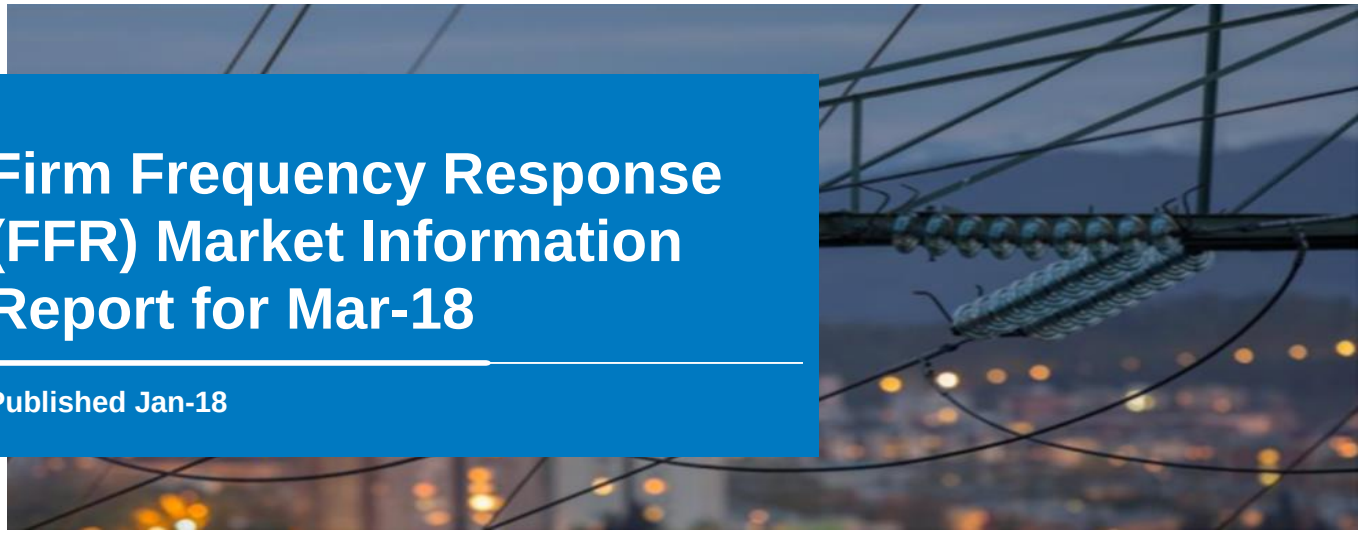
nationalgrid



Firm Frequency Response (FFR) Market Information Report for Mar-18

Published Jan-18

Key Points

This Market Information Report is relevant for tenders submitted in Feb-18 for delivery in **Mar-18**.

Tenders from eligible service providers for Firm Frequency Response should be submitted on **Thu 01-Feb-18** (1st business day) for all tenders.

National Grid will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Fri 16-Feb-18** (12th business day).

From Jan -18, non-compliant tenders will be rejected prior to assessment.

Providers must use the template provided in the Ariba system to tender in for FFR. Use of any other template or submissions via e-mail will not be accepted.

Please note that this is a month ahead only tender. Tenders should therefore be submitted for **Mar-18** delivery.

For further information
please contact your account manager or:

Andrew Rice
Andrew.Rice@nationalgrid.com

This Market Information Report provides information to FFR providers on the requirement for the Feb-18 tender (TR 98) for delivery in Mar-18.

The requirements tables in Appendix 2 – page 4 – have been updated to reflect a 30MW opening in the requirement. Overholding against the current requirements however means that this volume is not available in all settlement periods.

Requirements for Mar-18 (TR 98)

