

# Frequency Response Products Market Information Report

Monthly Report

Published April 2021



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## Preamble

The report covers all essential information related to procure frequency response products, such as month ahead tender (FFR), week ahead auction (Phase 2 Auction) and day ahead tender (DC) where we will provide our forecast requirement for those products and give guidance on how to participate in tenders and auctions.

## Frequency Risk and Control Report

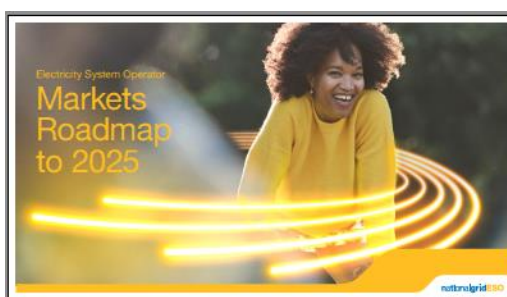
The Frequency Risk and Control Report is being introduced following the approval of Security and Quality of Supply Standards (SQSS) modification GSR027: Review of the NETS SQSS Criteria for Frequency Control that drive reserve, response and inertia holding on the GB electricity system.

The first edition of the FRCR is focusing on the following key areas:

- establishing a clear, objective, transparent process for assessing reliability compared with the cost to ensure the best outcome for consumers
- making the assessment of the risk from the inadvertent operation of Loss of Mains protection transparent
- identifying quick, short-term improvements for reliability vs. cost, including:
  - the delivery of the Dynamic Containment and Accelerated Loss of Mains Change programmes,
  - assessing the frequency standard that different size loss risks are held to, and
  - the impact of transmission network outages on radial connection loss risks

This was published on 1<sup>st</sup> April 2021, and informs our future requirements for frequency response services. Please use [this link](#) to access the report and methodology documents.

We have recently published our [Markets Roadmap to 2025](#) which sets out our vision for response and reserve markets to support the transition to net zero carbon emissions.



## Key Points - FFR

This section of Market Information Report is relevant for tenders submitted in May 2021 for delivery in **June 2021**.

Tenders from eligible service providers for Firm Frequency Response should be submitted on

**Tuesday 4<sup>th</sup> May 2021**

(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 **Wednesday 19<sup>th</sup> May 2021** (12<sup>th</sup> business day).

**From January 2018, non-compliant tenders will be rejected prior to assessment.**

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 June 2021 delivery. A presentation that summarises the FFR results can be found [here](#).

Real-time data i.e. demand and frequency data, over the last 60 minutes can now be found on the [Realtime Extranet](#) section on the National Grid website. [Historic frequency data](#) as far back as 2014 can also be accessed for GB data at 1 second resolution.

For further information please contact your account manager or:

**Andy Rice**

- [Andrew.Rice@nationalgrideso.com](mailto:Andrew.Rice@nationalgrideso.com)

## Firm Frequency Response Monthly Tender

This section provides information to FFR providers on the requirement for the tender (TR 137) for delivery in June 2021.

### Requirements for June 2021 (TR 137)

#### Primary Response:

**A dynamic primary requirement exists in all EFA blocks.**

#### Secondary Response:

A dynamic secondary requirement exists in all EFA blocks.

There is a non-dynamic secondary requirement in EFA 3 to 6.

#### High Response:

A dynamic high requirement exists in all EFA blocks.

**Image 1:** Requirement for 2021.

Month	Settlement Period	Dynamic Response Required (MW)			Static Response Required (MW)
		Primary	Secondary	High	Secondary
JUN-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	131
	EFA 4	450	450	350	135
	EFA 5	450	450	350	103
	EFA 6	450	450	350	104
JUL-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	131
	EFA 4	450	450	350	137
	EFA 5	450	450	350	107
	EFA 6	450	450	350	107
AUG-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	144
	EFA 4	450	450	350	153
	EFA 5	450	450	350	116
	EFA 6	450	450	350	116
SEP-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	120
	EFA 4	450	450	350	135
	EFA 5	450	450	350	78
	EFA 6	450	450	350	72
OCT-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	52
	EFA 4	450	450	350	66
	EFA 5	450	450	350	0

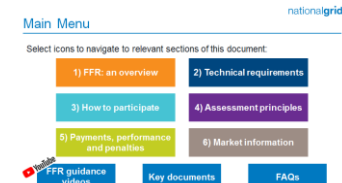
## Key Points - FFR

### Response BOA and Holding Volume and Cost

This information is in Appendix 7 of the adjoining excel file.

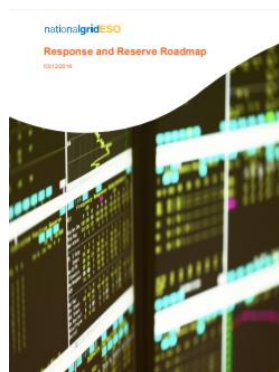


## FFR service Overview



## Product Roadmap

This document sets out the actions to be taken forward for frequency response and reserve.



