

April 2013

**nationalgrid**

THE POWER OF ACTION

# Fast Reserve Service Description 2013

**National Grid Electricity Transmission**



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# Section 1

## Introduction and Background

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### 1.1 Introduction

This document provides a summary of the Fast Reserve service as set out in detail in the Fast Reserve Tender Rules and Standard Contract Terms Issue #2, dated 1<sup>st</sup> April 2013. (“SCT’s”)

This document is intended as a guide to Fast Reserve; however, for the full details of the contractual provisions the reader should refer to the SCT’s. This document is available on the National Grid website (link below) and is reviewed and modified as required to reflect any future amendments. In the unlikely event that an inconsistency exists between this document and the SCT’s, then the SCT’s shall take precedence.

<http://www.nationalgrid.com/uk/Electricity/Balancing/services/reserveservices/fastreserve/>

### 1.2 Background to Fast Reserve Requirements

At certain times of the day National Grid needs access to sources of extra power, in the form of either increased generation or demand reduction, in order to manage a greater than forecast electricity demand on the Great Britain Transmission System and / or unforeseen generation unavailability. These additional power sources which are available to National Grid are referred to as ‘Reserve’ with one of these Reserve services being **Fast Reserve**, which is defined as follows:

**“Fast Reserve” provides the rapid and reliable delivery of active power through an increased output from generation or a reduction in consumption from demand sources, following receipt of an electronic despatch instruction from National Grid.**

Fast Reserve is the quickest acting reserve service. It is capable of commencing within two minutes following instruction, at rates of 25MW or greater per minute

and providing a minimum of 50MW. This reserve energy should be capable of being both delivered and removed at a reciprocal rate to the commencement, with delivery being sustainable for a minimum of 15 minutes. Fast Reserve may be provided as either a Firm service or Optional service with the Firm service subject to a tender process. Prior to providing a Fast Reserve service a pre-qualification process must be completed and a **Fast Reserve Framework Agreement (“the Framework Agreement”)** must be in place.

During the existence of an Agreement a provider will make the service available over a pre-agreed period of time and will, during this time, keep the relevant unit(s) in a state of readiness so that should National Grid need to use the service it can be provided in line with the required capabilities. Fast Reserve is used, in addition to other energy balancing services, to control frequency changes that might arise from sudden, and sometimes unpredictable, changes in generation or demand, the following are examples of this:

- **“TV pick-ups”**: for example, at the end of a TV programme or sports event people will carry out activities that they had been delaying due to viewing the programme, such as boiling the kettle. These can occur several times a night and involve large and sudden increases in demand with an expected duration of only a few minutes.
- **Unpredictable Short Term Demand Increases**: for example, unexpected changes in weather conditions e.g. sudden cloud cover on a clear day leading to increased domestic and commercial light usage or a national event leading to changes normal demand behaviour. Fast Reserve is required to meet the increase in demand whilst allowing the most economic despatch of remaining plant.
- **Short term frequency control**: Fast Reserve may be used to assist the recovery of system frequency by taking over from frequency responsive plant, once despatched, and thereby restoring primary and secondary response capability. This reduces the period of risk during which the

system will have insufficient response to maintain the frequency within statutory limits following a generation loss.

- **Loss of operational or commercial systems:** this may increase uncertainty of demand / generation picture and therefore there is an increased risk of frequency drift or erosion of response. Under these circumstances there may be an increased requirement for the use of Fast Reserve.