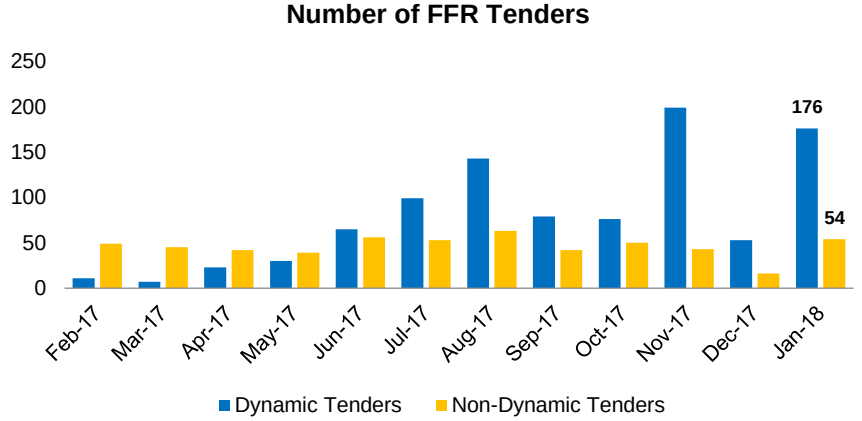
Primary Response:
This is no primary response requirement over the daytime period however a large requirement during the overnight period still remains to be satisfied.

Secondary Response:
A small secondary requirement exists across the entire day with this being most significant during the overnight period. The daytime specific element is due to an outstanding secondary non-dynamic requirement. In the instance where this cannot be filled in the non-dynamic market, the volume will be opened back up again to be satisfied in the dynamic market. A breakdown of this can be found in Appendix 2.

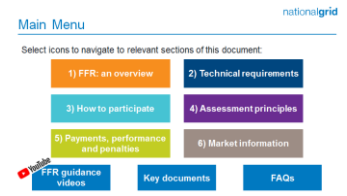
High Response:
A high requirement still exists across the entire daytime period; this is highest over the evening peak period. In the absence of no static high market, this volume will be sought from the dynamic market.

Jan-18 FFR Tender Round (TR 97) results

230 FFR tenders were received from 21 providers. 176 tenders were for dynamic FFR and 54 tenders were for the non-dynamic service. TR 97 represented a full tender round giving providers the opportunity to tender in volume to be accepted for delivery between Feb-18 and Jul-20. 18 contracts were awarded to 11 units owned by 9 providers.



New!



FFR service Overview – interactive guidance document

Product Roadmap – This document sets out the actions to be taken forward for frequency response and reserve markets and details the principles that will govern the way that balancing services are procured in future.

Coming soon

YouTube

LOOK OUT for our new YouTube channel where we will be uploading a series of videos explaining how the FFR service works

Key messages

Tender rejection codes

The table below provides guidance as to the reasons why a tender has been rejected. They can be matched against the numbers in the 'Reason Code' section of the Post Tender Report. Please note that reason 1 has been updated. The new commentary will apply from TR 98 onwards.

No.	FFR Reason Code	Comment
1	Beneficial, but requirement already satisfied	While the price submitted was considered beneficial, on this occasion this tender was not accepted for one of the following reasons: 1) The outstanding requirement has already been satisfied by more beneficial tenders 2) There was no outstanding requirement 3) The desired volume against the National Grid procurement strategy across the tendered period had already been satisfied
2	Price not beneficial across tendered period	The price submitted was too high and did not provide any contract benefit against alternative actions including the mandatory and optional market.
3	Does not meet tender prerequisites	Please refer to the 'Technical Parameters' section using the following link to determine the criteria necessary to participate in the FFR market https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response
4	Multiple tenders received for the same unit	Only the most valuable tender(s) of the total group of submitted tenders was considered.

Enhanced Frequency Response (EFR)

Now that EFR batteries have become operational, the volume of response that will be provided from units with an EFR contract will be included in the amount of already procured dynamic response. EFR will be considered on a 1 for 1 basis where 1MW of EFR is equal to 1MW of dynamic FFR. These contracts begin delivering between October 2017 and March 2018. The MW provided from EFR contracts will be phased in in the information provided in the MIR charts. Between now and July 2018 EFR contracts have been assumed to provide 50% of their contracted volume. From July 2018, this assumption is amended to reflect all contracts delivering 100% of their contracted volume.

Procured Volume

When determining which tenders to accept, National Grid will take account of its planned procurement strategy. In general, a measured approach is taken to determine the appropriate volume to procure throughout the duration of the tendering period. How much is bought ahead of time will be influenced by a number of factors including current market conditions, tender liquidity etc.

Market Trends

December 2017 (TR 96) represented the first month ahead tender round.