	EFA 6	450	450	350	0
NOV-2021	EFA 1	450	450	350	0
	EFA 2	450	450	350	0
	EFA 3	450	450	350	0
	EFA 4	450	450	350	0
	EFA 5	450	450	350	0
DEC-2021 – MAY 2022	EFA 6	450	450	350	0
	EFA 1	650	650	550	0
	EFA 2	650	650	550	0
	EFA 3	650	650	550	0
	EFA 4	650	650	550	0
	EFA 5	650	650	550	0
	EFA 6	650	650	550	0

There is a requirement for Secondary Static Response from April to November 2021. We evaluate the requirement on a regular basis and should the requirement change, we will communicate it via MIR. This does not signal the end of the Static Secondary Response service, though in accordance with *Frequency Response Reserve Roadmap*, we have communicated our intent to transition away from existing response services as we implement the new product suite.

## 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 1<sup>st</sup> June 2021, the unit must have passed testing prior to the tender submission window closing on the 1st business day in May 2021. 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.**

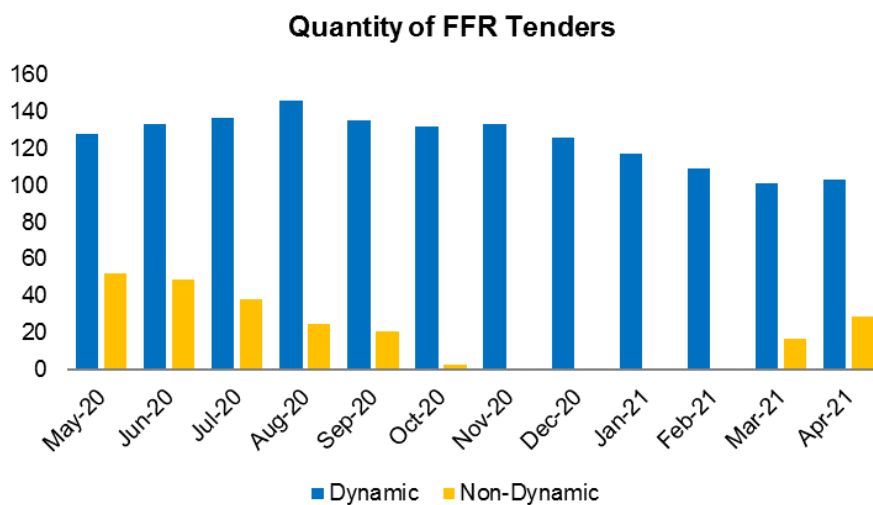
The minimum requirement across each specific EFA block will determine how much volume will be procured for each of the 6 daily 4-hour blocks.

Any outstanding shape will be satisfied, where necessary, closer to real time by the Electricity National Control Centre.

### Enhanced Frequency Response (EFR)

100% of EFR is included in the requirements from July 2018.

**Image 2:** Quantity of FFR Tenders



**May 2021 FFR Delivery**

**82** active FFR contracts are due to provide FFR in May 2021. These contracts are made up of:

- **60** dynamic contracts
- **22** non-dynamic contracts
- **9** contracts by BMU providers
- **73** contracts by NBMU providers

The chart below displays the number of tenders submitted in the FFR market for the last 12 months by service type.

**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.

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: <b>1.2.</b> There was no outstanding requirement <b>1.3.</b> The desired volume against the National Grid procurement strategy for future tender months had already been satisfied <b>1.4.</b> 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 <a href="https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response">https://www.nationalgrid.com/uk/electricity/balancing-services/frequency-response-services/firm-frequency-response</a>
4	Multiple tenders received for the same unit	Only the most valuable tender(s) of the total group of submitted tenders was considered.

## Key Points – Weekly Auction

For latest news and updates please refer to homepage for the weekly auction:

### Phase 2 Auction Trial

The auction trial is an innovation project which is procuring Low Frequency Static (LFS) and Dynamic Low High (DLH) frequency products through the EPEX SPOT Auction Platform on a weekly basis.

Auction Results are published on DataPortal:

[nationalgridESO](#)

Home Data Group Help About

### Phase 2: FFR Auction Results Summary

Home Auction Services Phase 2 FFR Auction Results Summary

## Weekly Auction – Phase 2

This section provides information to Weekly Auction providers on the requirement for Dynamic Low High and Low Frequency Static Products

As promised in the Response and Reserve Roadmap issued in December 2019, we would share with you our initial findings and learnings about the Auction Trial project in a project evaluation report. The [evaluation report](#) (provided by ESP Consulting) and the [ESO response letter](#) are now available.