## Section 2

# Fast Reserve Capability Requirements

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### 2.1 Capability Requirements

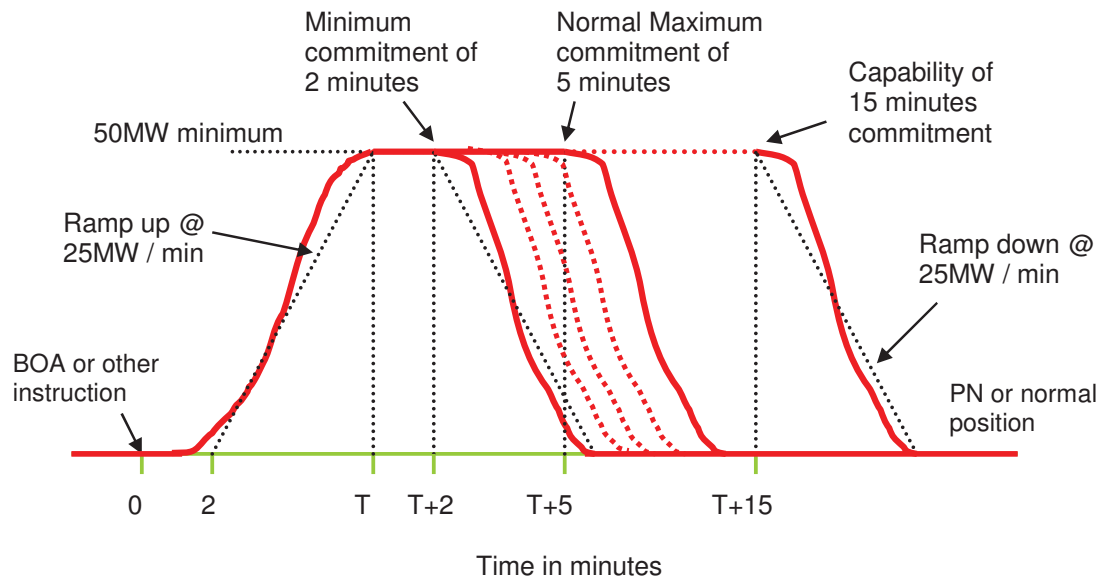
Fast Reserve is a contracted Balancing Service, whereby the service provider delivers a contracted level of power when instructed by National Grid, within pre-agreed parameters. Fast Reserve can be provided by both **Balancing Mechanism (“BM”)** and **non-Balancing Mechanism (“non-BM”)** participants. The main minimum capability requirements for the service are detailed below:

- Following instruction by **National Grid Control (“NGC”)**, the Provider should be capable of commencing delivery of Fast Reserve within 2 minutes or less.
- Any instruction to provide Fast Reserve must be able to be ‘unwound’ with the same notice period required for delivery.
- A minimum volume of 50MW Fast Reserve should be capable of being instructed. This 50MW may be either a specified amount of MW or via following a specified MW profile, with both options open to BM and non-BM participants. In addition, the Fast Reserve may be comprised of smaller units to achieve an aggregated volume of 50MW’s or more.
- Despatch of the Fast Reserve service requires a minimum run up rate and run down rate of 25MW/minute.
- Delivery of Fast Reserve should be sustainable for at least 15 minutes.
- Ideally delivery of Fast Reserve should be repeatable. There are circumstances that may require repeated utilisation of the service within close proximity to the last utilisation, for example the same evening with a number of TV pick-ups.
- Short Minimum delivery times are required to provide operational flexibility therefore Fast Reserve providers must have a maximum commitment time of 5 minutes.
- Delivery must be reliable – i.e. BM Units must be able to provide Fast Reserve from a reliable pre-instructed loading level to the instructed loading to the time

instructed by National Grid Control, with a tolerance of +/- 30 seconds. In addition, should the delivered MW or MW delivery profile, in any minute, become less than 90% of the contracted amount, then the Provider will be deemed to have failed.

- Any provider must be dispatched electronically – in Fast Reserve timescales it will not be possible to instruct multiple providers by any other means.
- All providers must allow and have the ability to be monitored to ensure compliance with the contract.

## 2.2 A typical Fast Reserve Profile



## Section 3

### Overview of Fast Reserve

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#### 3.1 Contract Structure

Fast Reserve is procured by National Grid by means of a monthly tender process with each tender containing the service provider's plant technical data as well as prices for the service.

In order to be able to tender for the service, a **Fast Reserve Framework Agreement** must first be entered into between National Grid and the prospective provider. This will give effect to the **Standard Contract Terms ("SCT's")** in force at that point in time, in respect of any accepted tender.