- **69** tenders were received – **22** were accepted:
  - **27** with an overnight only window availability – **8** were accepted
  - **37** daytime tenders window availability – **13** were accepted
  - **4** 24 hour window availability – **1** was accepted

Appendix 1: Mar-18 Requirements

The three charts below display the volume of frequency response left to contract for the month ahead against the total response requirements.

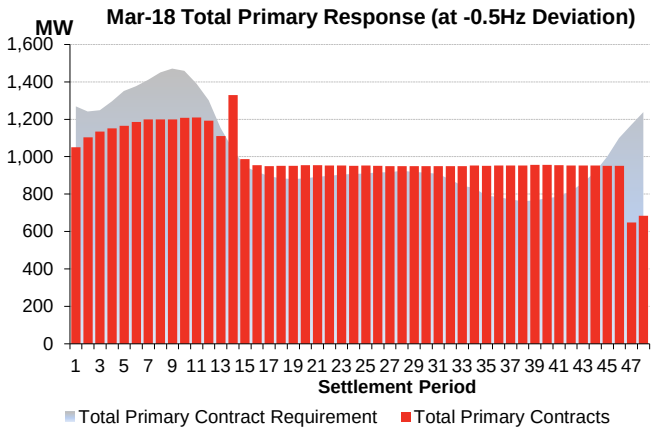
The red bars represent existing contracted service provision (both dynamic and non-dynamic) including any optional non-FFR services routinely used that NG forecast to be cost effective for the month ahead. The grey shaded area is the remaining volume to contract.

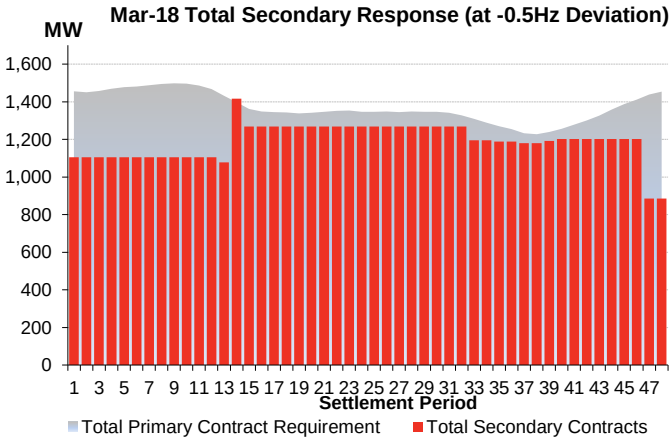
As this is a month ahead tender, volume to fill the requirement will be taken from either dynamic or non-dynamic providers where deemed economic to do so. The breakdown of the requirement against dynamic and non-dynamic response can be seen in the tables in appendix 2.

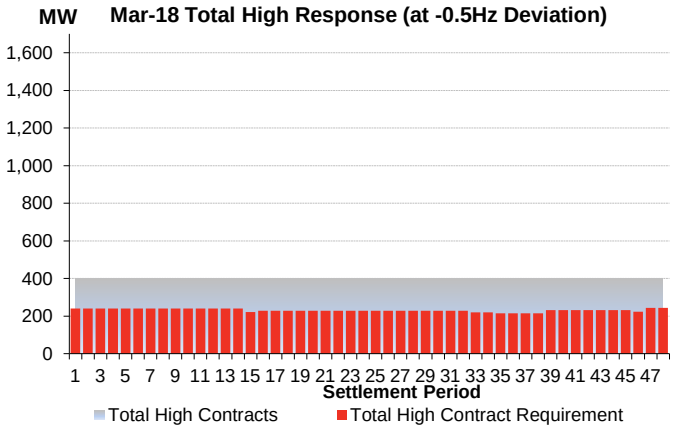
An overnight primary requirement exists with the daytime element being completely satisfied.

There is a small daytime secondary requirement however the majority of the requirement is during the overnight period.

A full 24 hour requirement exists against the total high requirement.