### Procured Volume (FFR and Weekly Auction)

The maximum buy order in the weekly auctions in May will be at least 200 MW in each EFA block. We will seek to procure any unfilled volume in the FFR monthly tender through the weekly auction in order to meet our requirements for minimum dynamic response.

The auction will cease end of November 2021 and the volume currently allocated to the auction will be move into the FFR monthly tender from December 2021 onwards.

## Dynamic Containment

This section provides information on requirement for Dynamic Containment and gives an insight of product procurement.

The first few months of dynamic containment delivery have been a success and the ESO are now able to share future DC requirements. The requirements given in Image 3 outline the expected Dynamic Containment LF requirements per month for 2021.

The values given below are assumed to be available 24/7, procured daily and will allow the ESO to secure large losses on a low inertia system without the need to take more expensive alternative actions.

The values are dependent on multiple factors. These include forecast demand, inertia, loss sizes including Loss of Mains (LoM) loss groups and the FFR and stability pathfinder procurement strategies. These requirements are subject to change as any of the factors listed above are updated. Please note these requirements are over and above current response holdings from non-DC products. As we transition to the new response services, we expect more volume to transition to DC, which may increase these requirements.

### Requirements for 2021

**Image 3:** Minimum and Maximum forecast LF DC requirements for 2021 per month.

Month 2021	Min DC LF Requirement (MW)	Max DC LF Requirement (MW)
March	800	1100
April	900	1200
May	1100	1400
June	1100	1400
July	1100	1300
August	1200	1400
September	1100	1400
October	1100	1100
November	800	1000
December	800	1100

As per our Dynamic containment soft launch development document our priority is to grow and secure our LF requirements. Further information on the procurement on the HF element of the service will be shared as we kick off the Wave 2 activities.

### Future requirements for 2022 and beyond

The amount and type of response the ESO procure is continually under review in order to be most cost efficient. As the Accelerated Loss of Mains Change Program (ALoMCP) progresses and the FFR procurement and stability pathfinder procurement strategies are shaped by the Frequency Risk and Control Report, the ESO will update the requirements accordingly.

Future large losses due to connect over the next few years are likely to increase DC requirements. These include:

- Interconnector NSL link at 1400 MW scheduled to connect in December 2021
- Interconnector Viking link at 1400 MW scheduled to connect in 2023
- Hinkley-C at 1800 MW scheduled to connect in 2023



- More generation capacity is being added to the Dumfries & Galloway and Ayrshire loss groups, which will run at 1800MW
- The first of several large offshore wind farms scheduled due to connect within next few years.

## New Suite of Products

This section provides information on developments related to our new suite of products (Dynamic Moderation and Dynamic Regulation).

Please refer to [new Dynamic Containment page](#) for details related to the new suite of products.

In order to implement the new product suite and avoid overholding of response volumes, it will be necessary to gradually reduce our long-term procurement of the existing P, S and H products. We will continue to hold monthly FFR tenders for month ahead volume and we will communicate how we will manage the transition from existing mix of products into new suite of products. Please sign up for [updates](#) for future balancing services.

We have launched an EBGL Article 18 Consultation for changes to how Dynamic Containment (DC) will be procured. The consultation opens from today until **5pm on 27 May 2021**. The suite of consultation documents can be accessed via [link](#).

Please join us on 29 April for a discussion on our plans for Response Reform this year and to help shape our plans for the new response services. Please click this [link](#) and sign up.

During this webinar, we will discuss the following topics:

- The process improvements we are making to DC, enabling more granular procurement and pay-as-clear auctions, which we expect to be launching in the summer. As mentioned above, we are launching a consultation on our proposed changes to the procurement terms later this month.
- The Enduring Auction Capability, which is set to deliver in 2022. This will be one of the core tools facilitating our transition in closer to real-time markets.
- DC service development, e.g. high frequency, which we intend to launch later this year.
- The two other new response services Dynamic Moderation (DM) and Dynamic Regulation (DR). We will share the delivery plan for the launch of the services, discuss the system need that drives their design of the services and initial service design for both DM and DR.

## Appendix 1 FFR June 2021 Requirement

The three charts below display the volume of frequency response left to contract at month ahead.

**For month ahead only, except for circumstances where there is a specific dynamic requirement, the requirement will be taken from either dynamic or non-dynamic providers where deemed economic to do so. This means that any requirement found in the non-dynamic market may be procured in the dynamic market if considered more beneficial. With no primary non-dynamic market in existence, procurement of this volume across any EFA block will instead be taken from the dynamic market.**

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. For June 2021, this is highlighted in the table in FFR section of this document.



# Appendix 2 Dynamic Containment Analysis