In the event that National Grid accepts a tender, then a formal acceptance letter to the provider will create a **Fast Reserve Contract**. Each Fast Reserve Contract incorporates the technical and price details specified in the tender and tender acceptance letter and will be governed by the Fast Reserve Framework Agreement and the Standard Contract Term's.

- **The Standard Contract Terms ("SCT's")**

The SCT's incorporate terms of general application to all Fast Reserve Providers, with sections dealing specifically with both Balancing Mechanism ("BM") and non-Balancing Mechanism ("non-BM") participants and the delegations of certain obligations to Agents. The SCT's may be, from time to time, amended and re-issued by National Grid. Any such amendments will be taken through a process defined in the Standard Contract Terms for their own amendment, which includes consultation with affected parties.

- **Fast Reserve Framework Agreement ("the Framework Agreement")**

The Framework Agreement gives contractual effect to the relevant provisions of the SCT's and also contains the Fast Reserve service data specific to the Provider's Contracted BM Units or Contracted Sites. Before a potential provider can (1) submit a tender or (2) provide Optional Fast Reserve, it must accept the SCT's by entering into a Framework Agreement.



- **Firm Fast Reserve Tender**

If a provider wishes to provide Firm Fast Reserve to National Grid it must submit a tender in the approved form. This tender will identify the relevant site specific terms for the Contracted BM Unit or Sites and will confirm acceptance of the SCT's and Framework Agreement. Should a provider wish to deviate from the SCT's then such request must be outlined in any tender and shall be considered during the subsequent tender assessment.

A non-BM site can tender as either a Type 1 or Type 2 Contracted site:

- **Type 1 Contracted Site** – (denoted as such in the Framework Agreement) is obliged to provide a specified amount of MW when instructed by National Grid.
- **Type 2 Contracted Site** – (denoted as such in the Framework Agreement) is obliged to follow a specified profile of MW (of all or part of the Contracted MW Profile) when instructed by National Grid.

- **Acceptance/ Rejection**

After receipt of a Firm Fast Reserve tender and following the appropriate assessment period, National Grid shall either accept or reject the same by issuing a Firm Fast Reserve Tender Acceptance and/or a Firm Fast Reserve Tender Rejection. The issuing of an Acceptance will constitute a legally binding contract between the Provider and National Grid.

- **Optional Fast Reserve Service**

A Provider will require a Framework Agreement to be place to be considered for the Optional Fast Reserve Service. The actual agreement to provide the service between the Provider and National Grid shall constitute a legally binding document, incorporating the SCT's with the Framework Agreement. The Fast Reserve is provided from one or more Contracted BM Unit or Contracted Site as and when agreed between National Grid and the Provider

and involves the provision of, and payment for, enhanced Dynamic Parameters or specified operating characteristics.

### 3.2 Pre-Qualification Questionnaire, Assessment and Repeating Tests

A pre-condition of tendering will be the existence of a Framework Agreement between National Grid and the prospective Fast Reserve Provider. National Grid will not enter into a Framework Agreement unless the prospective Fast Reserve Provider has the capability, demonstrated to National Grid's reasonable satisfaction, to meet the Fast Reserve Capability Requirements. The potential Fast Reserve Provider must therefore submit a completed pre-qualification questionnaire for National Grid to assess if they meet the requirements. If they do not, the Fast Reserve Provider is given the reasons for this and permitted to resolve prior to re-submitting the questionnaire. In addition, National Grid reserves the right to require a prospective Fast Reserve Provider to demonstrate to its satisfaction the capability to provide Fast Reserve, through a Pre-Qualification Assessment. Should these criteria be satisfied, the Fast Reserve Provider must then submit its Base Service Parameters and Optional Service Fees before the Framework Agreement can then be drafted and signed.

At any time during the existence of a Framework Agreement National Grid may require the party to submit, at its own cost, a Repeating Test, to demonstrate a continued capability to provide the service. Failure to submit or pass two or more such tests entitles National Grid to terminate the Framework Agreement.