Appendix 2: Mar-18 Requirement Volume Tables

Dynamic FFR requirements for TR 98

Settlement Period	Dynamic response required (MW)		
	Primary	Secondary	High
1	477	352	189
2	477	352	189
3	477	352	189
4	477	352	189
5	477	352	189
6	477	352	189
7	477	352	189
8	477	352	189
9	477	352	189
10	477	352	189
11	477	352	189
12	477	352	189
13	477	352	189
14	137	12	189
15	0	0	207
16	0	0	199
17	0	0	199
18	0	0	199
19	0	0	199
20	0	0	199
21	0	0	199
22	0	0	199
23	0	0	199
24	0	0	199
25	0	0	199
26	0	0	199
27	0	0	199
28	0	0	199
29	0	0	199
30	0	0	199
31	0	0	199
32	0	0	199
33	0	0	208
34	0	0	208
35	0	0	214
36	0	0	214
37	0	0	214
38	0	0	214
39	0	0	197
40	0	0	197
41	0	0	197
42	0	0	197
43	0	0	197
44	0	0	197
45	0	0	197
46	0	0	205
47	473	347	185
48	473	347	185

Non-Dynamic FFR requirements for TR 98

Settlement Period	Non-Dynamic response required (MW)		
	Primary	Secondary	High
1	0	0	0
2	0	0	0
3	0	0	0
4	0	12	0
5	0	20	0
6	0	24	0
7	0	31	0
8	0	37	0
9	0	41	0
10	0	39	0
11	0	30	0
12	0	11	0
13	0	2	0
14	0	0	0
15	0	93	0
16	0	80	0
17	0	76	0
18	0	75	0
19	0	70	0
20	0	72	0
21	0	78	0
22	0	82	0
23	0	84	0
24	0	78	0
25	0	77	0
26	0	79	0
27	0	76	0
28	0	79	0
29	0	78	0
30	0	77	0
31	0	73	0
32	0	59	0
33	0	116	0
34	0	95	0
35	0	81	0
36	0	65	0
37	0	53	0
38	0	47	0
39	0	46	0
40	0	55	0
41	0	76	0
42	0	99	0
43	0	125	0
44	0	156	0
45	0	185	0
46	0	210	0
47	0	206	0
48	0	222	0

Appendix 4: Historical Profile of Firm Frequency Response (FFR) Value

The following information provides a historical overview of FFR value variation during the last two years. A breakdown of the relative values of Primary, Secondary and High Response over the same two years is also provided. This study is based on historical data taken from **1 October 2015** to **30 September 2017**. It is the same data used to calculate the costs reported within the Monthly Balancing Services Summary and for the avoidance of doubt is not a forecast of future value variation.
The FFR assessment principles document highlights that the main economical assessment of the value of individual FFR tenders is based upon the following costs:

- Cost of alternative service holding fees
- Cost of alternative utilisation (Bid Offer Acceptances)
- Cost of alternative margin services (BM Offers)

As the profile across the day is different across these three alternative actions, the costs have been combined for reasons of simplicity. It is important however, to note that the assessment has to use forecasts for some of these alternative costs. The assessment therefore has to take account of the associated uncertainty with using forecasts when considering the value of any tender for any time period. From this point, the document will refer to the value of FFR.

The relative values shown in Figures 1 and 2 provide a comparison of every settlement period relative to each other.

The lower, average and upper relative values for each of the 48 settlement periods that make up daily cost have been calculated and plotted in Figure 1 (summer) and Figure 2 (winter). Periods of low and high value are highlighted in Figure 1. Higher value periods are typically a result of the use of alternative margin services, especially notable in the winter during Settlement Periods **33-39**.

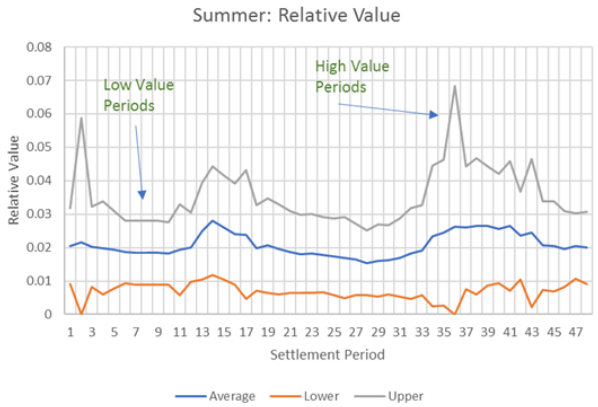


Figure 1: Proportional Value of FFR by Settlement Period (Summer)

The following is an example of how FFR values are assessed. In Figure 2, for Settlement Period 17, the average relative value is approximately **2%** while for Period 35, the proportional value is approximately **4%**. The interpretation is therefore that period 35 is **2** times more valuable than Period 17.

