

Frequency Response Market Information Report

Monthly Report – January 2022



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Introduction

The report covers essential information related to procurement of frequency response products, such as month ahead tender for Firm Frequency Response (FFR) and day ahead auction for Dynamic Containment (DC) Low and High Frequency (DC-LF and DC-HF). We provide our forecast requirements for these products and give guidance on how to participate in the tenders and auctions. Within this document you will also find information on the new frequency response services, Dynamic Regulation (DR) and Dynamic Moderation (DM). For longer-term requirements please take a look at our [Operability Strategy Report](#).

Future Requirements and New Services

We know that a successful transition relies on clear and timely signals to facilitate growth and competition in our new markets and to support this we are committed to continuing to improve transparency of both how and when we communicate our future needs. We are in a period of transition where both existing (P,S,H) and new (DC, DM, DR) frequency response products will be procured. Our end state is to meet our dynamic pre- and post-fault frequency response needs with the new suite of dynamic products (Containment, Moderation and Regulation).

A key milestone in meeting our end state is the phasing-out of monthly FFR tenders. This will happen gradually as we launch, grow, and establish the new pre-fault dynamic frequency response products - Dynamic Regulation (DR) and Dynamic Moderation (DM).

We recently shared in our responses to the DM DR consultation and on the DM/DR webinar that there are several dependencies that need to be delivered before we completely cease the procurement of the monthly FFR tender. Full delivery of disarming and frequency measurement specification are two key deliverables under response reform that the ESO will be prioritising in 2022. We have previously communicated an operability concern around oscillations with the DR service and we will be closely reviewing the performance of the new service from go-live. Developments to the service design of DM/DR will require a formal consultation under the Energy Balancing Guidelines (three months duration) and we expect to launch the consultation in the summer. Once the full functionality for the above has been delivered, we expect to increase the volume cap on DM and DR. This will enable a stepped decrease in the Dynamic FFR volume procured in the monthly FFR tenders. Communication on our progress with product development will be shared via the Future of Balancing Services newsletter, at the Operational Transparency Forum and in planned industry engagement activities under the DM/DR project.

For this month, the requirements in the Market Information report are limited to February and March 2022, as **we will shortly be releasing a report which describes our current view of our longer-term requirements**, including our transition plan to the new services and details of what we need to achieve this. This will be communicated through the Future of Balancing Services newsletter, the Operational Transparency Forum and published in the [Firm Frequency Response \(FFR\) Market Information](#) area of the ESO Data Portal.

Firm Frequency Response

Requirements for March 2022 (TR 146)

This section provides information to FFR providers on the requirement for the tender (TR 146) for delivery in March 2022 and onwards.

As System Operator, we are required to operate the system economically and efficiently. The liquidity in the FFR market has initially decreased following the introduction of Dynamic Containment (DC). In TR 145 we accepted all the dynamic FFR which cost us less than the alternative actions. In TR 145 static volume was accepted which cost us less than the alternative actions.

As a prudent System Operator we seek to optimise our requirements to ensure system security at least cost. As we transition to new response products, we are therefore applying a procurement strategy to our PSH dynamic requirements, as there is operational benefit in optimising across the services of which FFR only forms part of our total frequency requirement. Next month we require 300MW for dynamic FFR during EFA 1-4 and up to 550MW during EFA 5-6. This is the same requirement as in the previous Market Information Report.

Month	EFA block	Dynamic Response Required (MW)			Static Response Required (MW)
		Primary	Secondary	High	Secondary
March 2022 onwards	EFA 1	300	300	300	250
	EFA 2	300	300	300	250
	EFA 3	300	300	300	250
	EFA 4	300	300	300	250
	EFA 5	550	550	550	250
	EFA 6	550	550	550	250

Figure 1: FFR requirements for March 2022 onwards.

Please note that, where there is operational benefit and it is deemed economic to do so, the requirement will be taken from either dynamic or non-dynamic providers. This means that part of the requirement for an EFA block may be reallocated in either the non-dynamic market or dynamic market if considered more beneficial.

In the move to standard EFA block window durations, the minimum of the total requirement across each EFA block outlines the level to be procured. In light of this transition, the minimum dynamic requirement remains a key component to be satisfied and outstanding volume against this will continue to be procured for operational purposes.

February 2022 Contracts Awarded

188 active FFR contracts are due to provide FFR in February 2022. These contracts are made up of:

- **132** dynamic contracts
- **56** non-dynamic contracts

Figure 2 displays the number of tenders submitted in the FFR market for the last 12 months by service type.