### 3.3 Market Information and Reports

To assist Fast Reserve Providers in the tender process, National Grid publishes information it considers relevant and helpful, on its website. National Grid will endeavour to publish;

- A monthly '**Market Report**' containing information with respect to received Firm Fast Reserve Tenders.
- A monthly '**Month Ahead Reserve Requirement**' containing its estimated aggregate requirement for Fast Reserve in the next but one following

calendar month. This document is also sent directly to contracted Fast Reserve Providers

### 3.4 Monthly Tender

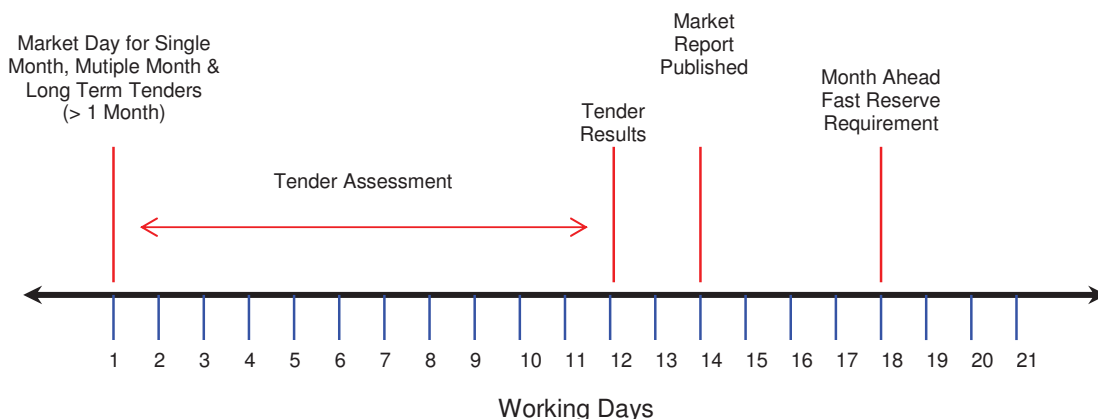
There are three types of tenders which can be submitted by a potential Firm Provider:

Tender	Period Covered By Tender
<b>Single Month</b>	To provide the service for a single calendar month. To be submitted by 1 <sup>st</sup> working day of the tender month
<b>Multiple Month</b>	To provide for between two and 23 calendar months. To be submitted by 1 <sup>st</sup> working day of the tender month.
<b>Long Term</b>	To provide for between 24 calendar months and ten years. To be submitted by 1 <sup>st</sup> working day of the tender month.

National Grid publishes the ‘Month Ahead Fast Reserve Requirement’ on the website which is also sent direct to contracted Fast Reserve Providers. By the 1<sup>st</sup> working day of the month the provider shall submit a tender, which will subsequently be assessed by National Grid. If successful, the provider will be notified of success by close of business on the 12<sup>th</sup> working day of month. From that point going forwards the ‘Firm Service Contract Terms’ will apply. If unsuccessful, the ‘Optional Service Contract Terms’ continue to apply going forwards.

### 3.5 Tender Timeline

The below timeline illustrates the key points (tender dates, notification and market information & reports) during a Fast Reserve tender month.



### 3.6 Firm Fast Reserve Tender Submission Process

In the calendar month immediately prior to the Service Requirement Month a Fast Reserve Provider may, by the specified date, submit a Firm Fast Reserve Tender by specifying their Tendered Service Parameters (for more detail please see SCT's p.14).

