2017	1010	997	550
Mar-2017	1198	1043	550

Overnight	Amount required (MW)		
	Primary	Secondary	High
Apr-2016	1490	1016	403
May-2016	1538	1039	403
Jun-2016	1516	1039	403
Jul-2016	1421	1025	403
Aug-2016	1299	1085	403
Sep-2016	1128	1054	410
Oct-2016	1207	1159	550
Nov-2016	1101	1158	550
Dec-2016	979	1138	550
Jan-2017	1129	1156	550
Feb-2017	1326	1208	550
Mar-2017	1573	1248	550

If you have any queries, suggestions or feedback on the content or format of the new report please contact your account manager or

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