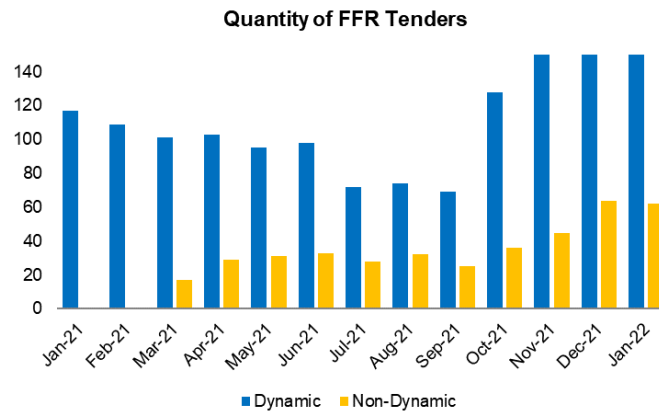


Figure 2: Quantity of FFR Tenders

Key Dates

This Market Information Report is relevant for tenders submitted in **February 2022 for delivery in March 2022**

Tenders from eligible service providers for Firm Frequency Response should be submitted on **1st February 2022 by 17:00** (1st business day) for all tenders.

National Grid ESO will notify service providers of the outcome of the tender assessment, and preliminary nominations, by **Wednesday 16th February 2022** (12th business day).

From January 2018, non-compliant tenders are rejected prior to assessment.

Dynamic Containment

This section provides information on requirements for Dynamic Containment Low Frequency (DC-LF) and Dynamic Containment High Frequency (DC-HF). These requirements are indicative and subject to change.

DC-LF Requirements for March 2022

In March 2022 we anticipate that we will see higher baseline requirements across the month, which is driven both by our expectations for demand, inertia and infeed loss sizes, and also reductions in the contracted volumes of legacy services (Enhanced Frequency Response)

DC-low		EFA						All-day
From (MW)	To (MW)	1	2	3	4	5	6	
0	0	0%	0%	0%	0%	0%	0%	0%
1	200	0%	0%	3%	6%	0%	0%	2%
201	400	16%	13%	35%	29%	32%	0%	21%
401	600	48%	45%	39%	48%	61%	61%	51%
601	800	35%	42%	23%	16%	6%	39%	27%

Figure 3: Indicative DC-LF requirements for March 2022

Figure 3 presents the % of the time that there will be a need for the DC-L service. This is split into 200MW volume bands in the first two columns of the table, with the remaining columns in the table setting out the indicative % of the time that the requirement will be in that volume band for that respective EFA across March 2022. The final column is the overall % of the month that the DC-LF requirement will be in that band for the month of March 2022.

For example, the table shows that in March 2022 the indicative EFA 1 requirement is between 201MW and 400MW for 16% of the month, between 401MW-600MW for 48% of the month and between 601MW-800MW for 35% of the month. We do not foresee any requirement less than 200MW for EFA1 periods in March 2022.

Update: DC-LF Requirements for February 2022

This month we have also included indicative DC-LF requirements for February 2022 (in Figure 4) which have been updated from those published in the last Market Information Report based on our latest demand, inertia and infeed loss sizes in February 2022. In future Market Information Reports we intend to continue to provide updates to our month ahead forecasts and we also plan to provide additional information to support understanding of any significant change to our forecasts.

DC-low		EFA						All-day
From (MW)	To (MW)	1	2	3	4	5	6	
0	0	0%	0%	0%	0%	0%	0%	0%
1	200	0%	0%	25%	29%	7%	0%	10%
201	400	29%	32%	57%	57%	61%	11%	41%
401	600	71%	68%	14%	11%	32%	89%	48%
601	800	0%	0%	4%	4%	0%	0%	1%

Figure 4: Indicative DC-LF requirements for February 2022

DC-HF Requirements for March 2022

The DC-HF requirements in Figure 5 are indicative requirements based on our expectations for demand, inertia and outfeed loss sizes in March 2022. We aim to buy enough DC-HF to manage the largest outfeed losses on the system. The peak requirement generally occurs during lower demand/inertia EFA blocks where more DC-HF is required to manage large outfeed loss risks.

DC-high		EFA						All-day
From (MW)	To (MW)	1	2	3	4	5	6	
0	0	0%	0%	0%	0%	0%	0%	0%
1	200	0%	0%	3%	10%	10%	0%	4%
201	400	3%	3%	77%	77%	84%	65%	52%
401	600	94%	94%	19%	13%	6%	35%	44%
601	800	3%	3%	0%	0%	0%	0%	1%

Figure 5: Indicative DC-HF requirements for March 2022

For 4% of the month the DC-HF indicative requirement will be between 1MW-200MW, 52% 201MW-400MW, 44% 401MW-600MW with a chance of going above 600MW for a small number of EFA blocks. We are not expecting a 0MW requirement for any period in March 2022.