- **Single Month, Multiple Month and Long Term Tenders** shall be submitted no later than the 1<sup>st</sup> Business Day of the month.
- If National Grid receives one or more Long Term Tenders, then no later than the 5<sup>th</sup> Business Day of the month, National Grid shall email all Fast Reserve Providers as to the Tendered Service Term of the Long Term Tender(s) and publish the same information on the industry website, following notification any Fast Reserve Provider shall have the opportunity to submit a tender on the basis of (i) the Tendered Service Term must overlap by at least one month with the notified period (ii) must be submitted no later than 15<sup>th</sup> Business Day of the next following Tender Month.
- A Fast Reserve Provider may submit more than one tender for the same unit as long as some or all of the tender period overlaps. If the tenders are mutually exclusive National Grid can only accept one tender.
- A Fast Reserve Provider may withdraw a tender submitted at any time prior to receiving written notification from National Grid confirming acceptance. National Grid may accept a tender until an effective withdrawal is made.
- If in the sole judgement of National Grid a Fast Reserve Provider has failed to submit a compliant tender National Grid reserves the right to (a) accept the tender; (b) disqualify the tender or (c) take any action deemed appropriate including asking the Fast Reserve Provider to amend (provided such amendment does not apply to the tendered prices) and resubmit a now compliant tender.
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### 3.7 Tender Assessment Process

National Grid may request the Fast Reserve Provider to provide clarification with regard to any one or more items of information enabling National Grid to assess the tender, any clarification will be provided in a timely manner. When assessing the tender National Grid will take account of the Tender Assessment Principles. By the 12<sup>th</sup> business day of the month (or in the case of Long Term tenders, 15<sup>th</sup> business day of second calendar month next following the Tender Month) Fast Reserve Providers shall be notified in writing whether the tender has been accepted or rejected. The decision of National Grid shall be final and binding.

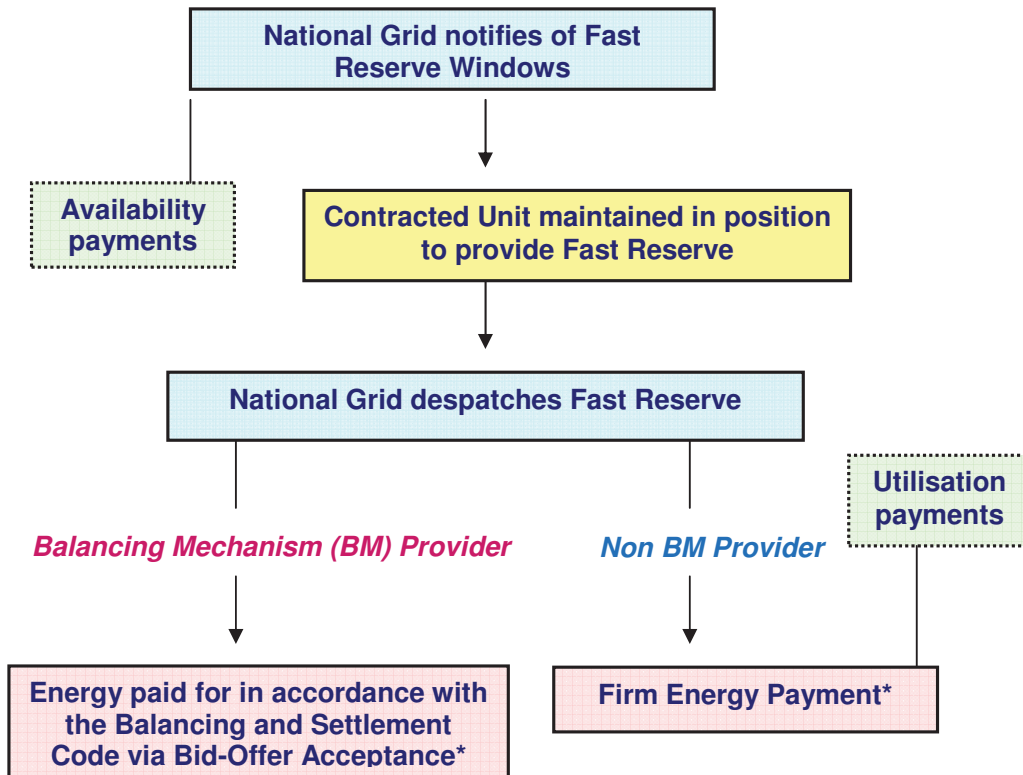
### 3.8 Notification & Utilisation Processes

**Case 1: Firm Service Contract Terms Apply:** - No later than 36 hours prior to the commencement of each Operational Day, National Grid will notify the Fast Reserve Provider of the Fast Reserve Windows for the Schedule Day.