The breakdown of the Primary, Secondary and High Response values over the same time period are included in the Appendix in Table 1 (summer) and Table 2 (winter).

This breakdown shows that during the winter overnight settlement periods (33-41) there is a larger share of value in Secondary Response with 70-75% which reflects the value provided from margin.

Contrast this to the summer, during overnight settlement periods (3-12) there is a significant proportion of value in High Response (40-45%). This is because demand is likely to be low, resulting in a greater requirement and hence value of high response.

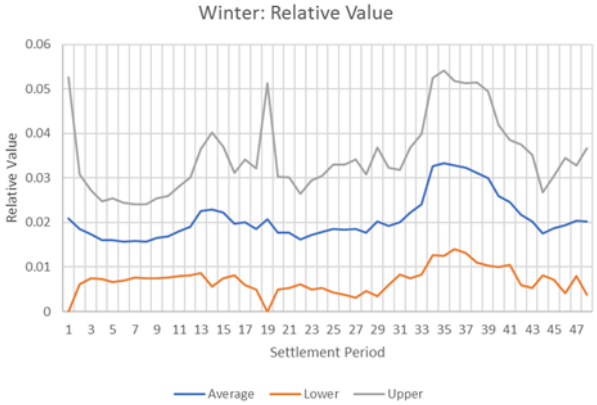


Figure 2: Relative Value of FFR by Settlement Period (Winter)

Appendix 5: Proportional Response value by component

Table 1: Summer (Nov – Mar)

Settlement Period	Summer		
	Share of Value		
	Primary	Secondary	High
1	29%	35%	36%
2	38%	41%	22%
3	27%	31%	42%
4	26%	28%	45%
5	25%	25%	49%
6	25%	25%	50%
7	24%	23%	53%
8	24%	23%	53%
9	24%	24%	52%
10	25%	25%	50%
11	25%	31%	44%
12	28%	33%	39%
13	31%	40%	30%
14	31%	43%	26%
15	28%	49%	23%
16	26%	51%	23%
17	25%	53%	21%
18	24%	52%	24%
19	22%	56%	22%
20	22%	54%	24%
21	23%	52%	24%
22	23%	52%	25%
23	23%	52%	25%
24	24%	51%	26%
25	24%	50%	27%
26	23%	50%	27%
27	23%	47%	30%
28	24%	44%	32%
29	21%	50%	29%
30	20%	53%	27%
31	20%	54%	25%
32	21%	55%	24%
33	21%	56%	23%
34	18%	65%	17%
35	19%	65%	16%
36	25%	62%	13%
37	17%	68%	15%
38	17%	67%	15%
39	18%	67%	15%
40	17%	67%	16%
41	19%	65%	16%
42	19%	64%	17%
43	19%	63%	18%
44	17%	62%	21%
45	18%	59%	23%
46	20%	55%	25%
47	29%	43%	28%
48	29%	40%	32%

Table 2: Winter (Apr – Oct)

Settlement Period	Winter		
	Share of Value		
	Primary	Secondary	High
1	26%	42%	32%
2	26%	41%	33%
3	27%	38%	35%
4	26%	35%	38%
5	26%	34%	40%
6	26%	32%	43%
7	25%	31%	43%
8	26%	31%	43%
9	27%	31%	42%
10	27%	32%	41%
11	29%	34%	37%
12	30%	36%	34%
13	28%	45%	28%
14	26%	46%	28%
15	27%	48%	25%
16	25%	49%	26%
17	23%	52%	25%
18	24%	50%	26%
19	25%	54%	21%
20	22%	52%	26%
21	22%	52%	26%
22	22%	52%	26%
23	18%	60%	23%
24	18%	61%	21%
25	18%	62%	21%
26	19%	60%	21%
27	19%	61%	19%
28	19%	60%	20%
29	14%	69%	17%
30	14%	69%	18%
31	14%	69%	17%
32	14%	70%	15%
33	14%	72%	14%
34	16%	73%	11%
35	16%	74%	10%
36	16%	73%	11%
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42	21%	60%	19%
43	22%	55%	23%
44	23%	52%	26%
45	22%	53%	25%
46	24%	48%	27%
47	27%	46%	27%
48	27%	43%	30%