Update: DC-LF Requirements for February 2022

This month we have also included indicative DC-HF requirements for February 2022 (in Figure 6) which have been updated from those published in the last Market Information Report based on our latest expectations for demand, inertia and outfeed loss sizes in February 2022. In future Market Information Reports we intend to continue to provide updates to our month ahead forecasts and we also plan to provide additional information to support understanding of any significant change our forecasts.

DC-high		EFA						All-day
From (MW)	To (MW)	1	2	3	4	5	6	
0	0	0%	0%	0%	0%	0%	0%	0%
1	200	0%	0%	36%	39%	46%	11%	22%
201	400	21%	29%	54%	54%	54%	79%	48%
401	600	79%	71%	11%	7%	0%	11%	30%
601	800	0%	0%	0%	0%	0%	0%	0%

Figure 6: Indicative DC-HF requirements for February 2022

Update: 4 Day Ahead Forecast

We have been working on the development of a D-1 to D-4 forecast for our DC requirements to be published on the ESO Data Portal and have made good progress on developing the tools we need to enable this. However, we have encountered implementation issues related to the automation of the publishing process which have delayed the publication of the forecast requirements. We are progressing an alternative solution which we hope will go live before the end of February, we are still working through the details of the new process and should have more clarity on the planned go live date in the next couple of weeks.

Related Data & Information

Information related to the service including how to participate can be found on the [Dynamic Containment page of the ESO website](#).

DC Block Orders Master Data, DC Results by Unit Master Data, DC Results Summary Master Data and DC Linear Orders are updated daily with day-ahead results on the [ESO Data Portal](#).

Appendix 1: FFR Supporting Information

Procurement Rules

Testing

Providers are required to have successfully passed FFR testing of their asset by the National Grid Generator Compliance Team prior to tendering in for month ahead delivery. If tendering to provide an FFR service starting on 1st March 2022, the unit must have passed testing prior to the tender submission window closing on the 1st business day in February 2022. Tenders that do not meet this requirement will be deemed non-compliant and automatically rejected.

Limiting tenders

Providers are limited to submitting 3 tenders per unit, per tender period. A tender period is considered to be; month ahead, quarter ahead and per season. All-or-nothing bids will be considered as 1 tender submission.

EFA Block Procurement

For providers wishing to start a tender on the last day of the previous month, these tenders cannot start earlier than 2300 or they will be deemed as non-compliant.

The minimum requirement across each specific EFA block will determine how much volume will be procured for each of the 6 daily 4-hour blocks.

Submission and Results

Tender Submission

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

In line with the standardisation outlined in the Product Road Map, procurement of FFR will only take place across the standard 6 EFA blocks. Tenders must therefore only start, and end, at the following times: 2300, 0300 0700 1100 1500 1900. Submitted tenders must have a minimum window availability of 4 hours in line with EFA blocks.

Please note that this is a month ahead only tender. Tenders should therefore be submitted for March 2022 delivery.

Results

The full set of FFR results for the late tender round (TR145) can be found [here](#).

From TR140 onwards the unit location will be detailed as part of the results that are published in the FFR Post Tender Report. The locational details consist of the first 4 characters of the postcode for single units that are 1 MW or greater.

Tender Rejection Guidance

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.

No.	FFR Reason Code	Comment
1	Beneficial	While the price submitted was considered beneficial, on this occasion this tender was not accepted for one of the following reasons: 1.2 There was no outstanding requirement 1.3 The desired volume against the National Grid procurement strategy for future tender months had already been satisfied 1.4 This tender formed part of an all-or-nothing group which did not collectively deliver enough benefit to be considered
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.

Figure 7: Tender Rejection Codes

Guidance and Data

FFR Service Overview

The FFR Service Overview provides current and potential Firm Frequency Response (FFR) providers guidance on the service. It pulls together FAQs on the service and provides links to related documents.

Response BOA and Holding Volume and Cost

This information is in the CSV file for this tender published in [Firm Frequency Response \(FFR\) Market Information](#)

Related Data

The following information is published on the ESO Data Portal

- [Live System Data](#)
- [Historic Frequency Data](#)
- [Firm Frequency Response \(FFR\) Post Tender Reports](#)
- [Firm Frequency Response \(FFR\) Market Information](#)

Weekly Auction Trial

[The weekly auction trial](#) has now ended, the last auction was on the 26th November for service delivery until the 3rd December.

Other Useful Links

- [Register for Future of balancing services updates](#)
- [ESO Operational Transparency Forum](#)