\* *Example Fast Reserve Windows* – i.e. periods of the day when Fast Reserve is most likely to be required.

Example Windows for Fast Reserve		
DAY	WINDOW	TIMES
Weekday	Morning	06.00 – 09.00
Weekday	Evening	17.00 – 23.30
Non-weekday	Morning	07.30 – 09.00
Non-weekday	Evening	17.00 – 23.30

The Fast Reserve Provider will maintain the Unit in position to provide Fast Reserve in accordance with the Contract Terms during these notified windows. National Grid may then despatch Fast Reserve at the tendered Capped Bid-Offer price or 'Firm Fast Reserve Energy Fee'. Where the Fast Reserve provider is a BM Unit, its energy production / consumption shall be paid in accordance with the Balancing and Settlement Code (BSC). The flow chart below illustrates how Firm Fast Reserve is likely to be notified and utilised.



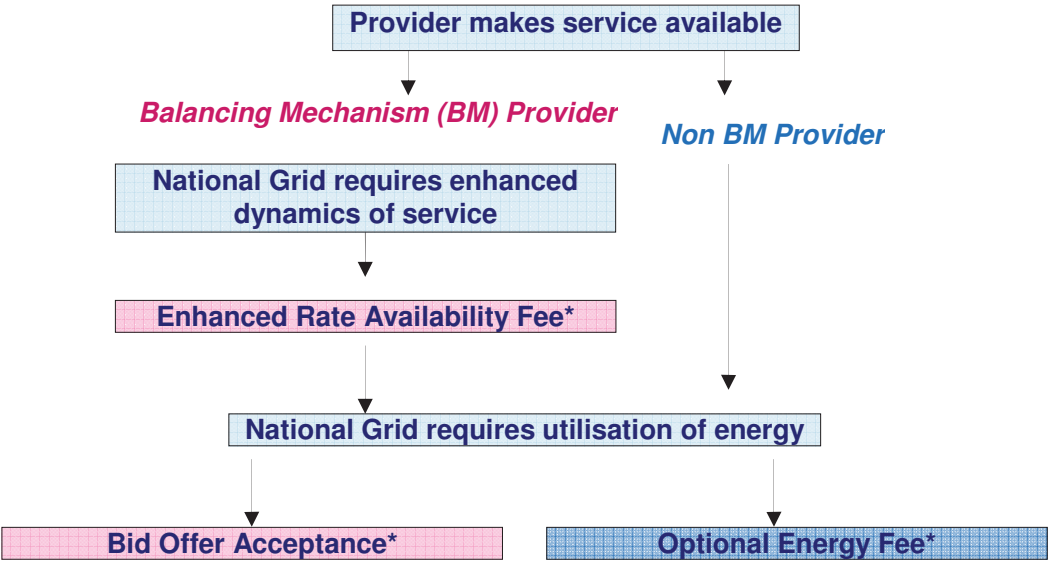
\* All fees variable by Provider as permitted by the SCT's

**Case 2: Non-BM Firm Service, Type 2 Contracted Site:** - In this instance the contracted site is Type 2. As such, any revisions to the Fast Reserve Provider's Firm Service Declaration (i.e. to confirm the accuracy or notify of revisions to the Contracted MW Profile) must be submitted to National Grid no later than Gate Closure in respect of first settlement period that falls within the Fast Reserve Window (National Grid will acknowledge receipt). Failure to submit a Firm Service Declaration shall be deemed to constitute unavailability.

If the Fast Reserve Provider becomes aware, following a Firm Instruction, the Fast Reserve provided will fall short of the Contracted MW profile by more than 10% or they are limited by a technical problem, they must serve a Shortfall Notification (stating the curtailment) and then re-issue a revised Firm Service Declaration (provided net MW export is not less than 50MW) to National Grid.

If, following Gate Closure or during the Firm Fast Reserve Window the Fast Reserve Provider becomes aware that the net MW export is less than 50MW or they cannot provide any service they must withdraw the Firm Service Declaration via a Service Withdrawal Notification and will be deemed to have not made Fast Reserve available and will therefore not receive any payment for that particular Fast Reserve Window.

**Case 3: Optional Service Contract Terms Apply:** - Any Contracted Units, unsuccessful in the monthly tender, may receive a request from National Grid on the Operational Day for a 'Fast Reserve Optional Service.' The Fast Reserve Provider will then either accept or reject this request. If the Fast Reserve Provider accepts the request then National Grid may despatch Fast Reserve at the Balancing Mechanism Bid-Offer price (for BM Units) or Optional Fast Reserve Energy Fee (for Non-BM Units). The flow chart below illustrates how Optional Fast Reserve is likely to be utilised.



\*All fees variable by provider as permitted by the SCT's

### 3.9 Agents

Prospective Fast Reserve Providers can choose to use an agent to administer their tender process and, on their behalf, submit Fast Reserve Tenders to National Grid. National Grid perceives the role of an agent as essentially a “go-between”, interfacing with both the prospective Fast Reserve Provider and National Grid. National Grid is willing to deal with agents provided no part of the tender process or contracting process is hindered. It should be noted that using an agent (or not) does not affect evaluation of Fast Reserve Tenders.

On assessing a Tender submitted by an agent, National Grid will issue either a Fast Reserve Tender Acceptance or Rejection to the Fast Reserve Provider and submit a copy to the agent for information.

### 3.10 Termination

National Grid has the right to terminate a contract for the provision of Fast Reserve in the following circumstances:

- Should the Fast Reserve Provider cease to be party to an Agreement for connection to and use of a System in respect of any Contracted BM Unit or Contracted Site.
- Should the Fast Reserve Provider fail to pay any amount properly owing or due to National Grid
- If the Fast Reserve Provider; (i) becomes insolvent or dissolved; (ii) a receiver is appointed; (iii) an administrator is appointed; (iv) enter(s) into any scheme of arrangement; (v) it is unable to pay its debts.
- A Fast Reserve Provider, in respect of a Generating Unit, which is subject to a Fast Reserve Framework Agreement, fails two or more Repeating Tests.



## Section 4

### Payments for Fast Reserve

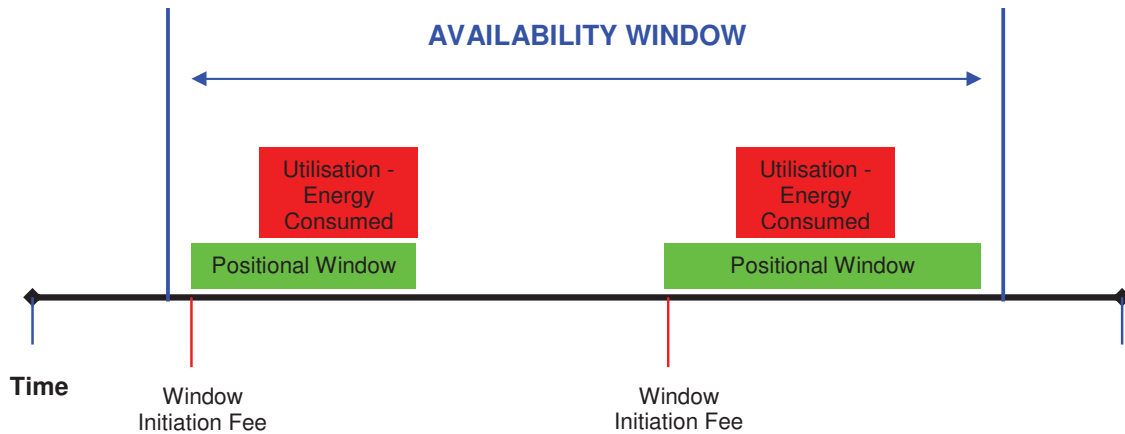
#### 4.1 Payment Structure

There are a number of payments that National Grid can make as part of the Fast Reserve Service, however, these will differ between the Firm and Optional Services and whether the Fast Reserve Provider/ Contracted Unit is part of the Balancing Mechanism or not. The Table (below) outlines what payments can be made with regard to each of these potential options.

Payments	Firm Service (BMU)	Optional Service (BMU)	Firm Service (Non-BMU)	Optional Service (Non-BMU)
<b>Availability Payment (£ / hour)</b>	Firm Availability	Enhanced Rate Fee	Firm Availability	Optional Availability
<b>Positional Payment (£ / hour)</b>	Yes	N/A	Yes	N/A
<b>Window Initiation (£ / per Firm Window)</b>	Yes	N/A	Yes	N/A
<b>Utilisation Payment</b>	Capped Bid-Offer Price (£/MWH)	Capped Bid-Offer Price (£/MWH)	Firm Fast Reserve Energy Fee (£/MWH)	Optional Energy Payment (£/MWH)

#### 4.2 Payment Timeline

The above-mentioned payments are triggered at different times during Fast Reserve availability, notification and utilisation. The below graph illustrates when these payments may be earned by the Fast Reserve Providers.



### 4.3 Availability Payment

The Availability window is tendered by the Provider and National Grid will make this payment throughout the period of the window.

- **Firm Availability Payment** – National Grid shall pay the Provider an amount calculated by reference to the Availability Fee and aggregate number of hours comprised within Tendered Service Periods in each Operational Day during the contracted term.
- **Optional Availability Payment** – National Grid shall pay calculated by reference to the Optional Availability Fee set out in the Fast Reserve Framework Agreement and the period of time which the Optional Service was made available until the earlier of: (i) National Grid notifies the Provider the Optional Service is no longer required, (ii) the Provider notifies National Grid it is unable to provide the Optional Service.
- **Enhanced Rates Availability Fee** – National Grid will pay the Provider an amount calculated by reference to the Enhanced Rates Availability Fee set out in the Fast Reserve Framework Agreement and either;
  - Where the Provider submits revised Dynamic Parameters to National Grid upon or before the expiry of the Response Time the period from

National Grid request until such time National Grid notifies the Provider that Enhanced Rates are no longer required or;

- Where the Provider submits revised Dynamic Parameters to National Grid after expiry of the Response Time the period from the time the Enhanced Rates are made available until such time National Grid notifies the Provider that Enhanced

#### 4.4 Positional Payment

A Positional Payment may be requested as part of a Fast Reserve tender. The Fast Reserve Provider, having been informed of the required Windows for the Scheduled day, will maintain the dynamic parameters of the Unit in a position to provide Firm Fast Reserve, in accordance with the Contract Terms.

#### 4.5 Window Initiation Fee

A Window Initiation Fee may be requested as part of a tender for the Fast Reserve Service. National Grid shall notify the Fast Reserve Provider of any windows, within the tendered availability period, during which the Firm Fast Reserve service is required and for this the Window Initiation Fee will be paid.

#### 4.6 Utilisation Payment

In addition to the above-mentioned payments, utilisation payments are paid in relation to the energy used in providing the service to National Grid; as either a

- **Capped Bid-Offer Price (£/MWH)** – Paid to for Providers who operate in the Balancing Mechanism following the utilisation of either the Firm or Optional Service.
- **Firm Fast Reserve Energy Fee (£/MWH)** – Paid to a non-BM Provider following the utilisation of a Firm Service.
- **Optional Energy Payment (£/MWH)** – Paid to a non-BM following the utilisation of the Optional Service.

## Section 5

### Further Information

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#### 5.1 Further Information

Further information regarding Fast Reserve can be found on the National Grid website:

<http://www.nationalgrid.com/uk/Electricity/Balancing/services/reserve/rvices/fastreserve/>

Should you have any further queries over the service then please contact Steve Miller:

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